

S3P Stakeholder relationship model

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Abstract

The paper identifies the main stakeholders involved in disaster response operations, proposing an interaction model about their relationships. A quantitative and qualitative discussion about their relationship is presented, based on the results of an academic systematic literature review. The results indicate a disproportionate emphasis on the different relationships.

Keywords: stakeholders coordination, social-public-private partnership, S3P model

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Introduction

Disasters have a unique identity according to the type of disaster, whether human or natural origin and whether slow or sudden onset, as described Van Wassenhove (2006). Considering also the entire disaster management cycle, which includes mitigation, preparedness, response, and recovery (Altay and Green 2006), interdisciplinarity is needed in order to deal with the different challenges faced for those working in humanitarian operations in environments in which decision is made under stress, with lack of information and high level of uncertainty to solve non-routine problems based on specific knowledge (Johnston et al. 2001).

Although the responsibility for action in humanitarian operations is traditionally attributed to the public sector (Mankin and Perry 2005), other sectors have also been working directly or indirectly with the public sector, which are increasingly recognized as fundamental to achieve high levels of efficiency in operations throughout the disaster life cycle (Inauen et al. 2010, Kapucu 2006). More specifically, humanitarian operations are designed to meet various demands of the population affected by disasters, such as immediate search and rescue, medical treatment, provision of shelter, basic supplies such as water and food, special supplies such as clothing, essential services infrastructure reestablishment, productive/commercial activities reestablishment, and so forth (Bastos et al. 2014, Blecken 2010). In these operations,

responsibility is shared among different decision makers throughout the response and recovery period, which are preceded from its plans developed in mitigation and preparedness stages.

As the efficiency of such operations comes from better coordination of those involved in this complex system (Akhtar et al. 2012), a deeper knowledge of the role of these actors is needed. This condition is taken as objective of this work which is to examine the role of each stakeholder and the current level of academic research on the relationship among them.

In order to achieve these goals, this paper is structured in four parts. After this introduction, the paper is followed by a methodology section concerning the procedures considered on the overview of stakeholders acting in humanitarian operations and the literature review regarding its relationships. The third section presents the stakeholders definitions and a quantitative and qualitative analysis of their relationships. The section ends with the presentation of the proposed S3P (social-public-private partnership) Stakeholder relationship model. Finally, the main conclusions and directions for future work are presented.

Methodology

A systematic literature review is an activity that helps the achievement of several research objectives, such as understanding concepts, analysis, and interpretation of results (Rowley and Slack 2004). As proposed by Seuring and Gold (2012), this study was conducted in four steps: material collection, descriptive analysis, category selection, and material evaluation. This first step is divided in the current section in order to cover a verification of which stakeholders are considered by the humanitarian logistics academia and followed by the procedures used on the material collection.

Stakeholders in humanitarian operations

This paper takes as its starting point two literature reviews on humanitarian logistics: one performed by Leiras et al. (2014) in indexed international journals and other by Bastos et al. (2014) in documents that consolidate the practice of aid agencies, as well as analysis of books centered on the theme humanitarian logistics, such as Cozzolino (2012), Kovacs and Spens (2012), Tomasini and Wassenhove (2012) and Zeimpekis et al. (2013).

Considering the large number and diversity of actors involved in disaster response operations, organizational cultures and structures so distinct (Caruson and MacManus 2011, Etkin and Nipurama, 2012), the coordination of this type of operation becomes complex (Akhtar et al. 2012). Therefore, it becomes crucial to fully understand who these stakeholders are in order to coordinate them, as already proposed by some models such as Cozzolino (2012), Hellingrath et al. (2013) and Thomas (2003), which form the basis for the model proposed in this paper. The synthesis of these models, presented in Table 1, shows that the presence of stakeholders is not constant among the authors, being highlighted by some and neglected by others. Moreover, none of them consider regulatory agencies - agencies that play a role in the intermediation of interests from government and private companies in the supply of essential services to population - an actor who acquires relevance as the participation of private sector in operations related to disaster has been expanding and consolidating.

