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# The Four Cs of disaster partnering: communication, cooperation, coordination and collaboration

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*Public, nonprofit and private organisations respond to large-scale disasters domestically and overseas. Critics of these assistance efforts, as well as those involved, often cite poor interorganisational partnering as an obstacle to successful disaster response. Observers frequently call for 'more' and 'better' partnering. We found important qualitative distinctions existed within partnering behaviours. We identified four different types of interorganisational partnering activities often referred to interchangeably: communication, cooperation, coordination and collaboration—the Four Cs. We derived definitions of the Four Cs from the partnering literature. We then tested them in a case study of the response to the 2010 Haiti earthquake. We suggest that the Four Cs are distinct activities, that organisations are typically strong or weak in one or more for various reasons, and that the four terms represent a continuum of increased interorganisational embeddedness in partnering activities.*

**Keywords:** collaboration, communication, cooperation, coordination, disaster partnering, interorganisational relationships

## Introduction

Hundreds of organisations provided assistance in Haiti following the devastating 2010 earthquake (Nolte and Boenigk, 2013). Many international nonprofit organisations were already on the ground, supporting long-term development projects. Other public, nonprofit and private first responders arrived in the days, weeks and months after the crisis. As a result, responders of all sorts engaged in complex international and cross-sectoral partnering (Nolte et al., 2012).

This overwhelming international presence reinforced the image of Haiti as the 'Republic of NGOs' (Kristoff and Panarelli, 2010). Headlines criticising relief efforts soon appeared, often citing poor interorganisational and intersectoral interaction as the culprit: for example, 'U.N. is faulted as lacking coordination of aid and security in Haiti' (MacFarquhar, 2010) and, 'Chaos at Port-au-Prince airport slows Haiti emergency aid efforts' (Sheriden and Branigin, 2010). Indeed, many scholars and observers agree that blaming disaster response problems (such as delays, costs, inefficiencies,

ineffective solutions) on a lack of interorganisational coordination, with the solution being *more* coordination, seems typical in such situations (Comfort, 2007; Kettl, 2003).

We conducted a case study of the 2010 Haiti earthquake response with the goal of clarifying these blanket calls for ‘increased coordination’ in disaster assistance. We find that blanket calls to improve coordination typically refer to four rather distinct activities. First, they refer to communicating; second, to cooperating; third, to actually coordinating; and fourth, to collaborating. We also believe that these four activities—or Four Cs as we refer to them here—are sequential in terms of the interorganisational embeddedness (knowledge of partner, goal alignment, risk, cost, time and so on) required to carry them through (Keast and Mandell, 2009; Keast and Mandell, 2011; Keast et al., 2007).

Our analysis of the literature and insights from contextual interviews with members of the Haiti response networks show that researchers and practitioners refer to a wide range of activities as either communication, cooperation, coordination or collaboration. As noted by Keast and Mandell (2009), they often use these words interchangeably. Moreover, while they all refer to exchanges between individuals housed in different organisations, the nature of these exchanges differs significantly from one to another. This manuscript focuses primarily on interorganisational partnering, but we recognise the role that *intra*-organisational dynamics play on partnering outcomes, especially with respect to larger development organisations (Kruke and Olsen, 2012; Stephenson, 2005).

An improved understanding of the Four Cs, with an understanding of the degree of interorganisational embeddedness required for each, might help practitioners better plan and even contract for such activities. It could provide partners with a mutual understanding of the level of interaction expected during the joint disaster response for strategic planning and time management. It should help practitioners better utilise communication mechanisms for the purpose for which they are most suited. It might help improve communications with critical outsiders, to better target the source of delays or inadequacies in emergency response. Finally, it might help researchers better define this partnering variable, which is so often cited as a panacea for poor disaster responses (Comfort, 2007; Kapucu, 2006a; Kettl, 2003).

## **The Four Cs in the literature**

Literature from public, nonprofit, network and disaster management contributes to the subject of interorganisational relationships during disasters (Moore et al., 2003; Kapucu, 2006a; Moynihan, 2008). We conducted a two-stage, systematic literature review to learn about the different definitions and degrees of embeddedness within interorganisational relationships (CRD, 2009). We searched the electronic databases BusinessSourceComplete and EconLit for our keywords ‘communication’, ‘cooperation’, ‘coordination’ and ‘collaboration’, each combined with one of the following terms: ‘crisis’, ‘disaster’, ‘emergency management’ and ‘humanitarian response’. We

