

# Essays on the Collaboration among Humanitarian Organizations

*With Special Reference to Supply Chain  
and Operations Management Issues*

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## **Abstract**

The dissertation consists of three papers representing an early attempt to explore conceptually and empirically the collaboration in a humanitarian setting. The contribution of the thesis is threefold: first, it frames the discussion on collaboration in a humanitarian setting, and reviews the collaboration initiatives in practice among international humanitarian actors. Second, it investigates the academic research studying the horizontal collaboration in humanitarian operations and identifies four categories of factors - external factors, factors associated with donor's role, inter-organizational factors and organizational factors - influencing collaboration among international HOs. Finally, building on the evidence from practitioners' reports, academic literature on collaboration within humanitarian sector and the insights from inter-organizational relationship theories, it proposes and tests a theoretical model of the factors influencing collaboration performance among international humanitarian NGOs. The study suggests that commitment and trust are key drivers of collaboration performance among international humanitarian NGOs. Moreover, long term orientation, resource complementarity, coordination capability and relational capability are antecedent factors influencing collaborative performance through their effect on mutual trust, reciprocal commitment and relationship specific investment.

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## **The 1<sup>st</sup> Chapter**

# **INTRODUCTION**

## 1. Introduction

The impact of disasters is growing over time. The number of natural disasters has increased in the last decades and is expected “to increase by a further multiple of five over the next 50 years” (Thomas and Kopczak, 2007). According to the CRED International Disaster Database, the number of disasters affecting the world has grown from “around 220 per year in the mid-1990s, to a current annual figure of some 350-400” (Tatham and Houghton, 2011). Figure 1 presents the growing trend of people affected by natural disasters 1900-2011.

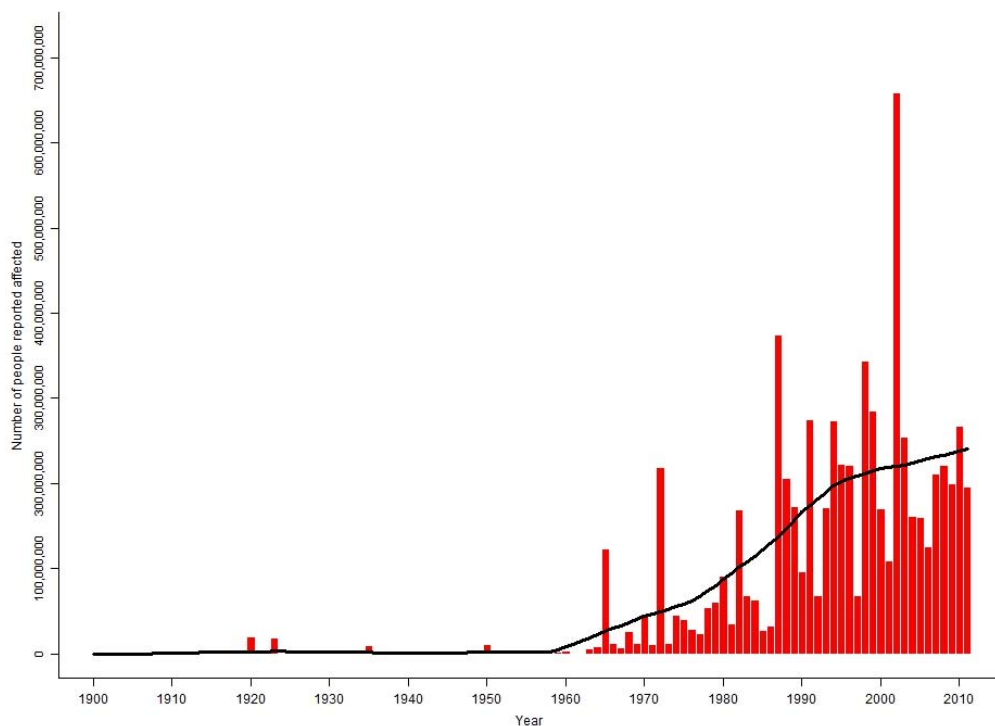


Figure 1-1. Number of people reported affected by natural disasters  
(EM-DAT, 2012)

The severity of disasters leads to involvement of a large number of established organizations and newly born organizations after a disaster strikes in humanitarian operations. For example, following the 2004 Asian Tsunami more than 40 countries and 700 nongovernmental organizations (NGOs) were present in the affected area (Chia, 2007), or after Haiti earthquake 3,000 to 10,000 NGOs are estimated operating in Haiti (Kristoff et al., 2010). To deal with the growing number and complexity of disasters (Van Wassenhove, 2006), and to handle the growing need for more efficient and effective humanitarian operations, humanitarian organizations (HOs) are motivated to collaborate with each other. For instance, Van Wassenhove (2006) points out that even when organizations are well prepared to respond during disasters, they may be less effective when they operate individually within a large-scale disaster. Admitting the benefits of collaboration, several UN agencies, major organizations such as International Federation of Red Cross and Red Crescent Societies, or NGOs (e.g. CARE International, Mercy Corps, Oxfam, Save the Children and World Vision International) have collaboration practices in place to improve humanitarian operation.

Despite the dramatic importance of inter-organizational collaboration in humanitarian operations in recent years, few systematic studies of collaboration have been completed (Balcik et al., 2010; Schulz and Blecken, 2010). Accordingly, this thesis represents an early attempt to explore conceptually and empirically the collaboration among HOs with special reference to supply chain and operations management issues.

The first paper of the thesis defines collaboration and characterizes various types of collaborative network and dyadic initiatives in place in the humanitarian sector. It also categorizes the employed collaborative initiatives upon the collaboration level (i.e. low, medium, and high) and the phase of humanitarian operation (i.e. preparedness or

response). Moreover, the paper discusses the extent to which the initiatives are employed by HOs and the overall reasons why the initiatives are resisted or inadequately implemented by HOs. The study reveals that there is a growing number of collaborative initiatives within a humanitarian setting. In other words, there is often the possibility for HOs to conduct their primary or secondary tasks through collaborating with other organizations or to employ the methods or mechanisms have developed by the joint effort of other organizations. However, organizations encounter challenges engaging in the initiatives or acting as a successful partner. The study briefly reviews a number of factors limiting organizations to appropriately collaborate and attain the desired goals of their relationships including managers' perception regarding the costs of collaboration (e.g. threatening humanitarian principles, decreasing the flexibility), organizations' competition over scarce resources, donations, or media attention, collaboration's governance structure and power distribution, and the evaluation of collaboration performance.

The importance of collaboration among HOs has triggered lots of studies from scholars' and practitioners' perspectives. Building on the literature review on collaboration among international humanitarian actors, the second paper develops a conceptual model that describes the drivers and impediments of inter-organizational collaboration among HOs. In this paper, I rigorously review 59 papers and organizational reports published in diverse fields (e.g. operations management, public management, disaster management). The main contribution of this study is a comprehensive conceptual model identifying four categories of factors - external factors, factors associated with donors' role, inter-organizational factors and organizational factors - influencing collaboration among humanitarian actors. External

factors point to the unpredictability or uncertainty of the demand and infrastructure in the affected region as well as the availability of local and international resources. Donor factors are those associated with donors' role in promoting the collaboration efforts among HOs such as the limitations on the usage of resources and employed incentive mechanisms. The third category includes factors associated with inter-organizational characteristics such as partners' strategic or operational compatibility, partners' competition over limited resources and media attention, or disparity in organizations' power and resources. The last group includes drivers or inhibitors associated within organizations such as partners' collaborative capabilities, limited resources dedicated to collaboration efforts (e.g. personnel, time, money) and concerns associated with collaboration initiatives (e.g. accountability complications, or threatening the value of being independent from other agencies). From the insight of the represented factors, the paper discusses a number of mechanisms extracted from operations management and organizations studies which can potentially enhance the collaboration within a humanitarian setting. The suggested mechanisms are information and communication technologies, incentive mechanisms, capability building initiatives, inter-organizational governance and decision support systems.

Moreover, my review of published research and organizations' reports reveals that most of the studies exploring the collaboration among humanitarian organizations are less structured and often conducted through interviewing HOs' informants to understand the challenges within the collaboration phenomenon. Considering the Fisher's approach (Fisher, 2007), there is still a lack of scientific studies exploring the collaboration phenomenon through conducting highly structured endeavors and employing econometric methods to test the developed hypotheses using a large

sample of organizations and finally provide an a prescriptive agenda upon the validated hypotheses.

Along this line, the third paper explores empirically the factors influencing the collaboration performance among international NGOs conducting humanitarian operations. This study considers the inter-organizational relationship concepts and theories (i.e. Commitment-Trust, Resource-Based View) as well as evidence from report and case studies to understand and propose the key and antecedent factors influencing the horizontal collaboration among international HOs, providing a systematic view of the drivers and impediments to collaboration.

Figure 1 proposes an integrative view of the factors or constructs influencing horizontal collaboration among international humanitarian NGOs. The theoretical model suggests commitment, trust, and relationship specific investment as key drivers of horizontal collaboration. Commitment is associated with the will and motivation of partners to save or continue the relationship, and relationship specific investment is associated with the efficiency or effectiveness of the relationship. Moreover, temporal orientation (long term versus short-term orientation), inter-organizational fit (i.e. strategic compatibility, operational compatibility, resource complementarity), and relationship management capability (i.e. coordination capability, relational capability) inhibit or drive the collaboration performance through their effect on commitment-trust and relationship specific investment.

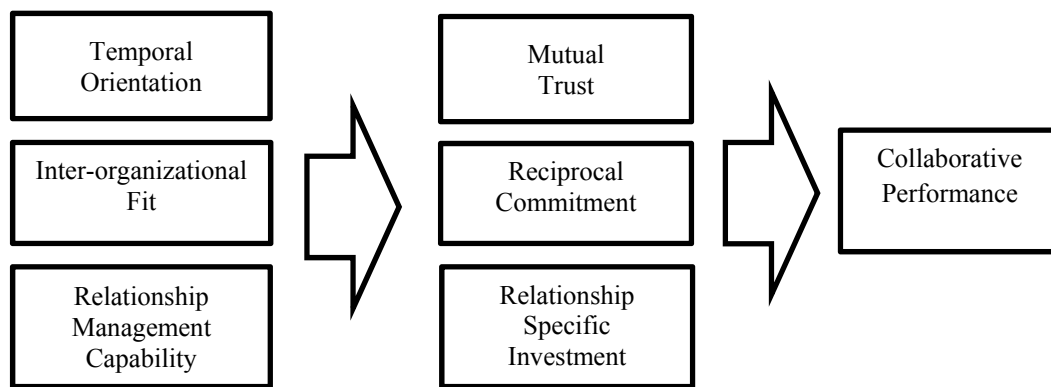


Figure 1-2. A theoretical model for horizontal collaboration in a humanitarian context

I test the proposed hypotheses focusing on dyadic collaborations among international humanitarian NGOs. The collaboration may be either at low level (e.g. information sharing about the affected region), at medium level (e.g. joint project) or at high level of collaboration (e.g. acting together in multiple regions). For this purpose, I have assembled the first comprehensive dataset of contact information of informants at managerial levels of international NGOs from several resources (e.g. the webpages of the Office of the Coordinator for Humanitarian Affairs (OCHA) and International NGOs). I use Partial Least Squares to examine the proposed hypotheses using a sample of 132 respondents. Data are collected through a web-survey of international humanitarian NGOs in 22 countries across Africa, Asia and South America. The organizations span diverse services (e.g., nutrition, health, water/sanitation, emergency shelter, logistics, etc.). The results reveals that, first, reciprocal commitment and mutual trust are key drivers of collaborative performance among international humanitarian NGOs. Relationship specific investment improves the effectiveness and efficiency of collaboration efforts but in this context its influence

collaborative performance indirectly through reciprocal commitment. Second, long term orientation, resource complementarity, coordination capability and relational capability are antecedent factors influencing collaborative performance through their effect on mutual trust, reciprocal commitment and relationship specific investment. While examining all the proposed antecedent factors in a unified theoretical framework, this investigation does not support the theory that the strategic and operational compatibility of partners play critical roles in the success or failure of their collaboration.

This study could be considered among the first papers in which empirical methods (i.e. survey and Partial Least Squares) have been used for data collection and analysis in the context of humanitarian relief supply chain. Using concepts and theories developed within operations management and strategic management provides a multidisciplinary and rich perspective for exploring the relevant research questions within humanitarian operation.



## **The 2<sup>nd</sup> Chapter**

# **A Review of Collaborative Initiatives Among International Actors Within a Humanitarian Setting: Challenges and Opportunities for Research**

## **2. A Review of Collaborative Initiatives Among International Actors Within a Humanitarian Setting: Challenges and Opportunities for Research**

### **2.1. Chapter Abstract**

There are a number of examples of collaborative practices among international actors aiming of improving the effectiveness and efficiency of humanitarian operations. This study reviews various types of collaborative network and dyadic initiatives in place in the humanitarian sector. We categorize the employed collaborative initiatives upon the collaboration level and the phase of humanitarian operation. Moreover, we discuss the extent to which the initiatives are employed by humanitarian organizations and the challenges for organizations to engage in the initiatives and act as a successful partner. We also review the challenges in examining the collaborative performance within a humanitarian setting and the factors limiting organizations to appropriately collaborate and attain the desired goals of their relationships. In parallel, we elaborate research enquiries, which may be insightful to be explored in next studies on collaboration among actors within a humanitarian setting.

**Key Words:** Collaborative Initiatives, Humanitarian Organization, Humanitarian Operation.

## **2.2. Introduction**

Proper response to the increasing number and the complexity of disasters is beyond the capacity of any humanitarian organization (HO). In other words, no HO has all the resources (e.g. funding, time, skills) to involve in all types of emergencies and meet all beneficiaries' needs. Each HO following its mandate provides specific emergency or recovery services to a selected group of beneficiaries (e.g. Oxfam finds solutions to poverty and related injustice, Médecins Sans Frontières delivers medical help). Furthermore, HOs frequently lack experience and/or resources to enhance their capabilities in delivering efficient relief (e.g. need assessment, logistics, or distribution processes). To deal with these challenges, HOs implement collaborative initiatives to prevent gaps and overlaps within the supplied services or the target beneficiaries, which in this particular field means that given a particular amount of resources, more people can get the required relief services or products. In addition, HOs pool their available resources to jointly develop tools or methods to improve their capabilities such as needs assessment or aid distribution.

Along this line, academic papers and practitioner reports refer to a number of collaborative initiatives among HOs. For example, in Bolivia a consortium of ten HOs have negotiated and have jointly decided on the feasible tasks and responsible organizations for carrying them out. In another example in Bangladesh, in response to Cyclone Aila in 2009, twenty HOs jointly founded an advocacy campaign to capture the attention of donors and media to respond properly to the critical situation of beneficiaries. Logistics often represents one of the highest expenses in a humanitarian setting, and in addition, HOs have significant logistical challenges in delivering aid to the beneficiaries. Collaborative initiatives such as logistics cluster in South Sudan

provides platforms for HOs to conduct common transportation, warehousing or to manage logistics information (e.g. mapping services) which eventually can lead to relevant savings (LogisticsCluster, 2011). Nevertheless, the lack or failure of collaboration among HOs resulted in ineffective aid distribution particularly in the last mile (Murray, 2005); caused congestion at local airports and roads (Fritz, 2005); led to injury or death of aid recipients struggling to attain services (Moore et al., 2003); led to competition among HOs over limited available resources raising costs and increasing delays for services (Chang et al., 2011).

Through pooling resources or joint operation, organizations can perform more activities along their value chains or increase the scale of their operations reaching more people in need. Through information sharing or standard setting, HOs can raise the effectiveness and efficiency of humanitarian operations. Collaboration through joint plans could help HOs to efficiently use the available resources, or joint procurement of resources could lead to higher negotiation power and lower costs which eventually could decrease the level of competition among HOs and improve service to beneficiaries. Moreover, through collaboration, organizations can share know-how, routines, and best practices, which eventually increase the efficiency of their operations.

In the following sections, we first define the collaboration concept and review collaborative initiatives at two levels of network and dyad collected from online resources. Afterward, we examine the initiatives to determine to which level of collaboration (i.e. low, medium, and high) they belong and in which phase of humanitarian relief (preparedness or response) they have been used. Finally, we

discuss and elaborate the challenges that limit HOs to appropriately collaborate and maintain successful relationships.

### **2.3. Inter-Organizational Collaboration within a Humanitarian Setting**

#### **2.3.1. Inter-Organizational Collaboration**

Inter-organizational collaboration refers to a partnership process where two or more independent organizations working closely to program and implement their operations (Cao and Zhang, 2011; Simatupang and Sridharan, 2002). Gulati et al. (2012) describes inter-organizational collaboration as a concept that includes two facets of cooperation and coordination. Cooperation deals with setting collaboration goals (e.g. enhanced legitimacy, lower operations costs) and in addition negotiating and deciding on the amount of resources (e.g. competent human resource, knowledge or experiences) allocated to the collaboration efforts to reach its goals. In other words, inter-organizational cooperation is seen as “joint pursuit of agreed-on goals in a manner corresponding to a shared understanding about contributions and payoffs” (Gulati et al., 2012). On the other hand, inter-organizational coordination refers to efforts in aligning organizations’ tasks or actions to achieve cooperatively specified goals (Gulati et al., 2012). Ergun et al (2011) define coordination as “the management of parallel actions in ways that increase efficiency and effectiveness,” which may include conducting identical or different activities or projects by different organizations (Ergun et al., 2011). Putting two perspectives together, while the cooperation perspective deals with the agreement on inputs and output of collaboration efforts, the coordination perspective focuses on the means or mechanisms to operationalize the collaborative relationship.

As the amount of desired inter-organizational collaboration activities increases (i.e. from low level to a high level, Figure 1) more efforts should be conducted to ensure partners' goal alignment. Similarly, organizations have to invest more resources and effort to increase the consistency among each other's actions and to be able to conduct joint actions (i.e. in a humanitarian setting it includes: information sharing, context and capacity analysis, need assessment, resource mobilization, joint procurement, transportation, warehousing, or last-mile delivery).

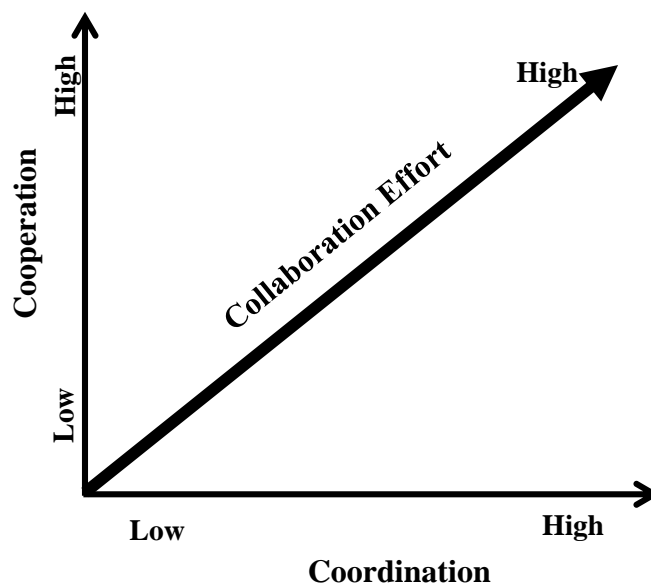


Figure 2-1. Two facets of Collaboration: Cooperation and Coordination

### 2.3.2. Activities within Humanitarian Operations

Humanitarian assistance is defined as an aid that “seeks to save lives and alleviate suffering of a crisis-affected population”, and “must be provided in accordance with the basic humanitarian principles of humanity, impartiality and neutrality” (OCHA,

2003). A humanitarian operation is the management of resources, activities, and processes aimed at delivering aid/relief to the beneficiaries in response to humanitarian crises. These operations are funded by donations from individuals, corporations, governments, and other organizations.

Inter-organizational collaboration among HOs may be planned and executed thorough two general types of activities that are fundamental to humanitarian operations (Table 2.1): primary and support activities. Primary activities include the main tasks in delivering aid to beneficiaries such as need assessment or context analysis, and support activities include tasks such as technology and operations management or human resource management that increase the efficiency and effectiveness of primary tasks' implementation.

Table 2-1. Activities within Humanitarian Operations

Primary Activities	Support Activities
<ul style="list-style-type: none"> <li>• Information gathering about the disaster situation</li> <li>• Need assessment or demand forecast</li> <li>• Fundraising</li> <li>• Context and capacity analysis</li> <li>• Planning</li> <li>• Procurement</li> <li>• Transportation</li> <li>• Warehousing management</li> <li>• Distribution (e.g. last mile delivery)</li> <li>• Feedback and performance evaluation</li> </ul>	<ul style="list-style-type: none"> <li>• Partnership Management</li> <li>• Technology and Operations Management</li> <li>• Human Resource Management</li> <li>• Information and Knowledge Management</li> <li>• Product and Innovation Management</li> <li>• Financial Management</li> </ul>

### 2.3.3. Actors Active During Humanitarian Operations

In a humanitarian setting, multiple groups of humanitarian and non-humanitarian actors are involved in humanitarian operations, including international and local actors. International actors are donors, international NGOs, international organizations

(e.g. ICRC, IFRC, IOM), UN agencies (e.g. UNDP, UNESCO, UNICEF, UNHCR, WFP, WHO), and the private sector (e.g. logistics companies). Local actors are local NGOs and communities, military, and national and local governments (see Figure 2.2). In this context, collaboration can be formed between two organizations (e.g. TNT & WFP or Intel & World Vision) or among several organizations (e.g. Cluster, Emergency Capacity Building Project). In this study, we focus on collaborative initiatives among international actors including international NGOs, international organizations, UN agencies, and commercial companies.