Tabela 1 - Overview of stakeholders in humanitarian operations

Cozzolino (2012)	Hellingrath et al. (2013)	Thomas (2003)	Stakeholders in humanitarian operations
NGO (Non-governmental organization)	NGO		Local aid network
Aid agencies			
Donor	Donor	Donor	Donor
Governments	Governmental organizations (internacional)		Internacional aid network
Aid agencies	Coordinating entities	Human rights organizations	
	Red Cross/Crescent		
Military	Military		Military
Governments	Governmental organizations (national)	Government	Government
		Disaster response operations	
			Regulatory agency
Other companies	Suppliers	Regional organizations	Private sector
	Universities and other providers of training and education		
	Professional associations foundations		
Logistics companies	Logistics service providers	Local operations	Third-party logistics
		Media	Media
	Beneficiary	Beneficiary	Beneficiary

From this list of stakeholders involved in humanitarian operations, it is observed that the first nine actors mainly work in order to meet the needs of beneficiaries. These nine stakeholders could be categorized in three groups:

- Society - Local aid network, Donor, and International aid network;
- Public - Military, Government and Regulatory agency;
- Private - Private sector, Third-party logistics, and Media.

Literature review on the relationship between stakeholders in humanitarian operations

The keywords used in this review was based on the keywords "disaster", "aid" and "humanitarian logistics", also used by the literature review developed by Leiras et al. (2014), and extended to cover works that address the issue with different classifications, such as emergency and crisis.

Considering the extent of publishing platforms and databases on the subject, this literature review considers only indexed peer-reviewed journals and in the ISI Web of Knowledge, Science Direct, Emerald, and Scopus databases, due to their academic relevance and accessibility. Table 1 shows the results from the combination of any of the terms defined in the set of Keywords 1 (OR), which refer to humanitarian operations scenario, with (AND) any of Keywords 2 (OR), which represent stakeholders involved in these operations, also considering the exclusion (NOT) of papers that do not address the central theme of the current article, such as donation and transplantation of organs and biological regulations that define the genetic behavior. Based on the purpose of the article, the panorama of publications it appears that depict the relationship (AND) between each stakeholders within the same group (intrarelationship) and between the relationship (AND) any (OR) stakeholder group and any (OR) group of another stakeholder (interrelationship), which results in total shown in Table 2. Considering the lack of papers that simultaneously address all 10 stakeholders defined, is taken as the object of work the ones that address the interaction between at least one stakeholder each of the three groups and the beneficiary, yielding a total of 169 works.

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Stakeholders

Each of the 10 stakeholders consolidated in Table 1 is described in the following based on their participation in disaster response and recovery operations, even though they may also act on mitigation and preparedness.

- Local aid network - Aid networks comprise a range of stakeholders, such as NGOs, community organizations, networks based on religious structures, and so forth. This type of actor has possibility to achieve better results in aid distribution as is essentially a large network already locally distributed in various regions, holding social/religious connections that contributes to greater cohesion and collaboration, and naturally relying on people inclined to help the needy (Holguin-Veras et al. 2012).
- Donor - are all those who support humanitarian operations through financial resources and also products that are not result of the own companies operations donating such resources (Cuzzolino 2012, Fritz Institute 2012).
- International aid network - International aid and human rights organizations have a role of great relevance to different types of disasters, whether wether slow or sudden onset due to the geographical scope in which such institutions can articulate with other decision makers. The distinction among international NGOs, United Nations, Red Cross/Crescent and other international aid institutions lies in two issues: the existence of mandates that make the organization officially responsible for the actions of help when are requested by States, and having or not a regiment sustained by the Geneva Convention (Fritz Institute 2012).

Table 2 - Total of publications regarding stakeholders involved in humanitarian operations

Keywords 1	Keywords 2	ISI	Science Direct	Emerald	Scopus	Total	
Disaster, Emergency, Crisis, Relief, Humanitar*	Society	S1 Aid network, NGO, Non-governmental, Volunteer	700	605	35	1.450	2.790
		S2 Donor (NOT ("organ"OR"transplant*"))	617	300	16	1.018	1.951
		S3 United Nations, Red Cross, Red Crescent	858	220	48	1.228	2.354
	Public	S4 Military	2.598	574	70	3.483	6.725
		S5 Public, Govern*	23.348	7.069	1.186	28.392	59.995
		S6 Regulat* (NOT "gene*")	5.900	1.829	339	6.662	14.730
	Private	S7 Private, Company, Firm, Enterprise, Industry	10.247	4.823	876	20.348	36.294
		S8 Supply	3.439	2.070	184	7.616	13.309
		S9 Media	3.785	2.545	166	10.117	16.613
	S10 Beneficiary, Victim, Population	20.739	9.100	184	17.503	47.526	
		72.231	29.135	3.104	97.817	202.287	