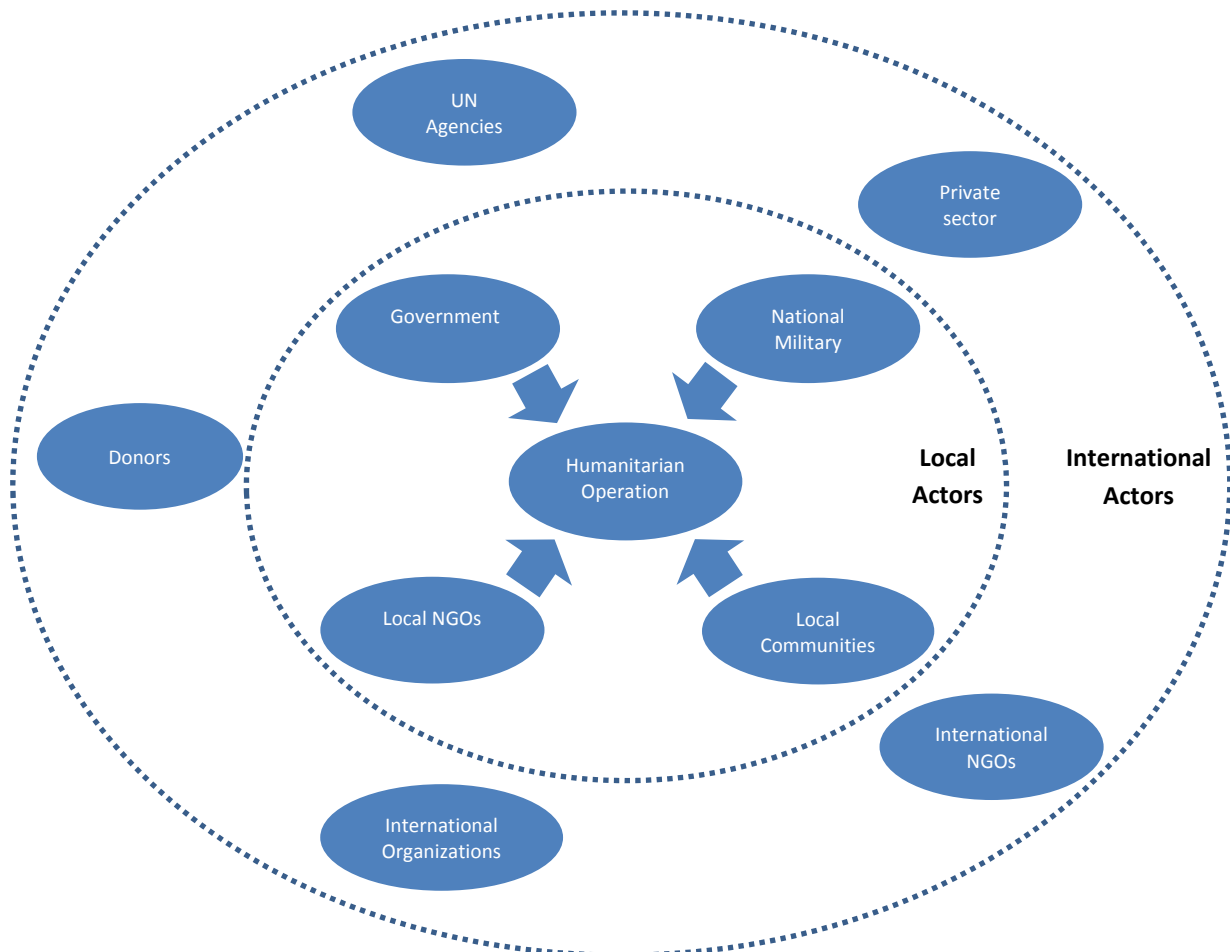


Figure 2-2. Groups of International and Local Actors During Humanitarian Operations



## **2.4. Collaboration Initiatives in Practice**

We categorize collaboration initiatives among humanitarian actors at two levels of network and dyad. At the network level, a number of humanitarian actors (e.g. NGOs, UN agencies) found a consortium or forum to plan and implement joint activities (e.g. program, service, networking) with the purpose of increasing the effectiveness of the humanitarian actions. At the dyadic level, only two organizations develop relationship and collaborate between each other to conduct common plans or decide on integrating their efforts in order to reach their objective.

### **2.4.1. Collaborative Initiatives at the Network Level**

Reviewing initiatives at a network level, the first type of collaborative initiatives is forum or networking in which a number of organizations (more than two) strengthen the relations among each other and improve the quality of humanitarian assistance or international humanitarian system. These goals are possible by methods such as providing a platform to discuss the successes and challenges within humanitarian operations, or sharing information and best practices, which allows for joint-learning innovative approaches. Additionally, they can bring their activities or views to the attention of governments, UN, and international agencies. Furthermore, through networking initiatives, partners may develop and agree on guidance, policies, and tools and then implement them through partnering, coaching, or consulting as well as monitor and report on their implementations' results. One characteristic of these networking initiatives is that a number of them are based in a specific country, such as InterAction based in US, and some of them are international-based, such as

International Council of Voluntary Agencies. Within this type of initiatives, a number of UN and relief agencies have established committees, offices, and programs to improve humanitarian collaboration (Balcik et al., 2010). For instance, the Office of UN Disaster Relief Coordinator (UNDRO), the Office of the Coordinator for Humanitarian Affairs (OCHA), and the Inter-Agency Standing Committee (IASC) develop system-wide humanitarian policies, establish common ethical frameworks, and provide accessible systems for information sharing. To support closer inter-agency collaboration and more accountability, the UN has implemented the cluster approach, establishing clusters of expertise in eleven sectors (e.g. nutrition, health, water/sanitation, emergency shelter, logistics, etc.). An important part of the cluster approach is the establishment of a consolidated appeals process (CAP), standardizing the process to appeal for funds from donors. The CAP goal is to expedite organizations' access to funds. In addition, the UN has created a central emergency fund (CERF), a common pool of funds available to qualifying organizations, which allows them to ramp up humanitarian operations immediately after a disaster strikes.

The other type of initiatives at the network level focus on improving few aspects of humanitarian operations including needs assessment (e.g. Assessment Capabilities Project), fundraising (e.g. Consortium of British Humanitarian Agencies), quality and accountability improvement (e.g. Voluntary Organizations in Cooperation in Emergencies), and health or hunger and poverty (Alliance Against Hunger and Malnutrition). In addition, a number of initiatives provide a specific method or tools in conducting the primary or secondary task within the humanitarian value chain; for instance, the REACH Initiative provides a methodology for assessment measurement and management. Within this type of collaborative initiatives, the UN has developed a

logistics support system (LSS) to improve collaboration at national or international levels and to facilitate the exchange of information among humanitarian agencies. The UN has also established a network of five humanitarian response depots (UNHRD) to strategically maintain inventory stockpiles of critical emergency items. The initiative serves as a common preparedness tool, allowing humanitarian organizations to timely access critical items at either no cost or on a cost-recovery basis. Analogously, the IFRC has also established regional hubs with the intent of pre-positioning key critical items. In addition, the IFRC has developed humanitarian logistics software, which is available to other organizations, that facilitates inventory pipeline visibility across different organizations. Finally, in another effort by the IFRC and a number of HOs, the Sphere Project provides operational standards and codes of conduct for humanitarian organizations. The last example is the Emergency Capacity Building (ECB) initiated by seven agencies—CARE International, Catholic Relief Services, International Rescue Committee, Mercy Corps, Oxfam GB, Save the Children, and World Vision International—which has the goal of discussing and sharing opinions on the significant inhibitors of humanitarian relief delivery. Currently, ECB has uncovered more than 20 research findings, field tools, and practical guides which have been employed within the work of the five ECB Project Consortia in Bangladesh, Bolivia, Horn of Africa, Indonesia, Niger to enhance partners' capacity to respond to disasters. The Humanitarian Horizons project is a collaborative effort initiated by the Feinstein International Centre of Tufts University and the Humanitarian Futures Programme of King's College and is conducted closely with the seven NGO members of the IWG. The goal of the project is to raise HOs' anticipatory and adaptive capacities and assist the HOs to prepare for the complexities of the future.

The last type of network collaborative initiatives rely on virtual networks providing a web portal to share information at various phases of humanitarian operations. For instance, reliefweb.org and irinnews.org (Humanitarian News and Analysis), initiated by UN, gathers and distributes information related to the situation of vulnerable or affected regions, and Global Hand provides information about the characteristics of organizations present at the regions. Table 2.2 presents examples of collaborative network initiatives, the year each one was established and the focus areas associated with each initiative.

#### 1.1.1. Collaborative Initiatives at Dyadic Level

Dyadic collaboration develops between two organizations. In a humanitarian setting, we observe several types of one-to-one relationships, including collaboration between two HOs (e.g. two international NGOs, one UN agency and one NGO), or collaboration between HOs and other types of organizations (e.g. one NGO and one commercial company, one UN agency and one university).

In general, when the relationship is formed between two international NGOs, the objective is to share their complementary resources to conduct their own or joint missions. For instance, the United Methodist Committee on Relief and Muslim Aid in a partnership in Sri Lanka shared their “staff, resources, supplies and logistical support” (Shaw-Hamilton, 2011), or RedR and Bioforce combined their capacities in order to train more humanitarian staff in their collaboration in Haiti (Russ and Downham, 2011). When the collaboration develops between a humanitarian organization (NGO or UN agency) and a commercial company (e.g. Intel & World Vision or Telecoms sans Frontières & OCHA), the HO benefits through in-kind or

financial donations or through shared expertise or capabilities (e.g. logistics, warehousing, or packaging).

Table 2-2. Examples of Collaborative Network Initiatives

<b>Initiative Name</b>	<b>Year Established</b>	<b>Focus Area</b>
International Council of Voluntary Agencies	1962	Humanitarian Assistance Improvement & Fundraising
InterAction	1984	Performance and Impact Improvement
Logistic Support System	1990	Communication & Supply Chain Management
Inter-Agency Standing Committee	1992	Humanitarian Assistance Improvement
Voluntary Organizations in Cooperation in Emergencies	1992	Quality management
Integrated Regional Information Networks News	1995	Information Sharing
Reliefweb	1996	Information Sharing
CORE Group	1997	Health Needs
Alertnet	1997	Information Sharing
The Active Learning Network for Accountability and Performance	1997	Performance Management
Sphere Project	1997	Quality & Accountability Improvement
Office of the Coordinator for Humanitarian Affairs	1998	Coordination of Humanitarian Response
Humanitarian Response Depots	2000	Inventory Services
Aidmatrix Network	2000	Supply Chain Management
Global Hand	2002	Matching Services
Standardized Monitoring and Assessment of Relief and Transitions	2002	Monitoring and Assessment
Humanitarian Accountability Partnership	2003	Humanitarian Accountability
Alliance Against Hunger and Malnutrition	2003	Hunger and Poverty
Fleet Forum	2003	Road Safety & Fleet Management
Emergency Capability Building	2004	Capacity Building
Shelter Centre	2004	Shelter and Settlement
The Humanitarian Logistics Software	2004	Supply Chain Management
Cluster Approach	2005	Eleven Areas
American Logistics Aid Network	2005	Supply Chain Management
Assessment Capabilities Project	2009	Needs Assessment
Consortium of British Humanitarian Agencies	2010	Fund Mobilization
REACH Initiative	2010	Information Sharing & Assessment Management

Finally, universities or research centers partner with HOs to train human resources or solve problems. For instance, Cornell University employs recent advances in engineering, natural, and social sciences to support CARE International in solving sustainable development challenges (CARE, 2012). In another example, Università della Svizzera Italiana (University of Lugano), through its collaboration with International Organization for Migration, offers training courses in humanitarian operations and supply chain management. Dyadic or bilateral relationship is proper in respect to the feasibility and availability of time and resources to create an open and trust making environment (Care, 2005). Table 2.3 presents examples of dyadic relationships and a short description associated with each one.

Table 2-3. Examples of Collaborative Dyadic Initiatives

<b>The Names of Partners</b>	<b>Type</b>	<b>Collaboration Areas</b>
Bioforce & Register of Engineers for Disaster Relief	NGO-NGO	<ul style="list-style-type: none"> <li>• Training and coaching humanitarian operators (e.g. logistician, administrator, safety, project coordinator, water &amp; sanitation experts)</li> </ul>
Muslim Aid & United Methodist Committee on Relief	NGO-NGO	<ul style="list-style-type: none"> <li>• Sharing staff, resources, supplies and logistical support</li> </ul>
Cornell University & CARE	Academy-NGO	<ul style="list-style-type: none"> <li>• Apply recent advances in engineering and the natural and social sciences to solve sustainable development challenges globally</li> </ul>
Università della Svizzera italiana & International Organization for Migration	Academy-Int. HO	<ul style="list-style-type: none"> <li>• Delivering a Master program in Humanitarian Operations and Supply Chain Management</li> </ul>
International Medical Corps & UNHRC	NGO-UN	<ul style="list-style-type: none"> <li>• Training in the areas of administration, logistics, standards and guidelines, and team development and management</li> </ul>
Telecoms sans Frontières & OCHA	NGO-UN	<ul style="list-style-type: none"> <li>• Offering services such as emergency mapping and emergency telecommunications in disaster areas worldwide</li> </ul>

<b>The Names of Partners</b>	<b>Type</b>	<b>Collaboration Areas</b>
Intel & World Vision	Business-NGO	<ul style="list-style-type: none"> <li>• Providing ICT expertise and training</li> <li>• Providing digital access to youth and educators in developing nations</li> </ul>
GlaxoSmithKline & Save the children	Business-NGO	<ul style="list-style-type: none"> <li>• Financial contributions (e.g. multiple-year grant focusing on malaria work in the North East of Kenya)</li> <li>• Sharing professional skills and experience to advancing Save the Children's mission (through an employee volunteering program)</li> </ul>
TNT & WFP	Business-UN	<ul style="list-style-type: none"> <li>• Improving WFP' operations efficiency through critical logistical assistance, state-of-the art commodity-tracking and improved supply chain methodologies</li> <li>• Delivering aid (TNT has supported more than 30 WFP Emergency Operations)</li> </ul>
IKEA & UNHCR	Business-UN	<ul style="list-style-type: none"> <li>• Providing temporary accommodation, life skills and economic empowerment ( e.g. school books, IKEA products, mattresses, quilt covers and quilts, TV broadcasts, traditional and online media, and social networking)</li> <li>• Sharing expertise in logistics, supply, packaging and warehousing through workshops organized in collaboration with UNHCR's supply management service</li> </ul>

## **1.2. A Framework for Categorizing Collaborative Initiatives Using the Collaboration Level and the Phases of Humanitarian Operation**

In this section, we categorize the employed collaborative initiatives according to the following dimensions: the collaboration level and the phase of humanitarian operation. Focusing on collaboration dimension, Lambert, Emmelhainz et al. (Lambert et al., 1999) characterize three types of inter-organizational relationships (see Figure 2.3), depending on their level of integration. In one extreme of the spectrum, Lambert et al. (1999) place an arm's length relationship. In an arm's length relationship, organizations maintain only a limited number of exchanges and have no

significant joint operations. In the polar extreme, the authors identify horizontal integration. Under horizontal integration, partners can integrate or combine assets and operations under sole ownership, either through a merger among equal partners or an acquisition among unequal partners (Yin and Shanley, 2008).

Between arm's length and integration, there are three types of collaborative relationships. In type I, partners collaborate on a single task or to a limited extent over a short-term period. In type II collaboration, partners jointly execute a number of tasks, or several departments of each organization collaborate over a medium-term period. In type III, known as strategic alliance, the organizations combine or integrate their operations to a significant degree. Partners have a long-term scope on their relationship and consider others as the extension of themselves. This type of collaboration involves long-term joint planning and more integrated supply-chain processes across functions and organizations. Arranging a formal contract among partners becomes more necessary as the collaboration intensity increases, moving from type I to type III.

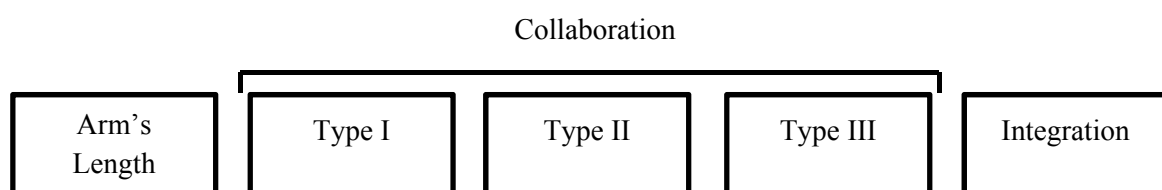


Figure 2-3. Types of Inter-Organizational Relationships  
(Lambert et al. 1999)

The second dimension of the framework refers to the phases of humanitarian operations, which are divided in two general categories: preparedness, response and



recovery (Kovács and Spens, 2007; Pettit and Beresford, 2005). Preparedness is the phase of action that includes the activities prior a disaster strikes. Thus initiatives that belong to this category are those that intervene on consolidated standing problems and/or they prepare to mitigate the negative consequences of possible events. On the other side, response and recovery consist in addressing an event after it has happened in order to mitigate the negative consequences for the people involved.

Figure 2.4 illustrates a sample of collaborative initiatives already implemented among HOs. The initiatives have been grouped based on two dimensions: the level of collaboration (type I/low, type II/medium, and type III/high), and the phase of humanitarian operations (preparedness, response, and recovery).

In the humanitarian context, type I initiatives at the preparedness phase includes networks, forums, or consortiums with goals and activities such as networking, sharing information, building relationships, or representing the group in policy-making institutions. At the response and recovery phase, HOs jointly develop and pursue immediate solutions for common problems (McLachlin and Larson, 2011) such as getting the permission to enter the affected country. In addition, through initiatives such as [reliefweb.org](http://reliefweb.org) or [Irinnews](http://Irinnews.com), HOs share information about “the disaster situation, the affected population or the availability of resources” (Zhang et al., 2002).

<b>Collaboration Type III (High)</b>	<ul style="list-style-type: none"> <li>• Cornell University &amp; CARE</li> <li>• Università della Svizzera italiana &amp; International Organization for Migration</li> <li>• Emergency Capacity Building Project</li> <li>• International Medical Corps &amp; UNHRC</li> <li>• Telecoms sans Frontières &amp; OCHA</li> <li>• Intel &amp; World Vision</li> <li>• GlaxoSmithKline &amp; Save the children</li> <li>• TNT &amp; WFP</li> <li>• IKEA &amp; UNHCR</li> </ul>	<ul style="list-style-type: none"> <li>• Muslim Aid &amp; United Methodist Committee on Relief Emergency Capacity Building Project</li> <li>• TNT &amp; WFP</li> <li>• GlaxoSmithKline &amp; Save the children</li> <li>• Intel &amp; World Vision</li> </ul>
<b>Collaboration Type II (Medium)</b>	<ul style="list-style-type: none"> <li>• Humanitarian Accountability Partnership</li> <li>• Standardized Monitoring and Assessment of Relief and Transitions</li> <li>• Assessment Capabilities Project</li> <li>• Sphere Project</li> <li>• Clusters (Global level)</li> <li>• Fleet Forum</li> <li>• Humanitarian Response Depots</li> <li>• Regional Hubs</li> </ul>	<ul style="list-style-type: none"> <li>• Clusters (Country level)</li> <li>• Logistic Support System</li> <li>• REACH Initiative</li> <li>• Aidmatrix Network</li> <li>• The Humanitarian Logistics Software</li> <li>• American Logistics Aid Network</li> <li>• Bioforce &amp; Register of Engineers for Disaster Relief</li> </ul>
<b>Collaboration Type I (Low)</b>	<ul style="list-style-type: none"> <li>• Alliance Against Hunger and Malnutrition</li> <li>• The Active Learning Network for Accountability and Performance</li> <li>• International Council of Voluntary Agencies</li> <li>• Inter-Agency Standing Committee</li> <li>• CORE Group</li> <li>• Voluntary Organizations in Cooperation in Emergencies</li> <li>• Consortium of British Humanitarian Agencies</li> <li>• InterAction</li> <li>• Global Hand</li> </ul>	<ul style="list-style-type: none"> <li>• Relief Web</li> <li>• Global Hand</li> <li>• Alertnet</li> <li>• Irinnews</li> </ul>
<b>Preparedness</b>		<b>Reponse and Recovery</b>

Figure 2-4. Collaboration Initiatives in Practice

When we move to the higher level of collaboration among HOs (type II collaboration), the initiatives focus on few services or functions before a disaster strikes or focus on dealing with a disaster after it strikes. At the preparedness phase, the goals of collaborate initiatives are to prepare organizations to conduct their operations efficiently after a disaster strikes or prepare the organizations to jointly carry out a mission or project. Through initiatives such as Humanitarian Accountability Partnership, Standardized Monitoring and Assessment of Relief and Transitions, or Sphere Project, members develop standards or guidelines in various areas such as needs assessment, quality, or accountability and afterward promote them through training or consulting among organizations. For another example, HOs through Humanitarian Response Depots can pre-position inventory to use at the response phases of humanitarian operation.