Table 3 - Total of publications regarding intra and interrelationship among stakeholders involved in humanitarian operations

Society - intrarrelationship				Public - intrarrelationship				Private - intrarrelationship			
	S1	S2	S3		S4	S5	S6		S7	S8	S9
S1	-	101	75	S4	-	1.728	149	S7	-	2.538	1.934
S2	-	-	83	S5	-	-	4.668	S8	-	-	629
S3	-	-	-	S6	-	-	-	S9	-	-	-
S1-S2-S3			4	S4-S5-S6			71	S7-S8-S9			101

SPP - interrelationship						
	S123	S456	S789	S10		
S123	-	3.069	1.639	1.784	S123-S456-S789	709
S456	-	-	28.215	12.334	S123-S456-S789-S10	169
S789	-	-	-	8.289	S1-S2-S3-S4-S5-S6-S7-S8-S9-S10	0
S10	-	-	-	-		

- **Military** - The armed forces of each country have as their main objective the State defense and the guarantee of constitutional powers, law and order. Since disasters are also characterized by situations where there is initial disruption of these functions, the military is an actor that developed over time the capacity to act in security functions, transport and logistics, construction and repair, command/control/communications, healthcare, and some specialized activities in disaster response operations when requested by the government (Pettit and Beresford 2005).
- **Government** - The primarily responsible on aid provision in response to disasters is the government local, regional or national. Such stakeholder can provide all the necessary resources or request/allow help from other international organizations and even other governments (Fritz Institute 2012).
- **Regulatory agency** - Private sector are increasingly common in many strategic infrastructure sectors among countries and this situation requires an government agency to regulate conflicts that arises from the gap between the social role of the State to ensure essential services provision to the population and the business role of the private sector wick aims costs minimization and profits maximization (Palm 2008).
- **Private sector** - The private sector may contribute in disaster operations in differently forms. Such variety is observed, for example, when this stakeholder donates products/services resulted from its manufacturing operations or even when they undertake efforts to the reestablishment of its own operations (Cozzolino 2012).
- **Third-party logistics** - Logistics plays an essential role in disaster response in function of inventory management and delivery of products. This stakeholder is detached from the Private sector based on the relevance in which the logistics efforts in speed and efficiency of delivering aid supplies obtained from the private sector to the beneficiaries is as important as the aid supplies itself for suffering relief, minimization of impacts and even saving lives (Cozzolino 2012).
- **Media** - This stakeholder plays a very important role in humanitarian operations due to the impact that disaster news trigger on population around the world, a phenomenon attributed to the increasing speed in which the news is broadcasted by the mass media and online social networks. As a result from informations about disasters status and its complexities, the media contributes to getting donations, fundraising, communication about local security situation, and also some level of stakeholders coordination (Fritz Institute 2012).
- **Beneficiary** - The beneficiary is the central agent and alleviating suffering, maintaining human dignity and saving their lives are the goals that all other stakeholders seek from humanitarian operations (Fritz Institute 2012).

Interrelationship between stakeholder groups

The quantitative result of academic publications on the interrelationship between stakeholder groups, as illustrated in Figure 1, reveals a low level of attention by academia on the relationship between society and private groups, with a little higher level of attention on the interaction between society and public group. The predominance of publications is on public-private relationships. Such status can be explained by a greater interest in the economic power involved in this relationship than the economy of help from the society stakeholders, as explained by Olsen et al. (2003).

The interest of each group by the beneficiaries of humanitarian operations also has a peculiar status, since larger amount of publications on the interaction society-beneficiary than on private-society would be expected. However, the same previous explanation applies here, which the aid economy has less interest than the public and private sector economies.