At the response and recovery phase, those initiatives are employed, which are useful within joint planning, joint context and capacity analysis, or joint identification of critical issues (e.g., locations of supply chain disruptions or bottlenecks). Balcik et al. (2010) and Van Brabant (1999) suggest that HOs can collaborate in terms of the prioritization of target groups, regional division of tasks, or joint projects. The purpose of type II collaboration efforts in the humanitarian context are to close gaps, avoid unnecessary duplication of efforts, efficient use of available resources, and performance evaluation (Van Brabant, 1999). In type II collaboration, the sharing of the knowledge among partners includes “the availability of supplies, schedules of aid deliveries and their routing” (Kovacs and Spens, 2010). Clusters approach, REACH Initiative, Aidmatrix Network platform, or logistic support systems are among the initiatives in this group. At the dyadic level, Bioforce & Register of Engineers for

Disaster Relief is an example in which humanitarian actors share their resources to effectively conduct their mission, which in this example is the training and coaching of humanitarian operators (e.g. logistician, administrator, safety, project coordinator, and water and sanitation experts).

When we move to the higher level of collaboration among HOs (type III collaboration), the initiatives are long-term oriented, the interaction among partners are higher, and the intensity of relationship is tighter. In this level of collaboration, the focus of partners goes beyond the information sharing, the developing of standards and methods, or routines for the efficient operations and mostly rely on acting together. For example, IKEA provides financial or/and in-kind support to UNHCR's work (e.g. in Bangladesh, East Sudan, Kyrgyzstan, or Tunisia) and assist its partner in having access to its technical expertise in logistics, supply, packaging, and warehousing.

In another example, Save the Children and GlaxoSmithKline collaborate to save the lives of a million of the poorest children in the world through sharing expertise, resources, and influence to tackle some of the leading causes of child mortality. Save the Children will be involved in helping GSK “to research and develop medicines for children, with a seat on a new pediatric R&D board to accelerate progress on innovative life-saving interventions for children, and to identify ways to ensure the widest possible distribution in the developing world”(Save\_the\_Children, 2013). In addition, among the associated joint plans are to raise “the production and distribution of a life-saving product for newborn infection and the roll-out of a new antibiotic powder to help children fight pneumonia—one of the main killers of children under five” (Save\_the\_Children, 2013).

At this level of collaboration, there are other collaborations or partnerships between organizations, such as Muslim Aid & United Methodist Committee on Relief, in which both organizations support each other in delivering the services to the beneficiaries. The relationship is in a long-term scope and is active in several affected regions. In another example, between TNT & WFP, TNT improves “the efficiency of WFP through critical logistical assistance, state-of-the art commodity-tracking and improved supply chain methodologies,” and in more than 30 WFP emergency operations, TNT makes sure that “aid is delivered in the fastest and most efficient way possible”(WFP, 2013).

The Emergency Capacity Building (ECB) project is another example at the type III level of collaboration, in which several international humanitarian NGOs jointly work together on figuring out and dealing with a number of key capacity gaps during humanitarian operations, including staff capacity, disaster risk reduction and climate change adaptation, and accountability and impact measurement. The collaboration continues at the response and recovery phase of humanitarian operation too. For example, in Bangladesh in 2010 after the Cyclone Aila, ECB has brought together government and UN-affiliated organizations to develop a long-term plan to determine what the consortium would like to do together in the recovery phase of the humanitarian operation.

Our observation reveals that collaborative initiatives support HOs before and after the disaster strikes through activities such as information management, fund mobilization, relationship building, technology and innovation management, human resource management, and quality management. In general, at the response phase of humanitarian operation, managing information (i.e. collection, analysis and

distribution/sharing) about the affected region, the amount of demand and supply is critical to decrease the environmental uncertainty and deliver an effective response to an event, but it is beyond the capabilities and resources of individual organizations. Moreover, providing information about active HOs on the field facilitates the creation of partnership or collaboration among different humanitarian actors to share resources or jointly carry out their operations. The next collaboration area is fund mobilization, which requires HOs to capture more donors' attention and receive support for their efforts. Besides abovementioned activities and, in particular, at the preparedness phase of a humanitarian operation, collaborative initiatives focus on sharing their experience, acknowledging the best practice, developing standards and guidelines, or capability building projects through training courses. Furthermore, a number of initiatives head to innovate new methods or technologies to enhance the efficiency and effectiveness of humanitarian operation such as supply-chain management, needs assessment, and performance or impact measurement.

### **1.3. Discussion**

Our research suggests examples of collaborative initiatives that have been designed and conducted within a humanitarian setting at various levels of collaboration and over the phases of humanitarian operation. Many efforts have been recently devoted to not only collaboration initiatives at low and medium levels, but also at a high level which necessitates a long-term and high level of interaction among partners. Moreover, we observe examples of dyadic and network collaborative initiatives at preparedness and response phase of humanitarian operation. Table 2.4 illustrates various activities within humanitarian operation and a number of relevant

collaborative initiatives for each activity. We observe that there is often the possibility for HOs to conduct their primary or secondary tasks through collaborating with other organizations or to employ the methods or mechanisms have developed by the joint effort of other organizations.

Acknowledging the various types of collaborative initiatives employed by HOs, we face two key questions: first, to which extent the collaborative initiatives are employed by HOs, and what are challenges for HOs to enter the initiatives or successfully engage as a partner. In the rest of this section, we address to these two questions and briefly review the challenges in analyzing the collaboration performance and those that limit organizations to appropriately collaborate and attain the desired goals of their relationships.

As many HOs only activate their operations after a disaster strikes, limited collaboration takes place during the preparedness phase of the disaster relief lifecycle (Schulz and Blecken, 2010). Often efforts to develop or engage in collaborative relationships occur only after a disaster strikes, when the hectic response is unfolding and when options, as well as time to address the requirements, are limited. In such contexts, it is much more difficult to establish adequate collaborative mechanisms (Pettit and Beresford, 2009). In addition, there is always considerable uncertainty about which HOs would be present in the affected region and the amount of resources they will bring to the field (Tomasini and Van Wassenhove, 2004). Such uncertainty leads to remarkable redundancies and duplicated efforts and materials (Simpson, 2005). Thus, scholars argue that to improve the impact on beneficiaries, HOs should collaborate not only during the response phase of humanitarian operations but also during the preparedness phase (Thomas and Kopczak, 2007; Van Brabant, 1999).

Table 2-4. Activities and Examples of collaborative Initiatives within Humanitarian Operations

Primary Activities	• Information gathering about the disaster situation ( <i>e.g. Relief Web, REACH</i> )
	• Need assessment or demand forecast ( <i>e.g. Assessment Capabilities Project</i> )
	• Fundraising ( <i>e.g. Clusters, Consortium of British Humanitarian Agencies</i> )
	• Context and capacity analysis ( <i>e.g. Cluster, ECB Project</i> )
	• Planning ( <i>e.g. Muslim Aid &amp; United Methodist Committee on Relief Emergency, ECB Project</i> )
	• Procurement ( <i>e.g. Humanitarian Response Depots, The UN Procurement Practitioner's Handbook, Procurement Training</i> )
	• Transportation ( <i>e.g. TNT &amp; WFP, Logistic Support System</i> )
	• Warehousing management ( <i>e.g. Humanitarian Response Depots, Regional Hubs</i> )
	• Distribution ( <i>e.g. Aidmatrix Network</i> )
	• Feedback and performance evaluation ( <i>e.g. Standardized Monitoring and Assessment of Relief and Transitions</i> )
Support Activities	• Partnership Management ( <i>e.g. Global Hand, InterAction, American Logistics Aid Network, Voluntary Organizations in Cooperation in Emergencies</i> )
	• Technology and Operations Management ( <i>e.g. Intel &amp; World Vision, Fleet Forum, Humanitarian Accountability Partnership, Sphere Project, Voluntary Organizations in Cooperation in Emergencies</i> )
	• Human Resource Management ( <i>e.g. ECB Project, Università della Svizzera italiana &amp; International Organization for Migration</i> )
	• Information and Knowledge Management ( <i>e.g. Telecoms sans Frontières &amp; OCHA</i> )
	• Product and Innovation Management ( <i>e.g. GlaxoSmithKline &amp; Save the children; Cornell University &amp; CARE</i> )
	• Financial Management ( <i>e.g. Clusters, Consortium of British Humanitarian Agencies</i> )

As revealed in previous section, there are a considerable number of collaborative initiatives providing platforms for HOs to become familiar with each other, share their information or experiences or invest on enhancing their operational capabilities.

The other discussion point is about the entrance or engagement of HOs within the designed collaborative initiatives. Collaborative initiatives are often launched by a few number of organizations, but the goal of many of initiatives is to provide HOs a method or tool to efficiently conduct their own operations (*e.g. needs assessment method*) or to provide a platform to collectively carry out part of the humanitarian



value chain while responding to a disaster (e.g. impact measurement). But in practice not all humanitarian actors participate in the collaboration effort or the level of their contribution to the initiative is not at the same level. In addition, many HOs engage in low level of collaboration efforts or those collaborative initiatives which exercise information sharing and identifying challenges rather than leading to necessary actions and implementing them. For example, monthly meeting of protection working groups in Uganda just provided ad hoc information sharing and did not lead to concrete results (Dolan and Hovil, 2006). Within the humanitarian sector, there are factors which facilitate or inhibit the diffusion of collaborative initiatives as innovative products or processes among HOs in conducting their operations. Collaboration benefits are the main motivation to adopt a collaborative initiative. Innovative approaches support the collaborators to raise the level of response efficiencies, achieve a higher level of beneficiaries' satisfaction, or avoid the gaps and overlaps within humanitarian operations. However, organizational factors such as managers' perception regarding the costs of collaboration may discourage organizations to involve or employ the initiatives. For example, the cluster approach developed in 2005 is an innovative way to encourage collaboration among humanitarian actors (i.e. identify needs and gaps or speed up the access to financial resources). However, considering the financial dependency of a group of participants or the potential closeness of cluster leaders to actors engaged in conflicts or an affected region, a group of managers perceive clusters as threatening humanitarian principles (i.e. humanity, impartiality, neutrality, and independence) (Taylor et al., 2012). Thus a number of organizations such as ICRC or MSF choose to remain as observers. Furthermore, other factors such as communication barriers, budgetary, cultural, or

ideological matters have not let some organizations, in particular local NGOs, to engage in the cluster approach (Fredriksen, 2012).

The other group of factors are associated with the success or failure of collaborative performance among HOs. First, organizations' competition over scarce resources, donations, or media attention limits the level of collaboration or has a negative impact on the collaborative relationships (Van Brabant, 1999). In order to maintain advantages over other partner(s), organizations may not share their valuable information, resources, or experiences (Parmar et al., 2007). Second, collaboration relies on relationship building, which is a resource-consuming process. Partners have to dedicate part of their resources (i.e. time, human resources) to communication, information sharing, and trust-building between partners in order to enhance the efficiency of their interactions. Attendance of junior staff without enough experience at collaboration meetings is a sign of failure or poor performance of collaboration efforts. The other factor is related to the level of diversity between an organization's goals, missions, perspectives, and technical approaches, which may inhibit the level of collaboration. Campell and Hartnett (2005) points to the important role of collaboration processes and incentives, which complete the role of coordination bodies that enhance the expectation level of partners of the attainable benefits of collaborative initiatives, inspiring them to invest in the initiative (Campbell and Hartnett, 2005).

Governance structure and power distribution within a collaborative initiative is the next important driver of a relationship's success or failure. Within the scholars and practitioners, there is an ongoing discussion whether a centralized-hierarchical authority or noncentralized-network governance may be a productive structure

resulting in efficient relationships among HOs. The need for quick humanitarian response and the large number of actors with a high level of diversity among their goals and capabilities are among the reasons that support a command-and-control type of coordination. However, others argue that humanitarian context is multi-organizational in which the authority is non-centralized or “diffused among a range of players unwilling in principle, and there are competition for media salience, competition for resources, fragmented missions, perceived national interests among agencies” (Borton, 1993). Each actor looks for its influence on the decision-making process and the fair contribution of the collaboration results (Griffith et al., 2006). Moreover, the value of HOs’ independency, the need to operational flexibility, or the important role of humanitarian principles (Gatignon et al., 2010; Stephenson, 2006; Wise, 2006) support the propensity of the majority of HOs toward network governance and a decentralized decision-making system. At a national level, the poor response to Hurricane Katrina is mentioned as the result of centralized structures, which slowly adapt itself to the dynamics situation of disaster (Bier, 2006; Comfort, 2007). The poor design of collaboration governance discourages organizations to commit their resources on a joint effort or either implicitly or explicitly resist contributing to the initiative. Each organization expects to observe that its interests have been taken into account, and no powerful actors intend to exercise power and disengage other partners (Campbell and Hartnett, 2005).

The last discussion point is about the proper evaluation of initiatives’ performance within a humanitarian setting which faces several challenges and difficulties and may be explored by researchers and practitioners. In South Sudan case study, Taylor and Stoddard (2012) figured out that many of humanitarian respondents admitted the cost

of collaboration (i.e. time, administrative affairs) but in overall were satisfied with the benefits of cluster approach. However some stakeholders such as international NGOs refer to the raise of bureaucratic affairs after employing cluster approach which eventually lead to an inefficient system. One explanation for the reported inconsistency among evaluations is associated with the low level of collaboration's outcome interpretability (Shah and Swaminathan, 2008). In other words, because of factors such as the high level of uncertainty within a humanitarian operation, the likelihood of having various evaluations on collaboration outputs are high, which may lead partners to misjudge the collaborative performance. Therefore, there is a need for systematic evaluation criteria tailored to collaboration within humanitarian context. Having an appropriate system of measuring performance of collaborative initiatives not only provides the possibility of easier interpretation of collaborative efforts, but also it is feasible to investigate the influence of interventions or new technologies on enhancing the level of collaboration at a dyadic or network level. For example, recognizing the effect of information and communication technologies on a collaborative network initiative' performance (i.e. capability building, access to information, knowledge management, inter-organizational learning, or dealing with inhibitors of collaboration [e.g. mistrust, power disparity]) supports managers while comparing their alternatives and deciding whether to invest in a specific intervention or technology.

#### **1.4. Summary and Suggestions for Further Research**

HOs' limited resources - funding, human capital, logistics capabilities, or know-how experiences - and a large amount of humanitarian needs urge for more efficient

operations in which collaboration among humanitarian actors plays a critical role. In this study, we reviewed a number of existing collaborative dyadic and network initiatives. We categorized them into two phases of preparedness and response and into three levels of collaboration (i.e. low, medium and high). It is notable that as we move to the higher level of collaboration, HO should be prepared to commit more resources to initiative in order to reach its expected results. We also discussed a number of challenges for HOs to enter, successfully engage in the collaborative initiatives or adopt the initiatives. In the rest of this section, we elaborate research enquiries which may be insightful to be explored in next studies on collaboration among HOs.

First, given the important role of collaboration initiatives in providing improved humanitarian services, researchers may provide insights on how to enhance the level of initiative's adoption by HOs. Along this line, there are several theoretical frameworks within operations and information management literature, which could be investigated and, if necessary, customized to the context of a humanitarian setting in order to guide managers and initiative developers over phases of initiative adoption (i.e. evaluation, adaptation and routinization) (Chan et al., 2012). For example, see technological, environmental, and organizational factors (Tornatzky et al., 1990), inter-organizational factors (i.e. trust, power) (Huang et al., 2008), acceptance factors (i.e. performance expectancy, social influence) (Venkatesh et al., 2003).

Second, in order to appropriately develop and implement the collaboration initiative, there is a need to explore and understand the factors and challenges influencing collaboration. Till now a number of scholars have studied this subject and provide insights for managers and researchers. However, we agree with other scholars (Balcik

et al., 2010; Schulz and Blecken, 2010) that there is still a need for comprehensive or systematic view of the factors and empirically figuring out *how, why, when, where* they play role within collaborative relationships.

Third, performance evaluation has a critical role on HOs' decisions to continue its collaborative effort, or to exit the initiative. Collaboration performance can be measured using several approaches. The first approach, which has been used by scholars in strategic management, is based on the subjective evaluation of key informants (i.e. organization managers). This method captures the perception of key informants through questions such as on whether the objectives for which the collaboration was established are being met, whether the partners are satisfied with the overall performance of the collaboration (Jap, 1999; Krishnan et al., 2006a), or whether the partners expect to continue or terminate their collaborative efforts for a longer time or for future projects (Cannon et al., 2010a; Wang et al., 2010). The other method asks about an organization's key informants' perception on whether collaboration with their partner(s) has resulted in improved on-time delivery of products/services, improved products/services' quality, reduced humanitarian operations' costs, improved organization's image to donors, access to more resources (e.g. financial, equipment, skills, information), improved operations/services' impact, less competition among organizations over limited resources, or avoiding unnecessary duplication of organizations' efforts. Moreover, employing interdisciplinary research (i.e. organizational behavior (e.g. emotion, culture (Argote and Miron-Spektor, 2011), goal setting (Ordóñez et al., 2009), and management control system (Anthony and Govindarajan, 2001) supports scholars to design effective performance measurement systems of collaborative initiatives.

## **The 3<sup>rd</sup> Chapter**

# **Understanding the Drivers and Barriers of Collaboration Among International Humanitarian Organizations**

## **2. Understanding the Drivers and Barriers of Collaboration Among International Humanitarian Organizations**

### **2.1. Chapter Abstract**

This paper investigates the horizontal collaboration among international humanitarian organizations (HOs) during the phases of humanitarian operations. In particular, the study seeks to understand the drivers and barriers for horizontal collaboration among HOs from both practitioners' and academics' sources. The contribution of the study is threefold: first, it reviews the collaborative activities among international HOs as well as the academic research studying the horizontal collaboration in humanitarian operations. Second, the research identifies four categories of factors - external factors, factors associated with donors' role, inter-organizational factors and organizational factors - influencing collaboration among international HOs. From the insight of the represented factors, the research finally discusses a number of approaches which can potentially enhance the horizontal collaboration in future humanitarian operations.

**Key Words:** Horizontal Collaboration, Conceptual Model, Humanitarian Organization, Humanitarian Operation.



## **2.2. Introduction**

The impact of disasters is growing over time. The number of natural disasters has increased in the last decades and is expected “to increase by a further multiple of five over the next 50 years” (Thomas and Kopczak, 2007). According to the CRED International Disaster Database, the number of disasters affecting the world has grown from “around 220 per year in the mid-1990s, to a current annual figure of some 350-400” (Tatham and Houghton, 2011). The severity of disasters leads to involvement of a large number of established organizations and newly born organizations after a disaster strikes in humanitarian operations. For example, following the 2004 Asian Tsunami more than 40 countries and 700 nongovernmental organizations (NGOs) were present in the affected area (Chia, 2007), or after Haiti earthquake 3,000 to 10,000 NGOs are estimated operating in Haiti (Kristoff et al., 2010).

To deal with the growing number and complexity of disasters (Van Wassenhove, 2006), and to handle the growing need for more sustainable humanitarian operations (Chang et al., 2011; Zuo et al., 2009), HOs are motivated to collaborate with each other. For instance, Van Wassenhove (2006) points out that even when organizations are well prepared to respond during disasters, they may be less effective when they operate individually within a large-scale disaster. Van Brabant (1999) suggests that “similar standards of quality, cost-effective use of resources, rational allocation of tasks, and working towards agreed priorities” are all characteristics that promote collaboration among HOs. Gazley and Brudney (Gazley and Brudney, 2007) suggest that collaboration can yield many benefits such as “economic efficiencies, greater service quality, organizational learning, access to new skills, diffusion of risk, improved public accountability, ability to buffer external uncertainties, and conflict

avoidance.” The significant amount of uncertainty (e.g. number of beneficiaries, availability of supply, conditions of supply networks, availability of human resources, etc.) faced by HOs when responding to disasters (Thévenaz and Resodihardjo, 2010) can amplify the benefits of collaboration. However, high levels of uncertainty also create additional barriers to collaboration.

While Samii and Van Wassenhove (Samii and Van Wassenhove, 2003) report increased levels of collaboration among HOs (through sharing equipment, assets, and resources), the humanitarian operations literature provides examples of the scarcity or failure of collaboration among humanitarian actors. Van Wassenhove (2006) explores the collaboration failure in Sumatra following the Indian Ocean tsunami; Farazmand (Farazmand, 2007) focuses on the role of emergency governance and leadership in the collaboration failure within the 2005 hurricane Katrina; Stolk (2006) points out the lack of donors’ collaboration in Sri Lanka (Stolk, 2006) and Cordoba (2010) discusses the collaboration failure among NGOs in delivering health service in Haiti after the 2010 earthquake (Cordoba, 2010). While considering humanitarian operations in New Orleans after the Katrina hurricane and in Indonesia after the Tsunami, Thévenaz and Resodihardjo (2010) observe that “efforts are duplicated, resources are used in an unproductive and ineffective way or are wasted, relief efforts are slow, impeded, or obstructed.” The lack of collaboration results in ineffective aid distribution particularly in the last mile (Murray, 2005); causes congestion at local airports and roads (Fritz, 2005); can lead to injury or death of aid recipients struggling to attain services (Moore et al., 2003); can lead to competition among HOs over limited available resources (e.g. building materials and labour) raising costs and delays for services (Chang et al., 2011).

Despite the dramatic importance of inter-organizational collaboration in humanitarian operations in recent years, few systematic studies of horizontal collaboration have been completed (Balcik et al., 2010; Schulz and Blecken, 2010). Accordingly, this work attempts to conceptually frame the horizontal collaboration in humanitarian operations research. Furthermore, it sheds light on the drivers and barriers of collaboration effort among HOs. It focuses on horizontal collaboration among international HOs, and identifies four categories of factors - external factors, factors associated with donors' role, inter-organizational factors, and organizational factors - influencing collaboration efforts among HOs.

This paper is organized as follows: we begin by defining inter-organizational collaboration and exploring existing collaborative exercises among HOs. Next, we review the literature on horizontal collaboration in humanitarian operations. Building on the literature review, we develop a conceptual model describing the drivers and impediments of collaboration among HOs. Finally, we discuss a number of mechanisms that may promote collaboration performance, and elaborate some opportunities for future research.

### **2.3. Inter-Organizational Collaboration among HOs**

Inter-organizational collaboration refers to a partnership process where two or more independent organizations working closely to program and implement their operations (Cao and Zhang, 2011; Simatupang and Sridharan, 2002). Through collaboration, organizations negotiate and agree on their collaborative effort goals and the amount of

contribution each partner has to bring to execute the collaboration, and in addition align their actions to achieve the specified goals (Gulati et al., 2012).

We characterize inter-organizational collaboration among HOs in three levels: type I/low, type II/medium and type III/high (Lambert et al., 1999). Type I or low level of collaboration includes activities which are carried out for a short term and within a limited degree of interaction among HOs. For example, before a disaster strikes, HOs could share information about characteristics of HOs, regional issues and events through networking initiatives such as International Council of Voluntary Agencies or platforms such as irinnews (humanitarian news and analysis). After a disaster strikes, HOs could share information relating to the disaster situation or the affected population through platforms such as ReliefWeb. The goal is to share information and/or to adapt to the realities of the situation, improvise, and overcome obstacles to get the job done or develop immediate solutions (e.g. expediting late deliveries).

Type II or medium level of collaboration includes activities which are exercised for the medium term and require more interaction of HOs. The purpose of this type of collaboration is to avoid duplication and gaps through the prioritization of target groups, regional division of tasks or joint projects. In addition, HO can optimize “the use of the available logistics and communications, and monitoring and evaluating the impact of the programs on the existing needs and capacities” (Van Brabant, 1999). For example, before a disaster strikes, HOs could establish or become involved in joint pre-positioning acts or purchasing consortia. After a disaster strikes, HOs could share information on “the availability of supplies, schedules of aid deliveries and their routing” (Kovacs and Spens, 2010) through initiatives such as Logistic Support System or Aidmatrix Network.

Type III or high level of collaboration involves long run joint planning and more integrated supply chain processes, across functions and organizations which are adopted for long term and require considerable interaction among HOs. Before a disaster strikes, HOs (e.g. WFP though its collaboration with TNT) enhance their supply chain processes or operational capacities (e.g. logistics, packaging, and warehousing). Furthermore, the partners develop customized products for the beneficiaries. For example, IKEA through its collaboration with UNHCR provides temporary accommodation, life skills and economic empowerment (e.g. school books, IKEA products, mattresses, quilt covers and quilts, TV broadcasts, traditional and online media, and social networking). After a disaster strikes, HOs such as Muslim Aid and United Methodist Committee on Relief share their staff, supplies and logistical resources in multiple events or conduct joint projects in multiple regions. As another example, emergency capacity building (ECB) project is among the initiatives at this high level of collaboration which includes more integrative planning, decision making and collectively implementing the plans at both phases of humanitarian operations.

Figure 3.1 illustrates collaborative activities among HOs grouped based on two dimensions: the level of collaboration (type I/low, type II/medium and type III/high), and the phase of humanitarian operations (preparedness, response / recovery (Kovács and Spens, 2007; Pettit and Beresford, 2005)).

Collaboration Type III (High)	<ul style="list-style-type: none"> <li>• Capability building (e.g. sharing technical expertise in logistics, supply, packaging, and warehousing, and improving supply chain capabilities)</li> <li>• Developing customized products and services</li> </ul>	<ul style="list-style-type: none"> <li>• Resource sharing in multiple events (e.g. infrastructures, human resource)</li> <li>• Conducting joint projects in multiple events or regions</li> </ul>
	<ul style="list-style-type: none"> <li>• Improving the processes (needs assessment, quality management, tracking and tracing, fleet management systems)</li> <li>• Developing operational standards (e.g. customs procedures)</li> <li>• Developing codes of conduct</li> <li>• Inventory pre-positioning</li> <li>• Joint procurement</li> </ul>	<ul style="list-style-type: none"> <li>• Sharing information on the availability of supplies, schedules of aid deliveries and their routing</li> <li>• Context and capacity analysis, or joint identification of critical issues (e.g., locations of supply chain disruptions or bottlenecks).</li> <li>• Optimizing the use of the available resources (e.g. logistics and communications)</li> <li>• Fund mobilization</li> <li>• Joint planning (i.e. the prioritization of target groups, regional division of tasks or joint projects)</li> </ul>
Collaboration Type I (Low)	<ul style="list-style-type: none"> <li>• Community building</li> <li>• Representing the group in policy-making institutions</li> <li>• Information sharing about characteristics of HOs, regional issues and events</li> <li>• Knowledge management and joint learning (exchange and disseminate of experiences and best practice)</li> </ul>	<ul style="list-style-type: none"> <li>• Information sharing about the disaster, affected population, the availability of resources</li> <li>• Overcoming obstacles to get the job done or develop immediate solutions (e.g. expediting late deliveries).</li> </ul>
Preparedness		Reponse and Recovery

Figure 2-1. Collaboration Activities among HOs

The operations management literature distinguishes between two forms of potential collaboration: horizontal and vertical. Vertical collaboration includes parallel actions with suppliers, customers, or across departments of the same organization (Simatupang and Sridharan, 2002). Vertical collaboration across supply chain echelons has been well-examined in supply chain management literature (Benton and

Maloni, 2005; Cruijssen et al., 2007; Griffith et al., 2006; Johnston and Kristal, 2008; Johnston et al., 2004; Paulraj et al., 2008; Van Der Vaart and Van Donk, 2008). Power distribution, trust, planning difficulty, and communication are among the factors that influence both vertical collaboration among companies and their performance (Bendoly et al., 2010; de Leeuw and Fransoo, 2009; Fawcett et al., 2010; Goffin et al., 2006; Van Der Vaart and Van Donk, 2008).

Horizontal collaboration includes collaboration with competitors or non-competitors providing similar services, or internal departments with similar functions (Simatupang and Sridharan, 2002). In contrast to the vertical collaboration, the academic research addressing horizontal collaboration in supply chain management is limited (Cruijssen et al., 2007). A few studies examine factors influencing collaboration. Verstrepen, Cools et al. (Verstrepen et al., 2009) characterize horizontal collaboration objectives as including “cost reduction, growth, innovation, information, quick response, and social relevance”.

The importance of horizontal collaboration in humanitarian operations and the challenges of designing and employing the collaboration initiatives initiated a considerable number of studies from scholars and practitioners’ perspectives (Balcik et al., 2010; Schulz and Blecken, 2010; Van Brabant, 1999). The following section reviews the conceptual and methodological orientation of academic studies.

## **2.4. Review of Papers and Reports Considering Horizontal Collaboration among Humanitarian Organizations**

The search procedure began by using the following key words “coordination”, “collaboration”, “cooperation”, “alliance”, or “inter-organizational relationships” combined with “humanitarian aid/relief organizations”. Papers and reports which consider collaboration or coordination among international humanitarian actors were chosen for further studies. Focusing only on supply chain management or operations management journals provides us a limited number of studies (McLachlin and Larson, 2011), so we extended our search to all academic and practitioner outlets. For this reason, we used Google scholar which in addition to published papers gives access to working papers or practitioners’ reports. Additionally, we checked the studies which cited seminal papers (e.g. Van Wassenhove, 2006). These steps eventually gave access to 43 relevant papers published in various categories of journals (Table 3.1) (see Appendix 4.A for the title of Journals), and 16 relevant practitioner reports.

Table 2-1. The categories of journals examining the collaboration among HOs

Operations Management	20
Public Management	9
Disaster Management	8
Others (Information Systems & Computer Science)	6
Practitioner report	16

Our review of published research on collaboration among HOs allowed us to identify common themes. First, several studies emphasize the current low levels of collaboration among HOs; they also stress the importance of collaboration to improve



the level of humanitarian relief services (Kapucu et al., 2010; Kovács and Spens, 2007; Kovács and Spens, 2009; Kovács and Spens, 2011; Maon et al., 2009; Perry, 2007; Pettit and Beresford, 2009; Van Wassenhove, 2006). Some studies consider one or more aspects of collaboration, such as motivation (Ngamassi et al., 2010), the structure of inter-organizational relations (Battini, 2007; Moore et al., 2003; Stephenson Jr and Schnitzer, 2006), leadership (Waugh and Streib, 2006), permanent and temporary networks (Jahre et al., 2009), or trust (Tatham and Kovács, 2010). Still others consider the evaluation of current coordinating agents or practiced collaborative initiatives (Balcik et al., 2010; Battini, 2007; Jahre and Jensen, 2010; Lee and Low, 2006; Perry, 2007; Simo, 2009; Simo and Bies, 2007; Van Brabant, 1999). Finally, some studies have shed light on the drivers or impediments of collaboration and proposed solutions for dealing with them (Balcik et al., 2010; Campbell and Hartnett, 2005; Cooley and Ron, 2002; Dolinskaya et al., 2011; McEntire, 2002; McLachlin and Larson, 2011; Parmar et al., 2007; Schulz and Blecken, 2010; Thévenaz and Resodihardjo, 2010; Van Brabant, 1999; Zoraster, 2006). These studies are reviewed in the next section of paper.

Methodologically, studies on humanitarian collaboration follow similar approaches. A literature review of previous studies on humanitarian collaboration in academic and practitioner journals is common. This is frequently followed by proposing methods for the promotion of collaboration among HOs, for example Kapucu et al. (2010) and Stephenson Jr and Schnitzer (2006) highlight the role of leadership and non-centralized network governance on strengthening the inter-organizational collaboration among HOs or Kovacs and Spens (2010) refer to the positive effect of “communities of practice” on enhancing knowledge sharing within a humanitarian

setting. In respect to data collection methods various methods have been used such as survey (Ngamassi et al., 2010; Parmar et al., 2007), interviews (Dolinskaya et al., 2011; Perry, 2007), workshop presentations (Kovács and Spens, 2009; McLachlin and Larson, 2011). Additionally, there are some papers which used field study to investigate the collaboration among HOs (Coles et al., 2012; Lee and Low, 2006; Zoraster, 2006). Another observation is that many of studies collected data based on the event level such as South-East Asian Tsunami or Katrina (Simo and Bies, 2007; Thévenaz and Resodihardjo, 2010; Waugh and Streib, 2006), and few studies investigate the collaboration at inter- organizational level at dyad or triad levels.

Furthermore, some of these studies elaborate the learning of business organizations in established academic fields and argue towards adapting their practices in humanitarian context. Balcik et al. (2010) suggest warehouse standardization, shipper collaboration, and 4PLs as the mechanisms that may enhance the coordination among HOs. Maon et al. (2009) discuss the efficient supply chain management practices in humanitarian setting, and in another study Tatham and Kovács (2010) elaborate the application of swift trust within humanitarian context. However, Van Wassenhove (2006) notifies that although humanitarian sector can cross-learn useful tools from commercial sector but they have to be “carefully translated” and the complexity of humanitarian operations have to be considered.

Along this line and in order to deliver reliable policies or advices for HOs to have efficient and effective partnerships, first, scholars have to rigorously employ case study method to provide a deep and extensive analysis of collaboration mechanisms and efforts among HOs. These studies provide general guidance or theoretical hypothesis on promoting collaborative relationships. Then, studies employing

econometrics methods and analyzing a large sample of organizations are required to test the developed studies and finally provide an a prescriptive agenda upon the validated hypotheses (Fisher, 2007). As observed above, most of the studies exploring the collaboration among humanitarian organizations are considered less structured through interviewing HOs managers to understand the challenges within the collaboration phenomenon. Considering the Fisher's approach, there is still a lack of scientific studies exploring the collaboration phenomenon through conducting highly structured endeavors and employing econometric methods.

## **2.5. Review of Papers and Reports Considering Drivers and Inhibitors of Horizontal Collaboration among HOs**

Our literature review categorizes the factors influencing the collaboration efforts among HOs into four groups: external factors, factors associated with donors' role, inter-organizational factors and organizational factors (Figure 3.2).

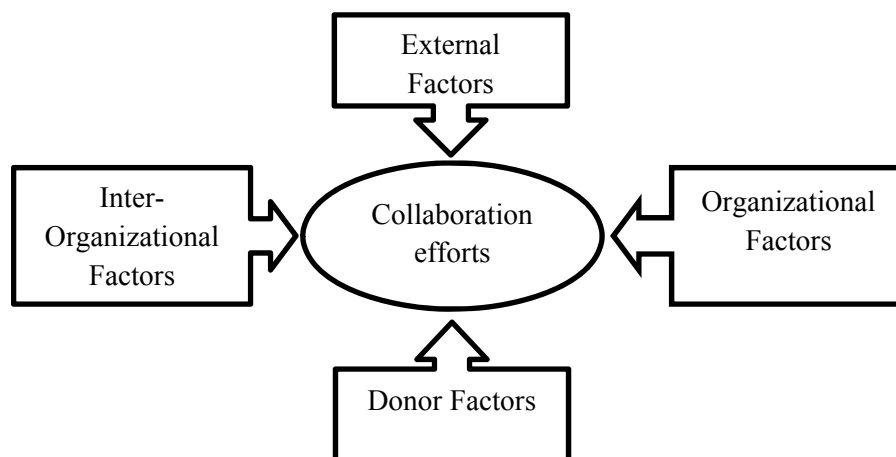


Figure 2-2. Conceptual model of factors driving or inhibiting collaboration among HOs

External factors point to the unpredictability or uncertainty of the demand and infrastructure in the affected region as well as the available local and international resources. In some situations, after a disaster strikes, it affects the political environment on the field, which influence the involvement of HOs in collaborative initiatives or the performance of their relationships (Sommers and Watson Jr, 2000). Additionally, there is rarely access to reliable and adequate information and timely exchange of information among humanitarian actors about the disaster location and its intensity (before it strikes), and the extent of damage in regional infrastructure (i.e. communication, transportation), the amount of population affected, or beneficiaries' needs (Day et al., 2009; Schulz and Blecken, 2010). However, in some cases such as Fort Worth tornado in 2000 (McEntire, 2002), access to too much (and often incomplete or inaccurate) information delays data processing. Furthermore, the presence of new or inexperienced HOs adds more challenges to the humanitarian environment. The high number of HOs and the lack of transparency in their resources and capabilities to deliver humanitarian relief increase uncertainty and the likelihood of competition among them for available resources. For example after Asian Tsunami 700 NGOs (Chia, 2007), or after Haiti earthquake 3,000 to 10,000 NGOs (Kristoff et al., 2010) are estimated operating within the field. Finally, beneficiaries' demands require quick response, which provides less time for *ad hoc* collaboration.

Table 2-2. External Factors Influencing the Collaboration Effort among HOs

Category	Indicators	References
Context	<ul style="list-style-type: none"> <li>• Location and timing of disasters</li> <li>• Availability of adequate &amp; reliable information</li> <li>• Political environment</li> </ul>	(Balcik et al., 2010; McEntire, 2002; Sommers and Watson Jr, 2000)
Demand	<ul style="list-style-type: none"> <li>• Quantity, characteristics and needs of affected population</li> <li>• Urgency of relief response</li> </ul>	(Balcik et al., 2010; Dolinskaya et al., 2011; Tchouakeu et al., 2011)
Supply	<ul style="list-style-type: none"> <li>• Remaining local infrastructure (i.e. communications, transportation, etc.)</li> <li>• Availability of local and international resources</li> <li>• Number and experience of involved HOs</li> </ul>	(Balcik et al., 2010; Cooley and Ron, 2002; Van Wassenhove, 2006)

Donor related factors are those associated with donors' role in promoting the collaboration efforts among HOs. In order to deliver sustainable and efficient services to the beneficiaries, some donors have initiated programs to enhance humanitarian operations' efficiency. However, there are some concerns which influence HOs' propensity to engage in the plans or follow the donors' proposed guidelines. For example, funds are sometimes available in special situations that might be considered to threaten humanitarian principles, such as violation from neutral or impartial humanitarian action (Steets et al., 2010). In addition, collaboration demands resources (e.g. time, human resources, funding), so it is critical to establish collaborative relationships before a disaster hits. However, funding is mostly not available at preparedness phase of humanitarian operations, so it inhibits investments in strengthening inter-organizational relationships or enhancing HOs' collaboration skills (i.e. communication or bonding skills). In addition, Smillie and Minear (Smillie and Minear, 2003) point out to the role of government donors' domestic and foreign

policies as a factor which determines the proportion in funding emergencies, among countries and regions in need. Funding is mostly earmarked or donated for specific projects constraining HOs' flexibility to use the resources (Besiou et al., forthcoming). Moreover, HOs are under pressure to use the provided funds over a short-term period, thus organizations cannot use them to strengthen their collaborative relationships.

Due to the challenges in allocating donations to HOs, such as the rising number of HOs or the increasing concern of donors on the efficient use of the available resources, donors have arranged competitive contracts and employed incentive mechanisms (Barnett, 2005; Cooley and Ron, 2002; Huxham, 1993) designed upon short-term objectives or quick results, which subsequently motivate HOs to keep a short-term view of operations and decisions. Therefore, within this kind of environment, HOs are concerned with their own survival and self-preservation, so they have low tendency to collaborate with others (Balcik et al., 2010; Kovacs and Spens, 2010) and even compete over scarce resources.

The third category includes factors associated with inter-organizational characteristics. The diversity or conflict among HOs' mandates or goals (strategic level) and the different internal policies, standards, operational approaches and timeframe in humanitarian operations (operational level) lead to low collaboration. Another aspect of incompatibility among HOs initiates from their various values and organizational cultures, which could lead to misunderstanding, conflicts, or mistrust among organizations and eventually decreases their sense of mutuality and engagement in collaborative efforts. Scarcity of resources, particularly during peak seasons, leads to intense competition over limited resources, publicity, or media attention. The other factor is the extent of disparity or asymmetry among the partners.

Table 2-3. Donors related Factors Influencing the Collaboration Effort among HOs

Category	Indicators	References
Use of Resources	<ul style="list-style-type: none"> <li>• Timing of resource availability</li> <li>• Required burn rates</li> <li>• Earmarked funds establish uses</li> </ul>	(Balcik et al., 2010; Stephenson, 2006)
Incentive mechanism	<ul style="list-style-type: none"> <li>• Access to short-term &amp; reusable contracts</li> <li>• competition over scarce local resources</li> </ul>	(Cairns, 2012; Cooley and Ron, 2002; Taylor et al., 2012)

Table 2-4. Inter-Organizational Factors Influencing the Collaboration Effort among HOs

Category	Indicators	References
Strategic compatibility	<ul style="list-style-type: none"> <li>• Shared organizational objectives, missions, mandates</li> <li>• Shared cultural values</li> <li>• Shared language</li> <li>• Level of trust among organizations</li> <li>• Strength of sense of mutuality</li> </ul>	(Akhtar et al., 2012; Balcik et al., 2010; Schulz and Blecken, 2010; Thévenaz and Resodihardjo, 2010; Van Brabant, 1999; Van Wassenhove, 2006; Zoraster, 2006)
Operational compatibility	<ul style="list-style-type: none"> <li>• Similar operational policies</li> <li>• Similar programming approaches, timeframes</li> <li>• Similar standards and techniques</li> </ul>	(Akhtar et al., 2012; Campbell and Hartnett, 2005; Dolinskaya et al., 2011; Steets et al., 2010)
Competition	<ul style="list-style-type: none"> <li>• Competition for funds</li> <li>• Competition for visibility &amp; media coverage</li> </ul>	(Dolinskaya et al., 2011; Stephenson Jr and Schnitzer, 2006; Van Brabant, 1999; Weiss, 2013)
Power	<ul style="list-style-type: none"> <li>• Similarity in organizations' power and resources</li> <li>• Symmetry between the parties (i.e. size)</li> </ul>	(Campbell and Hartnett, 2005; Knudsen, 2011; McLachlin and Larson, 2011; Tchouakeu et al., 2011)
Process	<ul style="list-style-type: none"> <li>• Adequate mechanisms to allocate costs, benefits, risks</li> <li>• Accountability over performance</li> <li>• Clear roles and responsibilities</li> <li>• Adoption of transparent and responsible policies</li> <li>• Adequate access to tools and technical skills</li> </ul>	(Dolinskaya et al., 2011; Knudsen, 2011; McEntire, 2002; Tchouakeu et al., 2011; Thévenaz and Resodihardjo, 2010)

Organizations in weak positions of power or resources are less engaged in collaborative efforts, because of their organizational value or policy may not be acknowledged by powerful organizations. Moreover, effective collaboration needs mechanisms to allocate the associated costs and benefits to each partner. Clear roles for each partner and being accountable for the collaboration performance are the next factors facilitating the collaboration efforts. Inadequate access to tools (e.g., radio, IT, etc.) and technical skills constrains organizations capability to conduct their roles efficiently or communicate properly with their partners.

The last group includes drivers or inhibitors found within organizations. The existing or potential benefits of collaboration with other organizations are not clear in humanitarian settings. Scholars and practitioners note several benefits of collaboration among HOs, such as improving on-time delivery of products/services, reducing humanitarian operations' costs, or having access to more resources (e.g. financial, equipment, skills, or information). However, HO managers have some concerns about the costs of collaboration which discourage them to initiate or join collaborative efforts. For example, there is a belief that collaboration increases bureaucracy, which decreases organizational flexibility and timely response to the beneficiaries' needs. Additionally, some HOs consider themselves as sovereign entities, so collaboration could endanger their competencies or capabilities. Moreover, collaboration complicates accountability for performance or raises the possibility of loss of control over operations (Huxham, 1993). Another factor is related to the organization's independency, which is prized in the humanitarian context. Each HO looks for approaches which strengthen its identity and distinguish it from other organizations. The current belief is that engaging in collaborative efforts could put



their identity or independency at risk. Furthermore, some HO's managers believe that engaging in collaborative efforts could threaten their non-politically driven mission (Minear, 2004) or could lead to violation of humanitarian principles such as impartial action (Steets et al., 2010).