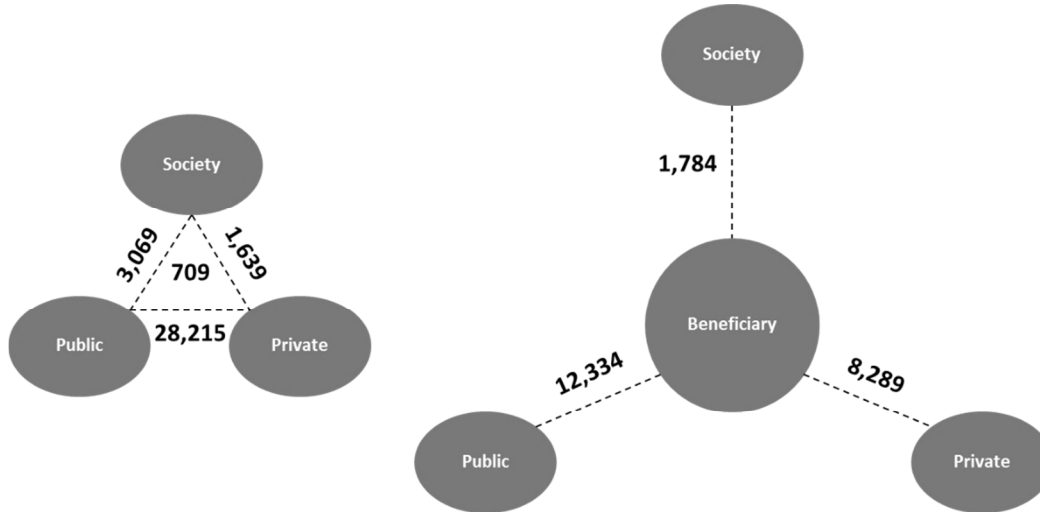


Figure 1 - Publications scenario on the interrelationship between stakeholder groups

Intrarrelationships of stakeholders within each group

In evaluating the publications related to explicit intrarrelationships among stakeholders within each group, as presented in Figure 2, it can also be observed the lack of interest in the economy of the aid alleged by Olsen et al. (2003), due to the low number of publications among all stakeholders of the group 'society' in comparison to the other two groups. In the public group, there is a large number of publications between Government and Regulatory agency, which can be explained by the fact that in some countries the Government directly regulates some private sector infrastructure; and a low number of publications that relate stakeholders Military and Regulatory agency which is due to the different dimensions in which both act in humanitarian operations: the first working in practical actions guided by the Government and the second in the conditions guided by government on the practical relations between the private group stakeholders. Finally, in the private group, there is only a low interest among the publications of Media and specifically Third-party logistics, which can be explained by the greater interest of the media in actors from society and public groups.



Figure 2 - Publications scenario on the interrelationship between stakeholders in each group

The literature review on the results presented in Table 2 and Table 3, especially those that refer to the interrelationship of stakeholder groups reveal a large number of publications on the interaction between public and private group. These publications deal primarily with "public-private partnerships" or PPPs, relationships, in which there is a partial absorption and/or minimization of the importance about stakeholders in the society group, as it is also explained by an extensive literature review of Kraak et al. (2012) to address global malnutrition. Thus, it is proposed that the name of this model of integration of stakeholder "socio-public-private partnerships" or S3P in order to balance the importance of each group, leading to higher level of understanding and coordination of these actors in humanitarian operations.

Stakeholder relationship model

Considering the categorization of stakeholders and the complexity of their relationship, the Figure 3 shows a generic representation of a balanced S3P Stakeholder relationship model in humanitarian operations that also reproduces the intrinsic fragility on maintaining these relationships through the dashed lines.