The other factors include those related to the resources (i.e. money, staff) necessary to have successful collaboration initiatives. HO's managers have limited time, so they usually delegate arranging collaborative efforts to junior or temporary colleagues who do lack the proper leadership or decision making skills. Additionally, the turnover of human resources in the humanitarian setting is high, which results in frequent changes in leaders or persons in charge of collaborative efforts. This endangers the continuity of collaboration or limits the HO's capacity to learn from previous endeavors.

The last factors are associated with HO's capabilities for engaging in collaborative efforts. Because of temporary or high turnover of human resources in HOs, they do not have enough knowledge or experiences in efficient humanitarian operations. Additionally, a number of scholars argue that the skills and attitudes of HO's human resources do not fit the needs of partners interested in maintaining efficient collaborative relationships or carrying out joint projects with other organizations such as propensity towards collaborative leadership and avoiding command and control mentality, skills in well communicating with other partners and building group identity, capabilities in joint decision making, planning, assigning roles and accountability, and eventually joint implementation or performance assessment of projects.

Table 2-5. Organizational Factors Influencing the Collaboration Effort among HOs

Category	Indicators	References
Unclear benefits	<ul style="list-style-type: none"> <li>• Bureaucracy, transparency, accountability, flexibility</li> <li>• Required speed of response</li> <li>• Required independence and sovereignty</li> <li>• Risks to humanitarian identity or humanitarian principles (impartiality, neutrality, independence)</li> <li>• Risks to own competencies</li> </ul>	(Akhtar et al., 2012; Balcik et al., 2010; Cairns, 2012; Campbell and Hartnett, 2005; Houghton, 2011; Schulz and Blecken, 2010; Tchouakeu et al., 2011; Van Brabant, 1999)
Resources	<ul style="list-style-type: none"> <li>• Availability of resources (e.g., money, personnel, etc.)</li> <li>• Stability of team leaders &amp; focal points</li> <li>• Seniority of coordinating staff members (e.g., leadership/decision-making capacity)</li> </ul>	(Akhtar et al., 2012; Balcik et al., 2010; Dolinskaya et al., 2011; Rawal et al., 2005; Tchouakeu et al., 2011; Van Brabant, 1999)
Capabilities	<ul style="list-style-type: none"> <li>• Propensity toward command &amp; control focus</li> <li>• Management capacity &amp; leadership style</li> <li>• Staff capability (e.g. attitude, knowledge, experience)</li> <li>• Incentives towards collaboration</li> </ul>	(Akhtar et al., 2012; McEntire, 2002; Rawal et al., 2005; Stoddard et al., 2007; Tchouakeu et al., 2011; Thévenaz and Resodihardjo, 2010)

As the importance of collaboration raises, international organizations, donors, or nonprofit organizations not only have to recognize the barriers and drivers of collaboration but also have to figure out mechanisms to encourage more collaborative relationships among HOs. Extracting from operations management and organizations studies literature, in the following section, we discuss practical managerial approaches that can improve horizontal collaboration in humanitarian operations.

## 2.6. Mechanisms to Promote Collaboration Among HOs

Figure 3.3 illustrates a number of policies or mechanisms that trigger the drivers of collaboration within the four aforementioned categories. In this section, we elaborate five mechanisms extracted from operations management and organizations studies including information and communication technologies, incentive mechanisms, capability building initiatives, inter-organizational governance and decision support systems.

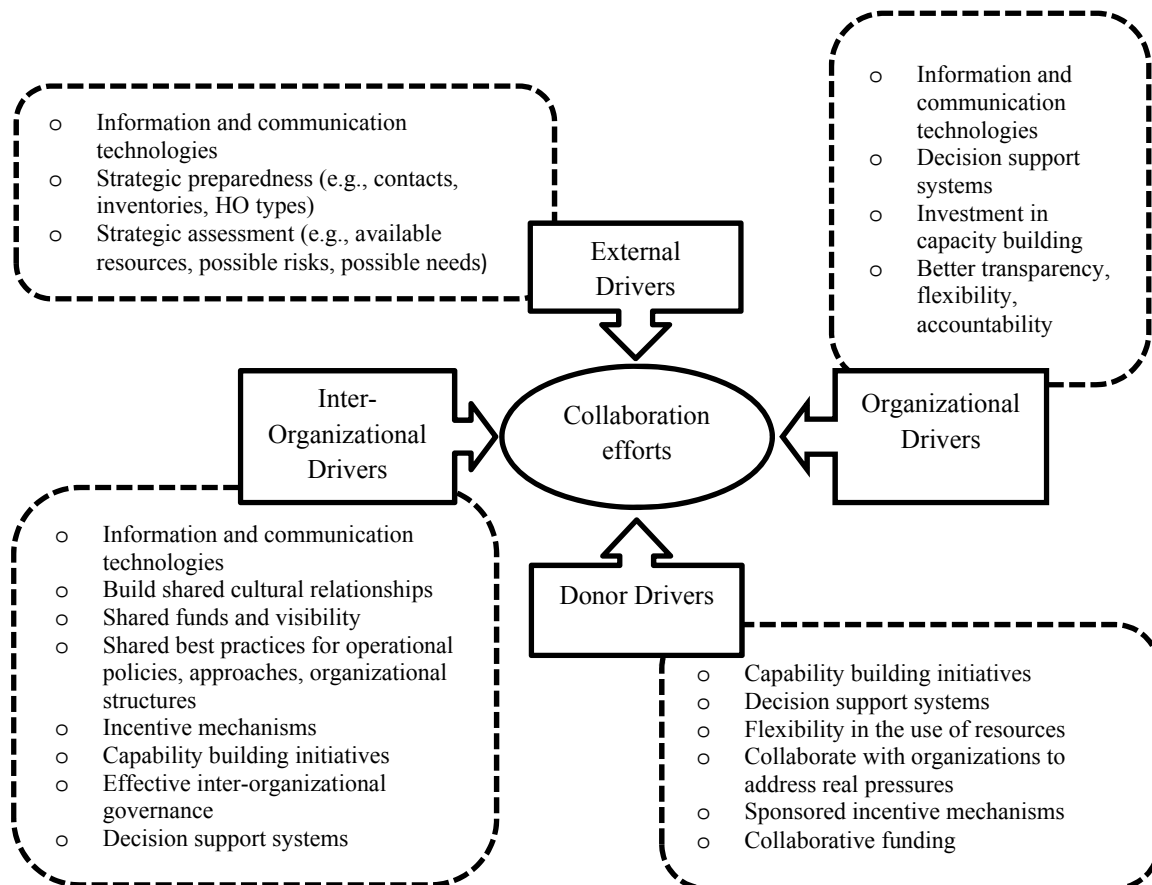


Figure 2-3. Mechanisms and policies to promote collaboration among HOs

### **2.6.1. Information and communication technologies**

Information and communication technologies and platforms provide access to several types of information including information about the vulnerable regions (e.g. population statistics, potential needs, available local resources, and the characteristics of local government or regional governance system), and information about the humanitarian organizations (e.g. projects, operations performance, partnerships with other organizations). There are several ICT initiatives in practice (e.g. [irinnews.org](http://irinnews.org) (Humanitarian News and Analysis), [ReliefWeb.org](http://ReliefWeb.org), Logistics Support Systems) employed at preparedness and response phases of humanitarian operations. Sharing and accessing to these information helps in keeping productive communication among stakeholders, allows forming of relationships among HOs, supports managers within joint decision making procedure, strengthens the speed of joint response, raises operations transparency and eventually facilitates and improves collaboration among humanitarian organizations at network or dyadic level.

### **2.6.2. Incentive mechanisms**

Scholars argue that incentive mechanisms (Barnett, 2005; Cooley and Ron, 2002; Huxham, 1993) employed by donors motivate HOs to keep a short-term view of operations and compete for resources or media attention (Balcik et al., 2010; Stephenson Jr and Schnitzer, 2006). Competition among organizations induces opportunistic behavior and short-term orientation which decrease the level of commitment to and engagement in coordinative efforts and eventually leads to low satisfaction or low quality of services to the beneficiaries (Chang et al., 2011).

However, donors can improve the collaboration through designing effective incentives that encourage long term orientation, discourage the opportunistic behavior of partners (Campbell and Hartnett, 2005), and lead to collaborative funding efforts. For example, the Humanitarian Innovation Fund is a collective effort “to develop, test and share new technologies and processes that will make humanitarian aid more effective and cost-efficient in the future” (EM-DAT, 2012). In another example, SeaChange-Lodestar Fund supports collaborative operations of nonprofits partners which integrate part (or all) of their main activities in a formal long-term scope or permanent way. Additionally, donors may assign part of their financial support on preparedness phase of humanitarian operations in which HOs may jointly conduct projects on strategic assessment of the regions or strengthen organizations’ capacities (i.e. flexibility, transparency and accountability).

### **2.6.3. Capability building initiatives**

Donors can promote a context in which HOs compete towards building capabilities. Some scholars argue that organizations simultaneously compete and cooperate with each other which is called by Nalebuff and Brandenburger (Nalebuff and Brandenburger, 1996) as “coopetition”. We build on discussion regarding suppliers’ coopetition in supply chain management (Wilhelm, 2011), and propose that donors can provide a network context in which HOs can cooperate to develop their capabilities and competencies in providing efficient humanitarian services. In this line, Wilhelm (2011) examines the Toyota’s supplier association which plays a role to make ties among its suppliers and the company. Through coordinative initiatives such

as association meetings or learning groups, the partners know about other organizations' existence, build shared cultural relationships, learn about their performance (success and failure), and moreover through the emerging transparency attain more information about each other, and can monitor each other. Additionally, they work together in joint projects and observe the best practice HOs' strengths and capabilities. These types of actions lead to "capability building competition" (Fujimoto, 2001) which change the competition on media attention and funding resources to competition over improving capabilities in order to provide right humanitarian services in right time and in right quality.

#### **2.6.4. Effective inter-organizational governance**

Balcik et al. (2010) argue that existing collaboration efforts are characterized by low transaction costs (e.g., simple requirements, little technological uncertainty, low negotiation costs), such as collaborative procurement and third-party warehousing. To ensure the move toward long-term strategic collaborative initiatives (e.g., 4PLs, warehouse standardization, transportation collaboration, etc.), HOs must implement effective governance mechanisms to safeguard the relationships among partners. Through networked collaborations, collaborative communities or multi-firm network organizations (Miles and Snow, 2007) HOs could establish an effective inter-organizational governance providing an environment to yield efficient and effective relief services. Along these lines, consortia or group-based collaborative initiatives can enhance process standardization (e.g., labeling, packaging), decrease costs through better forecasting, raise the "joint bargaining power, and address the shared

risks and benefits across participants” (Balcik et al., 2010). As an operational approach toward such collaborative networks, Dollinester (Dolinskaya et al., 2011) refers to a “membership subscription” approach in which interested HOs subscribe to the coordinative mechanism and qualified applications are admitted. AirLink, a “web-based platform that matches NGOs with transportation needs and airline companies,” (Dolinskaya et al., 2011) provides an interesting example of a membership subscription collaborative initiative. Given the structured admission process of reliable and capable partners, organizational commitment and inter-organizational trust are high, promoting an effective collaborative initiative.

#### **2.6.5. Decision support systems**

Often, humanitarian organizations share little “relatedness” to each other. That is, despite operating in the same environments, under similar principles, they approach strategic , tactical and operational matters in widely different ways. Consider for example Médecin Sans Frontières (MSF) and International Medical Corps (IMC). While the two organizations provide health care emergency aid to save lives and alleviate suffering, their programs differ significantly. MSF operates mainly during early relief, with their expert surgeons, and will move out after they perceive the primary need has been met. In contrast, IMC will engage in training, staying for longer periods of time into the early recovery and development phases. Given the differences and possible conflicts between the organizations’ different goals, missions, cultures and operational approaches, it is often challenging to collaborate in practice. Collaborative decision support approaches may help overcome humanitarian

organizations' differences by providing a common service. Platforms that integrate data from multiple organizations could help improve planning and operations during preparedness, relief and recovery phases. After a disaster strikes, multiple organizations gather data about the state of health facilities, often by surveying the same facilities and interviewing the same doctors multiple times. The practice is tremendously inefficient and leads to frustration. Currently, organizations conduct these needs assessment surveys in isolation and the data gathered is seldom shared.

Moreover, because problems in the humanitarian sector are wicked (Gass, 1994), methods such as conflict analysis, scenario planning, problem structuring methods, and management science methods (e.g., simulation modeling, system dynamics, operations research) are extremely valuable (Altay and Green III, 2006; Campbell and Hartnett, 2005; Franco, 2006). For instance, system dynamics allows managers in humanitarian organizations to learn in complex environments allowing them to “assess the interactions among variables, experience the long-term side effects of their decisions, and systematically explore new strategies” (Gonçalves, 2011). Clarity on the long-term impact of different strategies may facilitate a conversation on the number and role of different actors involved. Initiatives that establish platforms to gather and share data to shed light on the state of the system, simulation models that map the dynamics of relief efforts, joint analyses that provide transparency on existing problems, identify gaps and redundancies can pave the way to more enduring humanitarian collaboration efforts. Such initiatives have the potential to increase trust among HOs and their commitment to collaboration efforts (Campbell and Hartnett, 2005).



Moreover, currently decision-making at various organizational levels takes place in a reactive mode. Humanitarian organizations often lack the resources to invest in planning and capacity building. Available resources are allocated thinly across multiple programs in different regions of the world. The occurrence of a disaster mandates that resources be re-allocated and reshuffled in a reactive way. Humanitarian organizations may be able to move toward more generative decisions by first observing and adapting to emerging trends, and then understanding the structure underlying such patterns. Generative decision-making is aimed at addressing the identified structural problems and redesigning the system. For instance, HOs inability to properly build capacity, capture lessons learned, move beyond constant firefighting, and develop long-term collaboration efforts suggests that they operate with limited human resources and significant overload. Insights from strategic and operations management imply that managerial firefighting often requires draconian measures to limit the amount of work overload (Black and Repenning, 2001; Repenning, 2001) and scale back the number of programs (Gonçalves, 2011).

Table 3.6 illustrates the suggested mechanisms triggering collaboration among HOs and their associated benefits within the aforementioned four categories of factors driving or inhibiting collaboration among HOs.

Table 2-6. Potential benefits of suggested mechanisms

	External	Donor	Inter-Organizational	Organizational
<b>Information and communication technologies</b>	<ul style="list-style-type: none"> <li>Providing adequate &amp; reliable information (e.g. characteristics and needs of affected population or availability of local and international resources )</li> </ul>		<ul style="list-style-type: none"> <li>Promoting productive communication among stakeholders</li> <li>Forming of relationships among HOs</li> </ul>	<ul style="list-style-type: none"> <li>Strengthening the speed of joint response</li> <li>Increasing the operations transparency</li> </ul>
<b>Incentive Mechanisms</b>		<ul style="list-style-type: none"> <li>Increasing the effectiveness and efficiency of the use of donations</li> <li>Improving mutual trust among donors and HOs</li> <li>Avoiding double-funding</li> </ul>	<ul style="list-style-type: none"> <li>Encouraging long term orientation or discouraging the opportunistic behavior of partners</li> <li>Assigning part of donation on preparedness phase of humanitarian operations</li> </ul>	<ul style="list-style-type: none"> <li>Making the joint humanitarian operation more effective and cost-efficient</li> <li>Increase in propensity to collaborate with other HOs</li> </ul>
<b>Capability building initiatives</b>			<ul style="list-style-type: none"> <li>Getting information about other organizations' existence and their capabilities</li> <li>Building shared cultural relationships</li> </ul>	<ul style="list-style-type: none"> <li>Cooperate to develop their capabilities and competencies</li> <li>Access to best practices and experiences</li> </ul>
<b>Effective inter-organizational governance</b>	<ul style="list-style-type: none"> <li>Decreasing the demand uncertainty through joint forecasting</li> <li>Sharing information on the availability of supplies</li> <li>Effective context and capacity analysis</li> </ul>		<ul style="list-style-type: none"> <li>Moving toward long-term strategic collaborative initiatives</li> </ul>	<ul style="list-style-type: none"> <li>Yielding efficient and effective relief services</li> <li>Enhancing processes standardization</li> <li>Decreasing costs through joint bargaining power</li> </ul>
<b>Decision support systems</b>	<ul style="list-style-type: none"> <li>Decreasing the context or demand uncertainty through observing and adapting to emerging trends, and then understanding the structure underlying such patterns</li> </ul>		<ul style="list-style-type: none"> <li>Learning in complex environments</li> <li>Overcoming HOs' differences by providing a common service (e.g. needs assessment tool)</li> </ul>	<ul style="list-style-type: none"> <li>Increase in propensity to collaborate with other HOs</li> <li>Increasing the decision transparency and performance accountability</li> </ul>

## **2.7. Conclusion and Potential Areas For Further Research**

Our research provides insights into the drivers and barriers of horizontal collaboration among international HOs and guides the HOs' managers in developing strategies for increasing the horizontal collaboration. This study contains some limitations. First, the study's proposed conceptual model is based on a review of practitioners and academics sources and can be examined through empirical methods. Employing empirical research methods has recently been emphasized by scholars for strengthening the empirical base of operations management (Craighead and Meredith, 2008; Fisher, 2007; Gupta et al., 2006). However, few studies in humanitarian operations have used empirical methods (e.g. well-structured single or multiple case studies, field study, or lab experiment) to explore the collaboration among HOs. In respect to the proposed model, there are opportunities to conduct empirical research, through single or multiple methods (Boyer and Swink, 2008), focusing on factors within one or multiple categories of the conceptual model. Additionally, empirical studies with samples of different types of HOs (e.g. local, international, or private) presenting in various regions of the world can examine factors within our proposed model. For example, as a popular method in analyzing the inter-organizational relationships, social network analysis can give insights on the validity of our proposed model or explain why HOs' networks are "formed, disintegrate, and succeed or fail" (Borgatti and Li, 2009). Moreover, through field research researchers can observe and investigate the actual behavior of HOs' managers while treating with problems in collaborative practices as well as the factors elaborated within the conceptual model. The results can "challenge, support, and/or extend existing theory, identify a lack of

theory to explain observed phenomena, or be exploratory and thus theory building” (DeHoratius and Rabinovich, 2010).

Second, in the last section, we elaborated a number of mechanisms and policies towards enhancing collaboration among HOs. These suggestions need more academic work to be well suited to humanitarian context. HOs’ specific characteristics, their differences with commercial companies or complexity of humanitarian operations (Gonçalves, 2008; Van Wassenhove, 2006) may impact negatively on normative coordinative initiatives which are suggested from commercial sector. In this line, some scholars call for exploring the influence of culture and behavioral issues in operations management practices (Bendoly et al., 2006; Metters et al., 2010). For example, studies built on organizational learning and communication theories could explore the influence of behavioral issues (e.g. emotion, culture or trust) (Argote and Miron-Spektor, 2011) as a facilitator or inhibitor of collaborative activities such as information sharing among HOs.

Finally, after using field research or employing approaches within behavioral operations management, the knowledge relevant to the actual behavior of HOs’ managers while dealing with collaboration problems emerge. In next steps, scholars can investigate managerial interventions that counteract or leverage these behavioral deviations through behavioral mechanism design approach (Katok and Loch, 2010).

As we look to the future of research in horizontal collaboration among HOs, we believe that there is a considerable amount of work needed to fully explore the phenomenon. We hope that our study prompts future studies that will look in more detail theoretically and empirically at the proposed model in order to make it more

insightful and valuable in understanding relationships among HOs and designing strategies for its improvement.

## **The 4<sup>th</sup> Chapter**

# **Factors Influencing the Collaboration Among International Humanitarian NGOs: An Empirical Analysis**

# **3. Factors Influencing the Collaboration Among International Humanitarian NGOs: An Empirical Analysis**

## **3.1. Chapter Abstract**

This paper empirically investigates the drivers and barriers for collaboration among humanitarian organizations. It focuses on horizontal collaboration among international humanitarian NGOs, and sheds light on the significant factors influencing collaborative performance. Theories and concepts from inter-organizational relationships constitute the study's theoretical foundation. I use Partial Least Squares to examine the proposed hypotheses using a sample of 132 respondents. Data are collected through a web-survey of international humanitarian NGOs in countries across Africa, Asia and South America. The results reveals that (i) commitment, mutual trust, and relationship specific investment are key drivers of collaborative performance among humanitarian organizations; and (ii) long term orientation, resource complementarity, coordination capability and relational capability are antecedent factors influencing collaborative performance through their effect on mutual trust, reciprocal commitment and relationship specific investment.

**Key Words:** Inter-organizational Relationships, Horizontal Collaboration, International Nongovernmental Organizations, Humanitarian Operations, Survey and Partial Least Squares.

### **3.2. Introduction**

Inter-organizational collaboration refers to a partnership process where two or more independent organizations working closely to design and implement their operations (Cao and Zhang, 2011; Simatupang and Sridharan, 2002). Within a humanitarian setting, multiple groups of actors are involved in humanitarian operations, including donors, international NGOs, local NGOs and communities, international organizations (e.g. ICRC, IFRC, IOM), UN agencies (e.g. UNDP, UNESCO, UNICEF, UNHCR, WFP, WHO), military, local government and the private sector (e.g. logistics companies). Within the humanitarian sector, horizontal collaboration refers to collaborative relationships between two (or more) international NGOs, international organizations, or UN agencies which are considered as aid suppliers and/or distributors.

Verstrepen et al. (Verstrepen et al., 2009) characterize horizontal collaboration objectives as including “cost reduction, growth, innovation, information, quick response, and social relevance”. Within a humanitarian setting, horizontal collaboration can yield many benefits such as on-time delivery of products/services, cost-effective use of resources, greater service quality, organizational learning, access to more resources (e.g. financial, equipment, skills, information), diffusion of risk, working towards agreed priorities, improved organization’s image to donors or public accountability, less competition over limited resources, avoiding unnecessary duplication of organizations’ efforts or ability to buffer external uncertainties.

Given the importance of collaborative initiatives in providing efficient and effective relief services, HOs have started developing collaborative relationships or initiatives,



in the phases of humanitarian operations. In general, horizontal collaboration may be conducted thorough two general types of activities that are fundamental to humanitarian operations (Table 4.1):

Table 3-1. Activities and Examples of collaborative Initiatives within Humanitarian Operations

Primary Activities	<ul style="list-style-type: none"> <li>• Information gathering about the disaster situation (<i>e.g. Relief Web, REACH</i>)</li> <li>• Need assessment or demand forecast (<i>e.g. Assessment Capabilities Project</i>)</li> <li>• Fundraising (<i>e.g. Clusters, Consortium of British Humanitarian Agencies</i>)</li> <li>• Context and capacity analysis (<i>e.g. Cluster, ECB Project</i>)</li> <li>• Planning (<i>e.g. Muslim Aid &amp; United Methodist Committee on Relief Emergency, ECB Project</i>)</li> <li>• Procurement (<i>e.g. Humanitarian Response Depots, The UN Procurement Practitioner's Handbook, Procurement Training</i>)</li> <li>• Transportation (<i>e.g. TNT &amp; WFP, Logistic Support System</i>)</li> <li>• Warehousing management (<i>e.g. Humanitarian Response Depots, Regional Hubs</i>)</li> <li>• Distribution (<i>e.g. Aidmatrix Network</i>)</li> <li>• Feedback and performance evaluation (<i>e.g. Standardized Monitoring and Assessment of Relief and Transitions</i>)</li> </ul>
Support Activities	<ul style="list-style-type: none"> <li>• Partnership Management (<i>e.g. Global Hand, InterAction, American Logistics Aid Network, Voluntary Organizations in Cooperation in Emergencies</i>)</li> <li>• Technology and Operations Management (<i>e.g. Intel &amp; World Vision, Fleet Forum, Humanitarian Accountability Partnership, Sphere Project, Voluntary Organizations in Cooperation in Emergencies</i>)</li> <li>• Human Resource Management (<i>e.g. ECB Project, Università della Svizzera italiana &amp; International Organization for Migration</i>)</li> <li>• Information and Knowledge Management (<i>e.g. Telecoms sans Frontières &amp; OCHA</i>)</li> <li>• Product and Innovation Management (<i>e.g. GlaxoSmithKline &amp; Save the children; Cornell University &amp; CARE</i>)</li> <li>• Financial Management (<i>e.g. Clusters, Consortium of British Humanitarian Agencies</i>)</li> </ul>

primary and support activities. Primary activities include main tasks in delivering aid to beneficiaries, and support activities include tasks that increase the efficiency and effectiveness of primary tasks' implementation. For example, Integrated Regional Information Networks News provides a virtual platform for HOs to share information (e.g. the affected regions, beneficiaries' needs). The Assessment Capacities Project is a collaborative initiative founded by the joint effort of three NGOs (HelpAge International, Merlin and Norwegian Refugee Council). Its goal is to "support and strengthen humanitarian capacities to carry out better coordinated assessments before, during and after crises". At dyadic level or partnership between two HOs, Bioforce & Register of Engineers for Disaster Relief or Muslim Aid & United Methodist Committee on Relief are two examples in which the partners shared their resources in order to reach out more beneficiaries and provide effective services to them.

In exploring the factors influencing the performance of collaborative initiatives among HOs, scholars suggest a number of drivers or inhibitors that may effect on the level of collaboration success (for a review see Moshtari and Gonçalves, 2013). In response to calls in recent years to conduct systematic studies of horizontal collaboration in humanitarian operations (Balcik et al., 2010; Schulz and Blecken, 2010), this study considers the inter-organizational relationship theories as well as evidence from practical case studies to understand and examine empirically the main factors influencing the horizontal collaboration among HOs, providing a systematic view of the drivers and impediments to collaboration. Along this line, relying on prior research (Palmatier et al., 2007), I advance a baseline proposition that mutual trust, reciprocal commitment, and relationship-specific investment enhance the effectiveness of collaboration and lead to improved collaborative performance. However, I consider

them as endogenous factors which are influenced by a number of antecedent factors (Lavie et al., 2012). This study investigates temporal orientation, inter-organizational fit, and relationship management capabilities as the three antecedent factors which are more pronounced within prior academic literature and practitioners reports on collaboration among HOs. I hypothesize abovementioned factors within a unified theoretical framework to empirically examine the significant antecedent factors and the relative efficacy of each factor (Palmatier et al., 2007).

This paper is organized as follows: building on the literature review and the insights from inter-organizational relationship theories, in section 2, we develop a model of horizontal collaboration that proposes the key and antecedent factors influencing collaborative performance among HOs. Section 3 explains the study design (i.e. constructs' measurements, data collection procedure). In section 4 and 5, I present the data analysis results and the associated discussion and managerial implications. Finally, in section 6, I summarize the study findings and conclude with a number of opportunities for future research.

### **3.3. Literature Review and Research Model**

Figure 4.1 illustrates the conceptual model linking the antecedent factors - temporal orientation, inter-organizational fit, and relationship management capability - and key factors - mutual trust, reciprocal commitment and relationship specific investment - influencing collaborative performance among HOs. In the next section, we elaborate the model constructs and represent the hypotheses within the conceptual model.

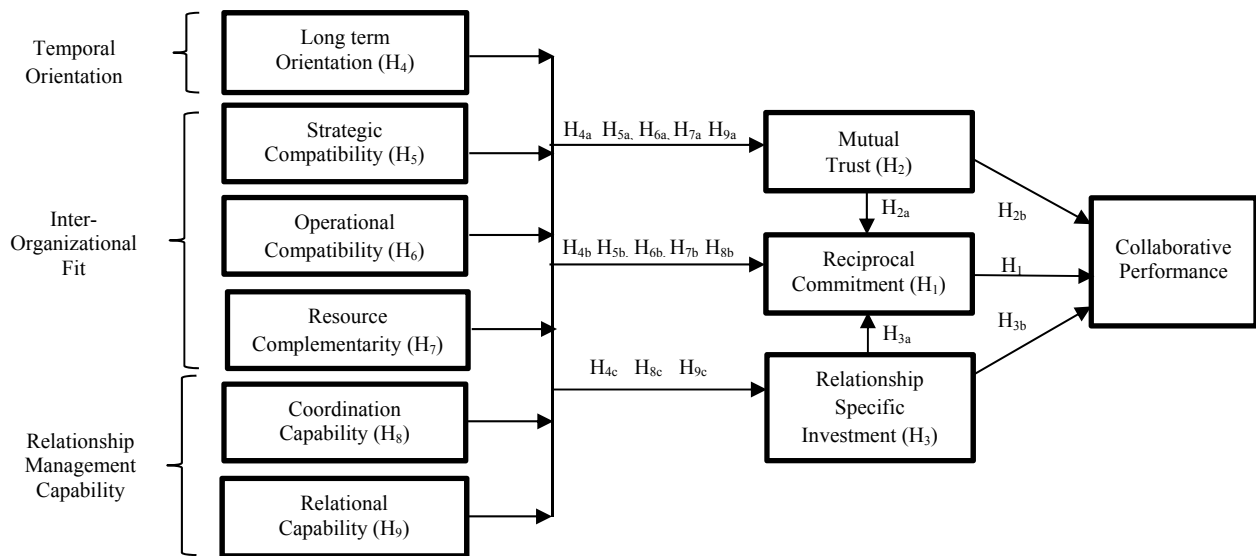


Figure 3-1 . A theoretical model for horizontal collaboration in a humanitarian context

### 3.3.1. Key factors influencing collaborative performance

**Commitment:** Commitment is “an enduring desire to maintain a valued relationship” (Moorman et al., 1992), is a critical element of relationship capital (Madhok, 1995) and its positive effect on collaborative performance has been widely reported (Gundlach et al., 1995). Partners through commitment, dedicate continuously tangible resources or conduct some tasks in order to attain the relationship objectives (Shah and Swaminathan, 2008). Accordingly, we conceptualize reciprocal commitment as the degree to which both partners are willing to invest requisite resources into the alliance (Gulati et al., 1994). In a humanitarian context these resources can be funding resources, access to media, human resources, skills, time, or infrastructure dedicated to a collaborative initiative. Morgan and Hunt (1994) refer to the lack of commitment as a reason of partnerships’ failures. Thus, I propose that:

Hypothesis H<sub>1</sub>: Partners' reciprocal commitment is positively associated with horizontal collaborative performance.

Trust: Trust is defined as “confidence in an exchange partner’s reliability and integrity” (Morgan and Hunt, 1994) influences horizontal collaboration. Benevolence and competence are two dimensions of trust (Ganesan, 1994; Moorman et al., 1992). Benevolence-based trust reflects the perception of the “partner’s goodwill and avoidance of opportunism” and competence-based trust elaborates the reliance on the partner’s expertise, capabilities, and judgments” (Shah and Swaminathan, 2008).

Zaheer et al. (1998) asserts trust as a remarkable factor in improving the inter-organizational relationships performance, reducing conflicts, or decreasing the costs of coordination processes. High level of trust among organizations leads to use of social control mechanisms (Inkpen and Currall, 2004; Li et al., 2010b) which could raise flexibility and efficiency in inter-organizational partnerships because “problems are more likely to be openly identified, examined, and resolved” (Wuyts and Geyskens, 2005). Trust relationship with collaborative performance could be mediated by commitment (Morgan and Hunt, 1994; Palmatier et al., 2007). Thus, I propose that:

Hypothesis H<sub>2a</sub>: Partners' mutual trust is positively associated with partners' reciprocal commitment.

Hypothesis H<sub>2b</sub>: Partners' mutual trust is positively associated with horizontal collaborative performance.

Relationship specific investment: Relationship specific investment (RSI), as another key driver of coordination performance, are idiosyncratic investments which facilitate

or improve the relationship and collaboration among organizations. RSIs are durable investments (Williamson, 1985), not easily recoverable (Ganesan, 1994) or considered sunk assets (Palmatier et al., 2007). Grover and Malhotra (Grover and Malhotra, 2003) refer to several types of RSI including “investments in facilities, equipment, personnel, and firm or process-specific training associated with the production of goods or services that have little or no use outside the exchange relationship”. In humanitarian context RSI could be investment in training programs (e.g. logistics), procedures of conducting joint tasks, designing interfaces, communication channels, knowledge sharing routines, dedicated human resources and specific coordinative initiatives.

RSIs raise the level of collaboration, lower interaction costs, and improve product innovation (Palmatier et al., 2007), and allow partners to “accumulate specialized information, language, and know-how” (Dyer and Singh, 1998a). In addition, RSIs raise switching costs and interdependence, and reciprocal commitment among partners (Anderson and Weitz, 1992; Gilliland and Bello, 2002). Thus, we propose that:

Hypothesis H<sub>3a</sub>: Partners’ engagement in relationship specific investment is positively associated with partners’ reciprocal commitment.

Hypothesis H<sub>3b</sub>: Partners’ engagement in relationship specific investment is positively associated with horizontal collaborative performance.

### **3.3.2. Antecedent factors influencing collaborative performance**

Temporal orientation: HOs’ managers deal with humanitarian special context and several limitations from the humanitarian relief stakeholders which lead to short term

orientation. First of all, in humanitarian operations access to the right information plays an important role to capture the media and donors attention and to deliver effectively or efficiently the aids to the beneficiaries. HOs usually have difficulties in accessing to appropriate information which could inform them of the demand (e.g. the needs of the beneficiaries), the supply (e.g. local and international capacities), or delivering ways of the products or services (e.g. logistics infrastructure). Given the lack of information and task complexity of humanitarian operations, planning and evaluation of humanitarian operations performance in long term scope is not an easy task (Thomas, 2005) which has direct influence on complicated accountability and the allocation of gains or costs within the collaborative initiatives. These difficulties would be more significant when we assume the bounded rationality of HOs' managers (Simon, 1960) (i.e., limited cognitive ability (Cyert and James, 1992) and imperfect information (Coase, 1937)).

Furthermore, collaborative practices need considerable time for several tasks such as sharing information, or decision making which eventually could lead to longer response times (Das et al., 2006). For example, UN cluster initiatives currently hold joint meetings (up to 72 per week) (Volz, 2005). However, HOs have limited time to react to the beneficiaries needs which provides limited time for establishing and managing collaborative relationships among HOs (Balcik et al., 2010; Dolinskaya et al., 2011). Additionally donors put pressure on HOs to provide the humanitarian services through short term funding contracts "often for durations of only three or six months" (Minear and Smillie, 2003). Nevertheless, a group of HOs are obliged through their own mandates to work for a short time on the field.

To summarize, engagement in collaborative initiatives is time consuming and requires resource investment (e.g. human resource, information) in long term. In a successful collaboration, long-term orientation has a positive impact on organizations' success (Chen et al., 2004; Morgan and Hunt, 1994), especially when the uncertainty level is relatively high (Noordewier et al., 1990). Long term orientation encourage engaging in relationship specific investment, raising the reliability and mutual trust (Anderson and Weitz 1989; Ganesan 1994) and reciprocal commitment among partners. Thus, I propose that:

Hypothesis H<sub>4a</sub>: Partners' long-term orientation is positively associated with the partners' reciprocal commitment.

Hypothesis H<sub>4b</sub>: Partners' long -term orientation is positively associated with the partners' mutual trust.

Hypothesis H<sub>4c</sub>: Partners' long -term orientation is positively associated with the partners' engagement in relationship specific investment.

Inter-organizational fit: fitness or compatibility relates to similarity among organizations which could be considered at strategic level, operational level, and resource complementarity. Strategic compatibility refers to the degree of congruency among organizations goals, mission or value system (Holcomb and Hitt, 2007). Operational compatibility refers to utilizing similar supply chain systems, information systems, communication technologies, operational procedures, and knowledge sharing routines within partners. The extant literature indicates the positive affect of inter-organizational fit on relationship performance such as reducing conflict or monitoring



cost, increasing synergy, exploring and exploiting new opportunities, or less need to formal contracts

The level of fitness among HOs decreases due to misalignment of goals, different mandates and values (e.g. neutrality, impartiality), and disparate cultures (Barnett, 2005; Benton and Maloni, 2005; Birdsall, 2005; Gazley, 2010; Holcomb and Hitt, 2007; Minear, 2004; Stockton, 2002; Stoddard, 2003). According to their mandates, HOs can be active in specific areas (e.g. health care, shelter, or food), or in different phases of humanitarian operation (preparedness, response and recovery) (Kovács and Spens, 2011). Stockton (2002) argues that failed experience of HOs' collaboration in Afghanistan, may be due to "the absence of universal strategic objectives". Stoddard (1998) states that HOs' identities, policies and programming preferences go along with the goals and propensities of their country of origin or the home government. Moreover, HOs have differences in respect to their organizational culture or behavioral norms which could play as communication barriers among HOs and lead to misunderstanding and miscommunication (Campbell and Hartnett, 2005).

In terms of operational compatibility, HOs often use diverse methods and technologies of operating or supply chain systems or timeframes for operations. Each organization stick to its operational procedures and routines, and expect other partner(s) to adapt themselves to its operational approach (Campbell and Hartnett, 2005). For example, many humanitarian actors have strong internal policies on needs assessments that are difficult to change through collaboration. Operational un-relatedness leads to potential barriers or challenges for HOs to coordinate (Campbell and Hartnett, 2005; Long and Wood, 1995). On the other side, similarity or fitness among HOs may strengthen the social interactions among partners which eventually lead to higher level of mutual

trust, the relationship stability (Madhok 1995:121), or reciprocal commitment among partners.

Another aspect of partners' characteristics is associated with resource complementarity among partners. Resource complementarity refers to the level of dissimilarity among partners' resources or capabilities (Mowery et al., 1996). Scholars argue that resource complementarity has a positive impact on inter-organizational relationships (Aulakh et al., 1996; Jap, 1999; Sarkar et al., 2001). Accordingly, I argue that when reciprocal needs exist among HOs or when they share their resources or competencies (e.g. access to valuable information or supply chain strength), they are more likely to avoid opportunism, trust each other and would like to maintain their relationship. Thus, putting all three aspects of the inter-organizational fitness, I propose that:

Hypotheses H<sub>5a</sub>, H<sub>6a</sub>, and H<sub>7a</sub> : Partners' fit (strategic compatibility, operational compatibility, resource complementarity) is positively associated with the partners' mutual trust.

Hypotheses H<sub>5b</sub>, H<sub>6b</sub>, and H<sub>7b</sub> : Partners' fit (strategic compatibility, operational compatibility, resource complementarity) is positively associated with the partners' reciprocal commitment

Relationship management capability: Organizations deal with considerable managerial complexities during organizing or handling the collaborative initiatives, which potentially may lead to partnerships' failure (Greve et al., 2010; Holcomb and Hitt, 2007; McCutchen Jr et al., 2008; Park and Ungson, 2001; Schreiner et al., 2009). Rise

of bureaucracy, loss of flexibility, complicated accountability, the large number and diversity of actors, lack of mutual familiarity, limitation of resources or difficulty in evaluating results are among the difficulties or complexities that managers of HOs deal with in collaborative initiatives (Balcik et al., 2010; Byman, 2000; Gazley and Brudney, 2007; Kent, 2004; Van Brabant, 1999). Building on Schreiner et al. (2009) finding, I argue that relationship management capability supports HOs in dealing with abovementioned managerial complexities, and is positively associated with collaborative performance. I conceptualize the relationship management capability as two types of capabilities or skills: coordination capability and relational capability.

**Coordination capability:** Coordination capability refers to the ability to define the problem or task, making decision, divide each partner's roles or responsibilities, and controlling its performance. Moreover, coordination capability facilitates understanding the interdependency and complexity of collaborative tasks, identification and arrangement of the collaboration tasks (Schreiner et al., 2009) which may result in partners' pledges to put their maximum effort to maintain it or dedicate the required resources to make it a success. In addition, HOs with coordination capability are able to develop working procedures and task executions, design interfaces, communication channels, or knowledge sharing routines which are associated with RSI (Heide and John, 1992; Noordewier et al., 1990) enhancing the collaboration efficiency. Accordingly, I argue that enhancement of the coordination capability is associated with the higher propensity of HOs to maintain their collaborative relationship, and to develop procedures, routines, and understanding tailored to conducting joint tasks or allocate more resources to their RSIs. Thus, I propose that:

Hypothesis H<sub>8b</sub>: Partners' coordination capability is positively associated with the partners' reciprocal commitment.

Hypothesis H<sub>8c</sub>: Partners' coordination capability is positively associated with the partners' engagement in relationship specific investment.

Relational capability: Relational capability includes two skills of communication and bonding. Communication includes the abilities to employ formal and informal methods to efficiently convey information to partner in “a timely, accurate and complete manner” (Schreiner et al., 2009). Bonding indicates to an ability of organization to engage in a gradual process in which exchange partners could socially integrate and provide “instrumental or expressive value” (Schreiner et al., 2009) to the partner(s). Communication and bonding skills have positive effect on mutual trust among partners (Mohr et al., 1996). Partners' open and sincere communication as well as their respectful, supportive and fair relations increase the level of partners' trustworthiness and reliance on each other and inhibits them from acting in a way that would negatively affect each other (Schreiner et al., 2009). Moreover, these capabilities have positive impact on HOs' propensity to contribute to relationship specific investments improving personal relations between each other and developing working procedures facilitating the collaboration efforts. Accordingly, I argue that enhancement of the relational capability is associated with the mutual trust among HOs and the higher allocation of resources to their relationship specific investments. Thus, I propose that:

Hypothesis H<sub>9a</sub>: Partners' relational capability is positively associated with the partners' mutual trust.

Hypothesis H<sub>9c</sub>: Partners' relational capability is positively associated with the partners' engagement in relationship specific investment.

### **3.4. Research Methodology**

#### **3.4.1. Research setting and sampling**

The empirical context of the study is international nongovernmental organizations (INGO) involving in humanitarian operations in countries across Africa, Asia and South America. Inter-organizational collaboration among INGOs focuses on the joint relationship between the partners. Therefore, the theoretical constructs identified in this study are conceptualized to study the dyadic relationship between organizations, viewed from a focal organization's perspective. The dyadic measures are based on the perceptions of one key informant (Lambe et al., 2002), and the measures used were designed to examine perceptions of the dyad from one partner's viewpoint. The respondents were expected to have knowledge or experience about organizational relationships and collaboration initiatives. The target respondents are HOs' mission, program or project directors, since they are the persons primarily responsible for setting up and managing coordination relationships. The website of the Office of the Coordinator for Humanitarian Affairs (OCHA) provides access to the contact information of international NGOs. The organizations offer diverse services (e.g., nutrition, health, water/sanitation, emergency shelter, logistics, etc.), so this sample minimizes any specific service category effect (Palmatier et al., 2007).