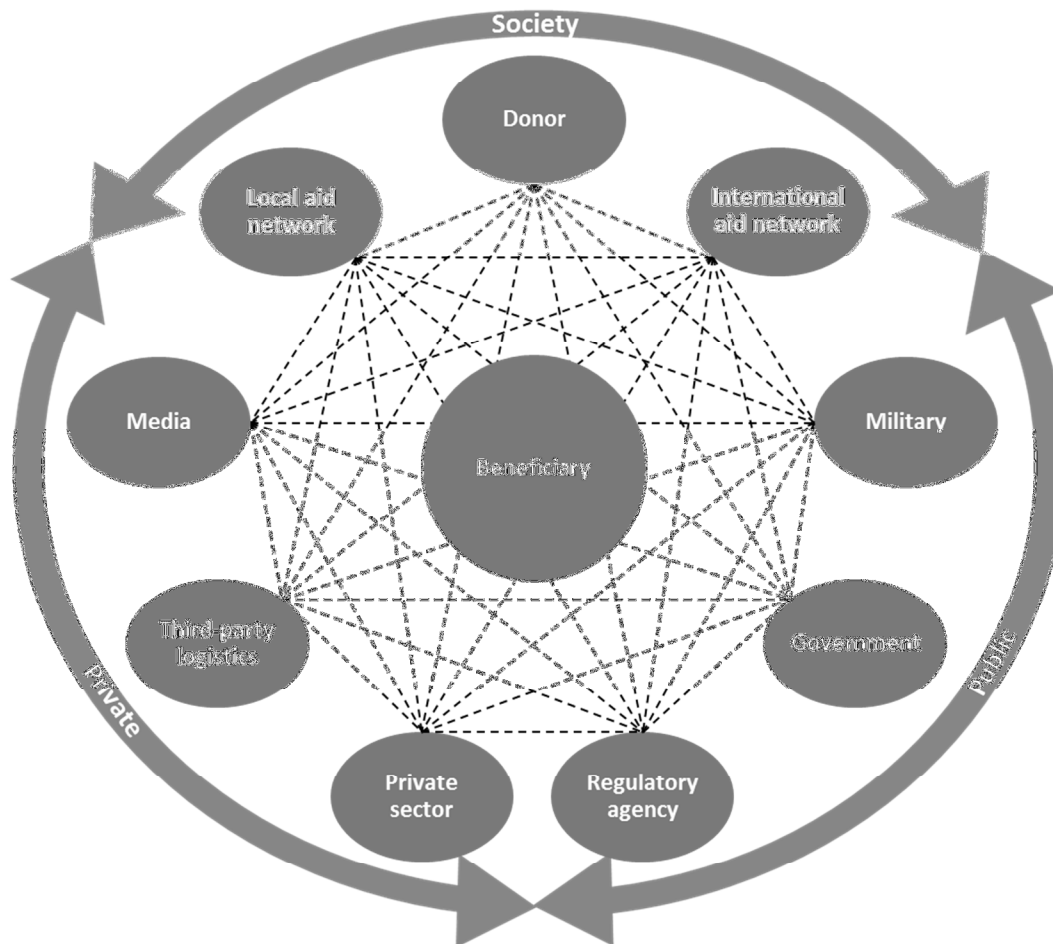


Figure 3 - S3P integration model of stakeholders in humanitarian operations

Conclusions

This paper proposed a social-public-private partnership model (S3P Stakeholder relationship model), based in a literature review. The stakeholders functions addressed in the S3P model go beyond those currently described in this paper, since here it has covered only their function in response, but a full analysis of (intra and inter) relationships is also presented, considering its functions also in the mitigation, preparedness, and recovery phases of a disaster life cycle. Although the academic literature recognizes the need for better coordination of all stakeholders involved in all disaster life cycle phases, it is observed a higher attention to the interactions between the public and private groups in PPPs, and a low level on the relationships involving stakeholder from society group.

The Regulatory agency's role is also highlighted based on the complexity with which it treats the interests of the government and the private sector operations in meeting the needs of society, which paradoxically is not observed in existing humanitarian operations stakeholders models. It is an actor with simultaneously fragile and strong relationships with other stakeholders, and it should be noted that in cases where it is justified their performance directly by the government, this format or imply greater risk to private sector - that become vulnerable to unilateral decisions from governments - or imply greater risk to beneficiaries - that become vulnerable to unilateral decisions by the private sector.

A further investigation on the complexity of these relationships, not just those involving the regulatory agency, but also from all other relationships between stakeholders can be obtained by mapping the processes performed during all disaster life cycle in order to identify where the coordination is achieved and where it is not and why. The result, however, has several other uses such as the support on defining performance indicators, strategies for better coordination between decision makers and even other technological strategies for management of damage and losses assessments caused by disasters.

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