### **3.4.2. Survey instrument and pre-test**

In order to test the proposed hypotheses, I conducted two tasks of construct definition and measurement items generation. First, reviewing organizational studies and operations management literature provided me the constructs' definitions and the first list of measurement items for each construct which were verified by prior studies. In addition, if it was necessary I generated new items upon the literature review. Then, I adapted them to fit the context of the humanitarian field. Afterwards a number of academicians and humanitarian practitioners evaluated the items which eventually raise the content validity of constructs and reliability of scale items. Based on this procedure, I clarified the constructs and associated measurement items. I then represented the questions using a web survey on the Qualtrics platform ([www.qualtrics.com](http://www.qualtrics.com)) reaching as many respondents as possible in a short time.

In order to raise the survey response rate, I followed Dillman's tailored design method (Dillman, 2007) which employed by scholars in inter-organizational relationships (Cao and Zhang, 2010; Krishnan et al., 2006a). Accordingly, I pre-tested the web-survey with more than 37 students and alumni of the Master of Advanced Studies in Humanitarian Logistics and Management (MASHLM) at the Università della Svizzera italiana. This task revealed no major concerns with the clarity of questionnaire and survey length, however I changed the wording of some questions, and deleted a few number of unnecessary questions (Schotanus et al., 2010).

### **3.4.3. Data collection**

I first conveyed through the invitation letter and the explanation at the beginning of the survey that in order to fill out the survey, respondent's organization should be an

international NGO and has to have relationship or collaboration with at least one another international NGO. Upon qualifying respondents as potential key informants per Campbell's (1955) criteria, I recognized them applying two criteria: having adequate level of knowledge about, and engagement in their organization's partnerships initiatives (Campbell, 1955; Schreiner et al., 2009). Accordingly, I identified the key informants by analyzing how knowledgeable he/she deems himself/herself about her own organization and the amount of his/her involvement in the collaboration or partnership between his organization and its partner. To alleviate the problems of social desirability bias, I asked each respondent to identify a collaborative relationship with an international NGO with which she or he is the most familiar and his/her organization has recently had collaboration or partnership, and I then requested him/her to answer the survey questions based on that chosen relationship (Sethi, 2000; Sivadas and Dwyer, 2000).

The data collection started by sending out an invitation letter to 1418 potential respondents via email, followed by three email reminders. In all communications, potential respondents were assured strict anonymity and confidentiality and were incentivized with an executive summary of the study results. At the end of data collection phase, 145 usable questionnaires were submitted, 13 were discarded because they failed to meet the characteristics of target respondents (i.e. respondent is not knowledgeable of his organization's collaboration efforts) or due to a substantial amount of missing data so I concluded with 132 responses, an effective response rate of 9%.

The respondents are from 22 countries across Africa, Asia and South America. All participants are key informants who occupy managerial positions in their

organizations (Head or director of mission/country, 54%; Head or director of program, 30%; Operations or logistics manager, 8%, Head of office, 4% and other positions, 4%). 41% of respondents have worked for their organizations for less than two years, 36% worked between 2 and 5 years and the rest, and 23% have worked for more than 5 years. Organizations can be described from different dimensions. Regarding organizations' size, 29% have less than 25 employees, 35% have between 25 and 100 employees and 36% have more than 100 employees. Moreover, the organizations provide humanitarian emergency and development services in various areas (see Figure 4.2).

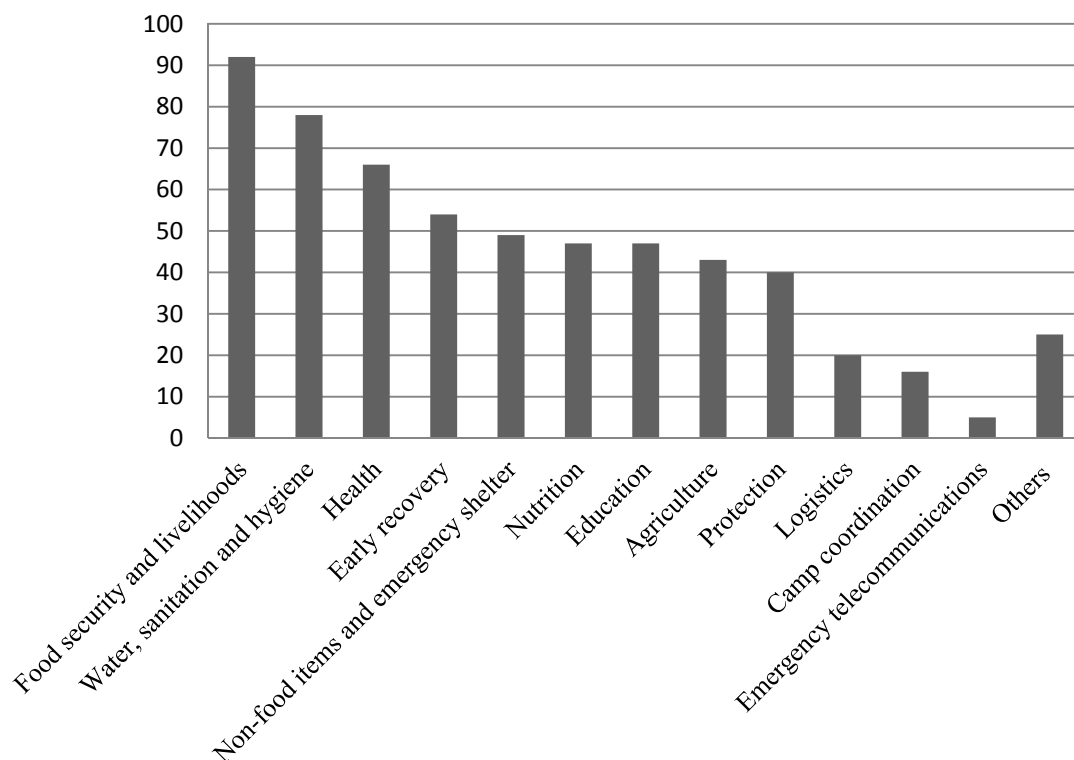


Figure 3-2. Organizations' main products/services



#### **3.4.4. Measures**

A focused review of the interdisciplinary literature was performed, with emphasis on collaboration, humanitarian organizations, inter-organizational relationships, relief supply chain. The study six independent variables - long term orientation, strategic compatibility, operational compatibility, resource complementarity, coordination capability and relational capability – and four endogenous variables - mutual trust, relationship specific investment, reciprocal commitment, collaborative performance - are measured by using multi-item scales. Existing tested scales from previous research were adapted and used in this study when determined as appropriate and acceptable. I utilize a seven-point Likert-type scale with end points of “strongly disagree” and “strongly agree” to measure the items of all latent variables and capture responses for all items. The exact wording of the used items is presented in the Appendix B.

Collaborative performance as the main dependent variable of the study can be evaluated in a number of ways. I followed Krishnan and Martin (2006) argument that when the respondents represent the key informants of the organizations who are knowledgeable and involved in inter-organizational relationship initiatives, it is reasonable to rely on their judgment on the collaboration success or failure. I measured collaborative performance using five measurement items including: (1) our association with this partner has been a highly successful one, (2) this partner seems to be satisfied with the overall performance of the collaboration, (3) overall, the results of our collaboration with this partner have fallen short of our expectations, (4) the objectives for which the collaboration was established are being met, (5) our organization is satisfied with the overall performance of the collaboration.

In addition, two control variables that may affect collaborative performance are included in the analysis. Relationship duration, defined as the age of a collaboration relationship between two partners, can impact relationship performance because longer-established relationships often lead to better working relationships (Brown et al., 1996). Furthermore, I control for interdependency perception. A high degree of interdependency between partners may lead organizations to investment on RSI since both firms have a vested interest in making sure that the relationship works (Dyer and Singh, 1998a). Most research accepts the premise that interdependence positively affects exchange performance because dependence increases both the partners' desire to maintain the relationship (Hibbard et al., 2001). The interdependence between partners is measured by a two-item scale (Lusch and Brown, 1996): (1) It would be costly for our organization to lose its collaboration with this partner (consider the time required to locate, qualify, train, make investments, and develop a working relationship), and (2) This partner would find it costly to lose the collaboration with our organization (consider the time required to locate, qualify, train, make investments, and develop a working relationship).

### **3.5. Analysis and Results**

I use SmartPLS 2.0.M3 which relies on Partial Least Squares (PLS) method to estimate the hypothesized relationships. PLS estimates latent variables as exact linear combinations of observed measures and therefore assumes that all measured variance is useful variance to be explained. I choose PLS because it makes minimal demands on sample size (Smith and Barclay, 1997), thus making it especially appropriate for testing structural models with relatively smaller sample sizes. Moreover, PLS suits to estimate complex structural equation model as proposed in this study (Peng and Lai,

2012). In conducting the model estimation, I follow the procedure advocated by Peng and Lai (2012) in evaluating PLS models in two stages: examining the validity and reliability of the measurement model and analyzing the structural model.

### 3.5.1. Measurement model validity and reliability

In order to assess the measurement model, I examine the constructs' individual-item reliabilities, the convergent validity of the measures associated with each construct, and their discriminant validity. After removing measures with poor loadings, the item loadings, composite reliability, and average variance extracted (AVE) of the reflective constructs are shown in Table 4.2. All item loadings on their respective constructs are greater than 0.70 and significant at the 0.001 level, indicating convergent validity at the indicator level. All composite reliability values are greater than 0.60, indicating acceptable reliability. All AVE values are greater than 0.50, suggesting convergent validity at the construct level.

Table 3-2. Measurement properties of constructs

	Loading	Composite Reliability (Pc)	AVE
Critical values	> 0.7	> 0.6	> 0.5
Collaborative Performance		0.8987	0.6901
CP1	0.7867		
CP2	0.8304		
CP4	0.9127		
CP5	0.7866		
Mutual Trust		0.8754	0.6373
MT1	0.8065		
MT4	0.7841		
MT5	0.8221		
MT6	0.78		

	Loading	Composite Reliability (Pc)	AVE
Reciprocal Commitment		0.8964	0.7426
ReC2	0.842		
ReC4	0.8637		
ReC5	0.8792		
Relationship Specific Investment		0.8689	0.6241
RSI1	0.8394		
RSI2	0.7571		
RSI3	0.758		
RSI4	0.8025		
Long term orientation		0.8503	0.6552
TO1	0.874		
TO3	0.7906		
TO5	0.7594		
Strategic Compatibility		0.8367	0.562
SC1	0.7314		
SC2	0.802		
SC3	0.734		
SC4	0.7287		
Operational Capability		0.8394	0.636
OC1	0.743		
OC2	0.8479		
OC3	0.7981		
Resource Complementarity		0.8856	0.6595
RC1	0.8386		
RC2	0.7967		
RC3	0.7967		
RC4	0.8157		
Coordination Capability		0.8375	0.6323
CC1	0.8067		
CC2	0.8171		
CC3	0.7606		
Relational Capability		0.9269	0.6135
RCa2	0.7351		
RCa3	0.803		
RCa4	0.7625		
RCa5	0.8072		
RCa6	0.8311		
RCa8	0.8195		
RCa9	0.7701		
RCa10	0.7311		

In order to examine the discriminant validity of reflective measures, I evaluate the theta matrix demonstrates that no item loaded higher on another construct than it did on its associated construct. Thus, all reflective scales exhibit satisfactory discriminant validity. Finally, I examine the discriminant validity of constructs which represents the extent to which measures of a given construct differ from measures of other

constructs in the same model. The square root of each AVE (shown on the diagonal in Table 4.3) is greater than the related inter-construct correlations (shown off the diagonal in Table 4.3) in the construct correlation matrix, indicating adequate discriminant validity for all of the reflective constructs. Overall, these statistics indicate that the psychometric properties of the model are sufficiently strong to enable interpretation of structural estimates.

Table 3-3. Construct correlations

	CP	MT	ReC	RSI	LTO	SC	OC	RC	CC	RCa
CP	<b>0.83</b>									
MT	0.62	<b>0.80</b>								
ReC	0.59	0.55	<b>0.86</b>							
RSI	0.54	0.58	0.73	<b>0.79</b>						
LTO	0.44	0.62	0.68	0.58	<b>0.81</b>					
SC	0.52	0.50	0.59	0.60	0.57	<b>0.75</b>				
OC	0.43	0.41	0.39	0.51	0.34	0.60	<b>0.80</b>			
RC	0.64	0.60	0.73	0.68	0.58	0.57	0.40	<b>0.81</b>		
CC	0.55	0.58	0.73	0.73	0.56	0.58	0.50	0.67	<b>0.80</b>	
RCa	0.70	0.67	0.69	0.72	0.60	0.62	0.56	0.73	0.75	<b>0.78</b>

Note. The square root of average variance extracted (AVE) is shown on the diagonal of the correlation matrix and inter-construct correlations are shown off the diagonal.

LTO= Long-Term Orientation, MT=Mutual Trust, RSI= Relationship Specific Investment, ReC=Reciprocal Commitment, SC= Strategic Compatibility, OC=Operational Compatibility, RC=Resource Complementarity, CC=Coordination Capability, RCa= Relational Capability, CP=Collaborative Performance

### 3.5.2. Model estimation and analysis

Because PLS does not assume a multivariate normal distribution, traditional parametric-based techniques for significance tests are inappropriate. PLS uses a bootstrapping procedure to estimate standard errors and the significance of parameter estimates (Chin, 1998). Bootstrapping method ascertains the stability and significance of the parameter estimates. The PLS path coefficients and  $p$ -values for the model are reported in Table 4.4. The  $p$ -values were computed based upon 1500 bootstrapping runs.

The estimated path coefficients are interpreted as standardized beta coefficients of OLS (ordinary least squares). The sign of estimated coefficients and their associated  $p$ -values indicate that mutual trust and reciprocal commitment are positively associated with collaborative performance. Similarly, long term orientation, resource complementarity, coordination capability and relational capability are all significantly related to mutual trust, reciprocal commitment and RSI. Thus,  $H_1$ ,  $H_{2b}$ ,  $H_{3a}$ ,  $H_{4a}$ ,  $H_{4b}$ ,  $H_{7b}$ ,  $H_{8b}$ ,  $H_{8c}$ ,  $H_{9a}$ ,  $H_{9c}$  are supported. However, our hypotheses regarding the relationship between strategic compatibility ( $H_{5a}$ ,  $H_{5b}$ ) or operational compatibility ( $H_{6a}$ ,  $H_{6b}$ ) and mutual trust and reciprocal commitment are not supported. In addition, we cannot conclude any significant relationship between long term orientation and RSI ( $H_{4c}$ ), between resource complementarity and mutual trust ( $H_{7a}$ ), mutual trust and reciprocal commitment ( $H_{2a}$ ), and between RSI and collaborative performance ( $H_{3b}$ ). The relationship duration is not significantly associated with the study's key factors, however the interdependency is positively associated with RSI (0.199,  $p < 0.01$ ). In order to examine the robustness of the PLS results I computed "the average of the

items within each construct and subject these average values to the OLS regression” (Peng and Lai, 2012). The analysis result is consistent with the PLS results.

Table 3-4. Structural estimates

Hypothesis	Effect of	On	Coefficients	p-value	Results
H <sub>1</sub>	ReC	CP	0.296	**	<i>Supported</i>
H <sub>2a</sub>	MT	ReC	-0.064	n.s.	
H <sub>2b</sub>	MT	CP	0.407	***	<i>Supported</i>
H <sub>3a</sub>	RSI	ReC	0.219	**	<i>Supported</i>
H <sub>3b</sub>	RSI	CP	0.095	n.s.	
H <sub>4a</sub>	LTO	MT	0.294	**	<i>Supported</i>
H <sub>4b</sub>	LTO	ReC	0.258	***	<i>Supported</i>
H <sub>4c</sub>	LTO	RSI	0.111	n.s.	
H <sub>5a</sub>	SC	MT	-0.026	n.s.	
H <sub>5b</sub>	SC	ReC	0.064	n.s.	
H <sub>6a</sub>	OC	MT	0.048	n.s.	
H <sub>6b</sub>	OC	ReC	-0.057	n.s.	
H <sub>7a</sub>	RC	MT	0.167	n.s.	
H <sub>7b</sub>	RC	ReC	0.242	**	<i>Supported</i>
H <sub>8b</sub>	CC	ReC	0.264	**	<i>Supported</i>
H <sub>8c</sub>	CC	RSI	0.364	***	<i>Supported</i>
H <sub>9a</sub>	RCa	MT	0.371	***	<i>Supported</i>
H <sub>9c</sub>	RCa	RSI	0.340	***	<i>Supported</i>

\* p<0.1 ; \*\* p<0.05; \*\*\* p<0.01

LTO= Long-Term Orientation, MT=Mutual Trust, RSI= Relationship Specific Investment, ReC=Reciprocal Commitment, SC= Strategic Compatibility, OC=Operational Compatibility, RC=Resource Complementarity, CC=Coordination Capability, RCa= Relational Capability, CP=Collaborative Performance

To evaluate the explanation power of the research model, researchers should examine the explained variance (R-squared) of the endogenous constructs. Using R-squared to assess the structural model is consistent with the objective of PLS to maximize variance explained in the endogenous variables. The R-squared for collaborative performance, mutual trust and relationship specific investment are 0.479, 0.540 and 0.643 respectively, which are moderately strong; and, for reciprocal commitment is 0.715 which is substantially strong (Chin, 1998). In order to evaluate the effect size of

each predictor construct we use Cohen  $f^2$  formula.  $f^2$  is equal to the increase in  $R^2$  relative to the proportion of variance that remains unexplained in the endogenous latent variable. According to Cohen (Cohen, 1988), the effect size of mutual trust on collaborative performance, 0.18, and coordination capability on RSI , 0.15, are considered medium and the effect size for the other significant coefficients are considered small.

Table 3-5.  $R^2$  , Prediction, and Effect Size

Construct	$R^2$	$Q^2$	$f^2$ in relation to			
			CP	MT	RSI	ReC
CP	0.479	0.32				
MT	0.540	0.31	0.18			
ReC	0.715	0.50	0.08			
RSI	0.643	0.39				0.06
LTO	-	-		0.10		0.11
SC	-	-				
OC	-	-				
RC	-	-				0.06
CC	-	-			0.15	0.09
RCa	-	-		0.10	0.11	

Note: Stone–Geisser’s  $Q^2$  is calculated using the blindfolding procedure available SmartPLS software.

LTO= Long-Term Orientation, MT=Mutual Trust, RSI= Relationship Specific Investment, ReC=Reciprocal Commitment, SC= Strategic Compatibility, OC=Operational Compatibility, RC=Resource Complementarity, CC=Coordination Capability, RCa= Relational Capability, CP=Collaborative Performance

In order to examine the model’s capability to predict, Stone–Geisser’s  $Q^2$  for endogenous constructs are 0.32, 0.31, 0.50, and 0.39 for collaborative performance, mutual trust, reciprocal commitment and relationship specific investment, respectively, which are all greater than zero, indicating acceptable predictive relevance (Peng and Lai, 2012). Finally, we conduct a *post hoc* power analysis to



examine the acceptability of our study's sample size. We focus this analysis on the smallest effect size ( $f^2$ ) in our estimated model which is 0.056, the effect of relationship-specific investment on reciprocal commitment. For this effect size, the sample size of 132 can achieve a power of 0.85 at the significance level of 0.05, which is higher than 0.80 (Peng and Lai, 2012) suggesting the adequacy of sample size.

## **4.6. Discussion and Managerial Implications**

### **4.6.1. Discussion**

As the analysis suggests, mutual trust and reciprocal commitment are positively associated with collaborative performance ( $H_1$  and  $H_{2b}$ ). Palmatier et al. (2007) suggest that in dynamic situations, commitment and trust directly affect inter-organizational performance. However, data from this study does not support the relationship between RSI and collaborative performance ( $H_{3b}$ ). RSI (e.g., training, tailored procedures or interfaces ) is associated with the efficiency or effectiveness of the relationship (i.e. *lower* delivery costs, improved service quality), which may have a positive impact on collaboration (Palmatier et al., 2007). One explanation for this result is that when the process manageability of collaboration is difficult, or when the outcome interpretability of the collaboration's result is low - which fits with humanitarian operation - trust and commitment are more important than operational performance (i.e. financial aspect) in selecting partners (Shah and Swaminathan, 2008). Additionally, within a humanitarian setting performance measurement is not properly considered in most of HOs or at least does not cover all aspects of humanitarian operations. The reports to donors or organizations' stakeholders focus

on reporting about the amount of delivered service or products, the speed of response, or resources used (i.e. human resources, money) (Maon et al., 2009). The main goal of these reports is to secure new-funding for future projects, not to support the organizations in improving their operations through covering performance evaluation in respect to efficiency criteria (Cooley and Ron, 2002).

In addition, the effect of RSI on reciprocal commitment, in accordance with the prediction, is significant. Through RSI, partners invest significant resources (time, human resources, and financial resources) to develop their relationships. RSI increases the switching costs, which makes the relationship more important to the partners and increases the partners' propensity to dedicate their maximum efforts in order to maintain the relationship (Anderson and Weitz, 1992).

The data confirms positive relationships between long-term orientation and mutual trust ( $H_{4a}$ ), and long-term orientation and reciprocal commitment ( $H_{4b}$ ). The results suggest that when partners have long-term goals and missions and are willing to sacrifice short-run results for long-term, sustainable outcomes, the possibility of opportunistic behaviors is lower and partners trust each other more. Furthermore, organizations must be satisfied that committing to this relationship will bring success to them, even when faced with difficulties or failure in the short term. However, the data does not support the relationship between long-term orientation and relationship-specific investment ( $H_{4c}$ ) meaning that in a humanitarian setting the amount of resources invested to have a productive relationship is not significantly associated with the time orientation of organizations working with each other.

The relationships between strategic compatibility and mutual trust ( $H_{5a}$ ) and strategic compatibility and reciprocal commitment ( $H_{5b}$ ) are not significant. The results suggest that similarities or dissimilarities between organizations' cultures, missions and objectives do not significantly lead organizations to raise their mutual trust or reciprocal commitment. Even though the results are not intuitive, considering this issue in a humanitarian context provides us with some explanation of this conclusion. When HOs have similar missions or goals, provide similar services in similar geographical regions, or have access to similar donors, the level of competition among them increases, they begin to keep some resources for themselves, or even take actions that would negatively affect the other partner. On the other hand, there are examples of organizations productively working with each other, even when their values or cultures are not similar. The collaboration among the United Methodist Committee on Relief (UMCOR) and Muslim Aid is one example of a very successful partnership in Sri Lanka in 2006 (Shaw-Hamilton, 2011). These organizations shared staff, resources, supplies and logistical support. As a result, partners were able to achieve a high degree of joint activity despite the cultural distances that exist between them.

The relationships between operational compatibility and mutual trust ( $H_{6a}$ ) and operational compatibility and reciprocal commitment ( $H_{6b}$ ) also are not significant. These results suggest that the level of compatibility between organizations' procedures or technical capabilities does not have a significant effect on the level of mutual trust or reciprocal commitment between partners. In the humanitarian sector, since organizations have different origins and also differ in terms of length of existence and experiences, as well as access to humanitarian resources, their approach

toward service delivery and methods, technologies and skills employed is different. However, evidence from this study reveals that these incompatibilities do not significantly lead partners to raise their mutual trust or reciprocal commitment. In other words, operational similarities may raise the competition among HOs and encourage them to keep their operational advantages to themselves in order to be more successful, which may decrease the level of mutual trust and reciprocal commitment among them.

Consistent with the model prediction, the complementarity of resources has a significant positive effect on and reciprocal commitment ( $H_{7b}$ ). The results suggest that shared complementarity of resources provides each partner with a valuable pool of resources to reach goals which may not have been possible independently. It reduces the propensity for competition among partners and raises the motivation to preserve the relationship and expend a maximum effort to maintain it. For example, in the Haiti emergency, RedR and Bioforce combined their capacities and resources and, in so doing, effectively avoided competition for scarce management and training staff and duplication of efforts (Russ and Downham, 2011). However, the data does not support the relationship between the complementarity of resources and mutual trust ( $H_{7a}$ ).

The data confirms the significant effect of relationship management capability on mutual trust ( $H_{9a}$ ), reciprocal commitment ( $H_{8b}$ ), and RSI ( $H_{8c}, H_{9c}$ ). Relationship management capability provides partners with skills to efficiently coordinate the relationship, appropriately communicate and productively network with each other. The results suggest that higher levels of relationship management capability help to assuage mistrust among partners, and raise the reciprocal commitment among HOs

and the amount of effort expended on RSI. The Tsunami Evaluation Coalition Synthesis Report (Cosgrave, 2007), in page 121, recommends that HOs make efforts “to increase their disaster response capacities and to improve the linkages and coherence between themselves.”

Together, these results imply that commitment and trust are the key drivers of *horizontal* collaborative performance among international NGOs, which is consistent with the commitment-trust theory (Morgan and Hunt, 1994). Mutual trust refers to partners’ goodwill, and reliance on the partners’ capabilities and reciprocal commitment is associated with the desire and motivation of the partners to preserve and perpetuate the relationship. Past research points to a number of other factors that indirectly influence the performance of inter-organizational relationships (Heide, 1994; Johnson et al., 1996). Along this line, and consistent with existing literature, within the other layer of the conceptual model, I propose and have evidence of the significant effects of long-term orientation, inter-organizational resource complementarity, coordination capability and relational capability on horizontal collaborative performance through their influence on mutual trust, reciprocal commitment and RSI.

#### **4.6.2. Managerial Implications**

Both organizations and donors recognize the benefits of inter-organizational collaboration. Donors are demanding greater accountability, becoming less tolerant of inefficiencies in relief or duplication of effort, and therefore strongly encouraging relief organizations to collaborate (Schulz and Blecken, 2010; Thomas and Kopczak,

2005). However, there are a considerable number of challenges to efficient collaboration among HOs. Up to this point, scholars have explored the inhibitors and drivers of collaboration in a number of papers and reports, but these studies are built upon evidence collected through a finite number of organizations and have served primarily to provide a list of factors which influence collaboration. This study builds on previous literature and collects evidence through a large-scale survey in order to provide a systematic overview of factors which influence collaboration at the inter-organizational level. The extracted knowledge from this study supports practitioners in their efforts to recognize the significant drivers of or barriers to horizontal collaboration and, following this, assists in identifying solutions to address collaborative barriers. Furthermore, the results of the study will assist practitioners and researchers in working to develop normative methods to assess strategies for facilitating collaborative initiatives.

Specifically, results of the study suggest that three main factors increase the success of inter-organizational collaboration: trust, commitment and RSI. The antecedents of these three factors are long-term orientation, inter-organizational resource complementarity, coordination capability and relational capability. Contrary to common belief, this investigation does not support the theory that the strategic and operational compatibility of partners play critical roles in the success or failure of their collaboration. In other words, and in reference to the aforementioned antecedents, similarities in partners' missions, values, goals or operational methods and procedures do not significantly inhibit or drive collaborative success or failure among international NGOs.

These findings suggest that maintaining a long-term orientation toward providing humanitarian services, developing a strong relationship management capability (i.e. coordination, communication and bonding skills) and, finally, sharing valuable resources with each other are the key drivers of trust, commitment and RSI. In other words, if international NGOs take a short-term approach to humanitarian operations, do not share valuable resources, and do not invest in developing strong human resources and relationship management skills, collaborative initiatives will not work properly. This conclusion is consistent with Street's study (Street, 2011), in which it is argued that the amount of needed management capacity is often underestimated, with junior staff of organizations engaged in collaborative initiatives amid frequent staff changes, scant leadership and a strictly limited decision-making capacity.

Donors also have a critical role in increasing the capabilities of organizations and changing their approach to engaging in collaborative initiatives which eventually lead to efficient and effective humanitarian operations. Donors may revise their contract protocols to incentivize organizations to invest in critical capabilities, forge RSI and adopt a long-term orientation in planning and operational activities. Along these lines, operations management and organizational studies have documented lessons learned within commercial sectors which could be elaborated upon, tested and applied in the humanitarian sector. These include incentive mechanisms, capability building initiatives, collaborative decision support tools and effective inter-organizational governance (Moshtari and Gonçalves, 2013).

## **4.6. Conclusions, Limitations and Potential Areas for Further Research**

### **4.6.1. Conclusions**

This study fills the gap in horizontal collaboration in the context of the humanitarian supply chain. Using concepts and theories developed within organizational sciences and supply chain management, as well as evidence from practitioners' reports, provides a rich, multidisciplinary perspective from which to explore the research phenomenon. The study contributes to our understanding of the determinants of collaboration among HOs using a multidisciplinary approach which has been recently recommended in operations management (Ketchen, 2007; Miles and Snow, 2007). Methodologically, the study could well be considered among those few in which empirical methods are used for data collection and analysis in the context of humanitarian relief operations.

More specifically, the study suggests that commitment, trust and relationship specific investment are key drivers of collaborative performance among HOs. Moreover, long-term orientation, resource complementarity and relationship management capability are antecedents of those key factors which inhibit or drive collaborative performance through their effects on commitment, trust and relationship specific investment.

Managers should take into account the level of horizontal collaboration and acknowledge that pursuing a higher level of collaborative performance is associated with a greater degree of commitment, trust and RSI. This necessitates managerial approaches that enhance these characteristics through the promotion of long-term orientation, the sharing of complementary resources and the strengthening of coordination and relational capabilities.



#### **4.6.2. Limitations and Potential Areas For Further Research**

This study contains some limitations. First, I focused on a number of antecedent factors to empirically investigate the drivers and barriers of horizontal collaboration among HOs, however next studies can explore the value of including new perspectives and constructs to the proposed model, or investigate the suggested constructs in detail. For example, there is an opportunity of investigating the influence of culture or cross-cultural differences on horizontal collaborative performance. Cannon et al. (2010) point to the few studies which investigate supply chain relationships in the context of different cultures. Given the employment of humanitarian operations in regions with variety of value and cultures, the effectiveness of operations management practices (e.g. facility location, layout, supply chain strategies) in those regions are different which means that they are altered or precluded by some cultures (Metters et al., 2010). Disparity of power among partners is another related subject which requests more rigorous investigation within a humanitarian setting. Organizations with less power (i.e. resources, access to information, media) are less motivated in engaging in collaboration efforts or even resist mandates request for collaboration in this environment (Campbell and Hartnett, 2005).

Second, this study was conducted at inter-organizational level considering the relationship between two organizations. However, HOs collaborate with a higher number of organizations within different types of ad-hoc or established networks. Thus, investigating the collaborative performance (i.e. capability building, access to information, joint tasks, dealing with inhibitors of collaboration (e.g. mistrust, power disparity), knowledge management, or inter organizational learning) at this higher

level could be very insightful. In this line, social network analysis, as a popular method in analyzing the inter-organizational relationships, can give insights on the validity of our proposed model or explain why HOs' networks are "formed, disintegrate, and succeed or fail" (Borgatti and Li, 2009).

Finally from methodological aspect, empirical research methods raise the reliability and validity of the results. Employing empirical research methods has recently been emphasized by scholars for strengthening the empirical base of operations management (Craighead and Meredith, 2008; Fisher, 2007; Gupta et al., 2006). Accordingly, there is a need to similar studies in humanitarian operations using empirical methods (e.g. cross-sectional or longitudinal studies, well-structured single or multiple case studies, field study, or lab experiment) to explore the collaborative performance among HOs.

## **The 5<sup>th</sup> Chapter**

## **Conclusion**

## **5. Thesis Conclusion**

This thesis fills the gap in horizontal collaboration in the context of humanitarian aid supply chain. The contribution of the thesis is threefold: first, it frames the discussion on collaboration in a humanitarian setting, and reviews the collaboration initiatives in practice among international humanitarian actors. Second, it investigates the academic research studying the horizontal collaboration in humanitarian operations and identifies four categories of factors - external factors, factors associated with donor's role, inter-organizational factors and organizational factors - influencing collaboration among international HOs. Finally, building on the evidence from practitioners' reports, academic literature on collaboration within humanitarian sector and the insights from inter-organizational relationship theories, it proposes and tests a theoretical model of the factors influencing collaboration performance among international humanitarian NGOs. The study suggests that commitment and trust are key drivers of collaboration performance among international humanitarian NGOs. Relationship specific investment improves the effectiveness and efficiency of collaboration efforts but in this context its influence on collaborative performance is indirect and through reciprocal commitment. Moreover, long term orientation, resource complementarity, coordination capability and relational capability are antecedent factors influencing collaborative performance through their effect on mutual trust, reciprocal commitment and relationship specific investment.

Theoretically, the study contributes to our understanding of the determinants of collaboration performance among HOs using a multidisciplinary approach which has been recently called for in operations management (Ketchen, 2007; Miles and Snow, 2007). Our multidisciplinary approach draws concepts and theories from strategic

management, marketing, operations management, as well as evidence from practical case studies. Methodologically, the employed empirical research method raises the reliability and validity of the results in contrast to the methods used in previous papers. The extracted knowledge from this study supports practitioners to know the significant drivers or barriers of horizontal collaboration performance, and afterwards look for solutions or develop strategies to facilitate collaboration.

This dissertation focuses on the horizontal collaborative relationships among international humanitarian NGOs at dyadic level. Considering the horizontal collaboration, there are opportunities to conduct rigorous studies analyzing other types of collaborative initiatives at dyadic level, for example collaboration among HOs and commercial companies, international NGOs and UN agencies, or HOs and military. The other type of collaboration is among international humanitarian actors (as aid suppliers) and local humanitarian actors such as NGOs or local communities (as aid distributors) collaborating over humanitarian supply chain to deliver aid to beneficiaries. Moreover, since many efforts have been conducted jointly by a group of HOs, scholars may examine the performance of collaborative performance initiatives at network level.

Employing empirical methods (e.g. well-structured single or multiple case studies, field study, or lab experiment) provides insight into the factors influencing the collaborative performance and supports HOs' managers in understanding *how*, *why*, *when*, *where* they play role within collaborative relationships and eventually strengthens the empirical base of humanitarian operations management.

As I look to the future of research in collaboration among HOs, I believe that there is a considerable amount of work needed to fully explore the phenomenon. I hope that my dissertation prompts future studies that will look in more detail theoretically and empirically at the proposed model in order to make it more insightful and valuable in understanding inter-organizational relationships among HOs and designing strategies for its improvement.

## **Appendix 4.A: The Title of Journals**

- Advances in Social Computing
- Disaster Prevention and Management
- Disasters
- Effective Emergency Management
- Ethics & International Affairs
- Humanitarian Exchange Magazine
- International Conference on Information Systems for Crisis Response and Management (ISCRAM)
- International Journal of Information Systems and Social Change
- International Journal of Intelligent Control and Systems
- International Journal of Networking and Virtual Organisations
- International Journal of Physical Distribution & Logistics Management
- International Journal of Production Economics
- International Journal of Society Systems Science
- International Security
- Journal of Homeland Security and Emergency Management
- Journal of Humanitarian Logistics and Supply Chain Management
- Journal of Manufacturing Technology Management
- Journal of the Association for Information Systems
- Journal of the Operational Research Society
- Management Research News
- Nonprofit management & leadership
- Perspectives on Politics
- Prehospital and Disaster Medicine
- Proceedings of Industrial Engineering Research Conference
- Public Administration Review
- Public Organization Review
- Simulation
- Supply chain management: an international journal

## **Appendix 4.B: Measurement Scale Items**

Note: Respondents used a seven-point Likert scale to provide responses on each item, such that '1=strongly disagree' and '7=strongly agree'

**Collaborative performance (CP)** (Cao and Zhang, 2011; Cheung et al., 2010; Jap, 1999; Krishnan et al., 2006b; Kumar et al., 1992; Wang et al., 2010)

CP1: The objectives for which the collaboration was established are being met.

CP2: This partner seems to be satisfied with the overall performance of the collaboration.

CP3: Overall, the results of our collaboration with this partner have fallen short of our expectations.

CP4: Our organization is satisfied with the overall performance of the collaboration.

CP5: Our association with this partner has been a highly successful one.

**Mutual Trust (MT):** (Cannon et al., 2000; Carson et al., 2006; Johnston et al., 2004; Lado et al., 2008; Li et al., 2010a)

MT1: Both organizations are trustworthy.

MT2: Both organizations cannot with complete confidence rely on each other to keep the promises made.

MT3: Both organizations are sincere in their dealings with each other.

MT4: Both organizations would not deliberately take action that would negatively affect each other.



MT5: Both organizations would not use confidential information to take advantage of each other.

MT6: Both organizations expect that conflicts would be resolved fairly.

**Reciprocal Commitment (RC):** (Morgan and Hunt, 1994; Sarkar et al., 2001)

RC1: Both organizations view the relationship as something they are very committed to.

RC2: Both organizations view the relationship as very important to them.

RC3: Both organizations view the relationship as something they intend to maintain indefinitely.

RC4: Both organizations view the relationship as deserving their maximum efforts to maintain.

RC5: Both organizations view the relationship as something they are willing to dedicate whatever people and resources to make it a success

**Relationship Specific Investment (RSI):** (Anderson and Weitz, 1992; Cao and Zhang, 2011; Carson et al., 2006; Heide and John, 1990; Hibbard et al., 2001; Lambe et al., 2002; Li et al., 2010a; Liu et al., 2012; Lui and Ngo, 2012; Schreiner et al., 2009; Shah and Swaminathan, 2008)

RSI1: Both organizations have invested significant resources in improving personal relations between each other.

RSI2: Both organizations have developed procedures, routines, and understanding tailored to conducting joint tasks.

RSI3: Both organizations have made a great deal of investments (financial resources, time or effort) in building up their relationship.

RSI4: Both organizations commit their competent, motivated personnel to help achieving mutually desired collaboration objectives.

**Long-Term Orientation (LTO):** (Cannon et al., 2010b; Chen et al., 2004; Ganesan, 1994; Lui and Ngo, 2012; Lusch and Brown, 1996; Marginson et al., 2010)

TO1: Both organizations focus on long-term goals in their relationship.

TO2: Both organizations do not have long-term plans for working with each other.

TO3: Both organizations expect to work together for a long time.

TO4: Both organizations are willing to sacrifice long-term performance in order to achieve short-term results.

TO5: Both organizations concentrate their attention on issues which will impact targets beyond the next few months.

**Inter-Organizational Fit** (Chung et al., 2000; Dyer and Singh, 1998b; Jap, 1999; Lambe et al., 2002; Li et al., 2010a; Rowley et al., 2005; Sarkar et al., 2001)

**Strategic Compatibility (SC)**

SC1: Both organizations share common goals and objectives.

SC2: There is a match in both organizations' philosophies/approaches to humanitarian operations.

SC3: Both organizations share a similar organizational culture.

SC4: Both organizations support each other's objectives.

SC5: Both organizations have different goals.

### **Operational Compatibility (OP)**

OP1: Technical capabilities of the two organizations are compatible with each other.

OP2: The organizational procedures of the two organizations are compatible.

OP3: Employees of both organizations have similar professional skills.

### **Resource Complementarity (RC)**

RC1: The resources brought into the collaboration by each organization have been very valuable for the other.

RC2: The resources brought into the collaboration by each organization have been significant in getting the job done.

RC3: Both organizations have separate abilities that, when combined, enable to achieve goals beyond their individual reach.

RC4: Both organizations have complementary strengths that are useful to the relationship.

**Relationship Management Capability** (Anderson and Weitz, 1992; Cao et al., 2010; Cao and Zhang, 2011; Cheung et al., 2010; Johnston et al., 2004; Kumar et al., 1992; Lambe et al., 2002; Li et al., 2010a; Liu et al., 2012; Luo, 2008; Morgan and Hunt, 1994; Schreiner et al., 2009; Selnes and Sallis, 2003)

### **Coordination Capability (CC)**

CC1: Both organizations use consistent policies and decision-making procedures in this relationship.

CC2: Both organizations always take into account each other's concerns and feedback in their policies and programs.

CC3: In most aspects of the relationship, both organizations are jointly responsible for getting things done.

CC4: Both organizations co-develop systems to evaluate and publicize each other's performance (e.g. key performance index, scorecard, and the resulting incentive)

CC5: Both organizations have adjusted their incentive systems (bonus, goal agreement) to serve their collaboration's goals.

### **Relational Capability (RCa)**

RCa1: The representatives from both organizations listen attentively when the other explains problems to them.

RCa2: When discussing points of disagreement, the representatives from both organizations always try to see the other's point of view.

RCa3: The representatives from both organizations openly address problems when they arise.

RCa4: The representatives from both organizations respect each other.

RCa5: The representatives from both organizations interact with and treat the other side's managers or staff fairly.

RCa6: Both organizations provide each other with information that helps both parties.

RCa7: Both organizations effectively communicate expectations for each other's performance.

RCa8: Both organizations view information sharing and transparent communication between the sides as key.

RCa9: Both organizations have open and two-way communication.

RCa10: On any given occasion, both organizations can explain the win-win situation of the collaboration to each other.

**Interdependency (I)** (Lusch and Brown, 1996):

I1: It would be costly for our organization to lose its collaboration with this partner (consider the time required to locate, qualify, train, make investments, and develop a working relationship).

I2: This partner would find it costly to lose the collaboration with our organization (consider the time required to locate, qualify, train, make investments, and develop a working relationship).

## Appendix 4.C: Organizations Profile

What is the ownership (nature) of your organization? (Select one only)

- ☐ International NGO
- ☐ National NGO
- ☐ State-owned
- ☐ UN affiliated
- ☐ Red Cross/Crescent
- ☐ Commercial company
- ☐ Others (please specify) \_\_\_\_\_

What is your organization's mission? (Select one only)

- ☐ Emergency Aid
- ☐ Development Aid
- ☐ Both Emergency and Development Aid
- ☐ Others (please specify) \_\_\_\_\_

Which category(ies) your organization's main products/services fall in?

- ☐ Food security and livelihoods
- ☐ Agriculture
- ☐ Health
- ☐ Logistics
- ☐ Non-food items and emergency shelter
- ☐ Nutrition
- ☐ Protection

- ☐ Water, sanitation and hygiene
- ☐ Education
- ☐ Emergency telecommunications
- ☐ Camp coordination
- ☐ Early recovery
- ☐ Others (please specify) \_\_\_\_\_

How old is your organization's country office? (in years)

How many employees (including full and part time employees) work in your organization's country office?

- ☐ Less than 25
- ☐ Between 25 and 100
- ☐ More than 100

In which country is your organization's country office located?

What is your job position?

- ☐ Head or director of mission/country
- ☐ Director or manager of program/project
- ☐ Operations or logistics manager
- ☐ Head of office
- ☐ Others (please specify) \_\_\_\_\_

For how long have you been in your current position? (in years)

For how long has your organization been maintaining collaboration with this partner? (in years)

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