**Table 1.** Results of the literature review of Four Cs in disaster contexts

Communication (6)	Cooperation (6)	Coordination (16)	Collaboration (5)
<ul style="list-style-type: none"> <li>• Bevc et al., 2009</li> <li>• Celik/Corbacioglu, 2010</li> <li>• Comfort et al., 2004</li> <li>• Kapucu, 2006a</li> <li>• Kapucu, 2006b</li> <li>• Nowell/Steelman, 2014</li> </ul>	<ul style="list-style-type: none"> <li>• Brown/Keast, 2003</li> <li>• Cigler, 2001</li> <li>• Dynes, 1994</li> <li>• Keast et al., 2007</li> <li>• Najam, 2000</li> <li>• Ödlund, 2010</li> </ul>	<ul style="list-style-type: none"> <li>• Ammann, 2008</li> <li>• Comfort, 2007</li> <li>• Comfort et al., 2001</li> <li>• Corbacioglu/Kapucu, 2006</li> <li>• Drabek, 1985</li> <li>• Drabek/McEntire, 2002</li> <li>• Hood, 1998</li> <li>• Keast/Mandell, 2011</li> <li>• Kettl, 2003</li> <li>• Kruke/Olsen, 2012</li> <li>• May, 1985</li> <li>• Moore et al., 2003</li> <li>• Morris et al., 2007</li> <li>• Raju/Becker, 2013</li> <li>• Stephenson, 2005</li> <li>• Tierney, 1985</li> </ul>	<ul style="list-style-type: none"> <li>• Coston, 1998</li> <li>• Kapucu et al., 2009</li> <li>• Nolte/Boenigk, 2013</li> <li>• Simo/Bies, 2007</li> <li>• Waugh/Streib, 2006</li> </ul>

**Source:** authors.

then reviewed the resulting articles to see if they offered a definition of one or more of the Four Cs. In a second step, we scanned references of those articles that did address the Four Cs, to find further articles associated with communication, cooperation, coordination and/or collaboration in a disaster context. We then retrieved full-text copies of each text for the literature review and clustered potentially relevant studies around the Four Cs (Table 1). Some studies addressed more than one of the Four Cs. These studies were placed according to their main focus and were considered for interpretation in all relevant categories. We discuss the findings of the literature review in the order of the perceived degree of embeddedness of the inter-organisational partners. Below we analyse each of these four components as referenced in discussions of partnering.

## Communication

Communication, or the act of transmitting a message from one organisation to another organisation or part of an organisation, is a critical ingredient of collective action (Kapucu, 2006a, 2006b). As Nowell and Steelman (2014) highlight, the dynamic nature of disasters make planning difficult and communication in real time even more important. According to Comfort et al. (2004), failures of communication channels whether conventional phone lines, cell phone systems or radio channels can severely harm the emergency response. In recent years, means of communication during a disaster response have become more and more sophisticated, due to new developments in information and communication technologies (Bevc et al., 2009). However, we are still concerned with information exchange that takes place face-to-face, via telephone,

cellular phones or walkie-talkies, as well as e-mails, text messages and other forms of information and communication technologies (Bevc et al., 2009). Celik and Corbacioglu (2010) find that well-functioning information and communication technologies positively affect the disaster response and facilitate coordination among organisations. Nowell and Steelman (2014) go further to suggest that failures in communication can lead to failures in coordination down the road.

Responders must have appropriate and compatible technologies (Kapucu, 2006a) to make informed decisions (Comfort et al., 2001). Effective communication requires collecting and sharing information in a usable way and such needs after a disaster are high (Kapucu, 2006a). Comfort (2007) refers to this as building a 'common operating picture' among organisations where all share and disseminate the information they have and value that which they receive, perhaps shaping a common institutional understanding of their environment, which likely consists of massive institutional voids.

## Cooperation

We take cooperation literally to mean 'co' 'operate', that is, to operate alongside another. Organisations with similar ends and means pursue similar goals following similar strategies to achieve them. Doing so in disaster settings is to do so within a relatively small and tight-knit community. Players often know one another and nearly always know the other organisations operating in their arena.

Cooperation refers to short-term, often informal and voluntary relationships between organisations or parts of an organisation that are characterised by low levels of intensity and risk (Brown and Keast, 2003; Cigler, 2001; Najam, 2000; Ödlund, 2010). With respect to the horizontal integration continuum of organisations (Keast et al., 2007), cooperation is characterised by limited connections and a low intensity of working together. The main reasons to cooperate with other organisations during an emergency are to work towards a common mission and to avoid programme duplication (Kapucu, 2006a). Dynes (1994) developed a model of emergency planning, in which cooperation was seen as an alternative to measures of control that were employed in more traditional disaster response systems characterised by strong military power. This model is suitable for today's disaster response systems, where the United Nations, and specifically UN OCHA (Office for the Coordination of Humanitarian Affairs), takes a leadership role and coordinates tasks during large-scale disasters (Kent, 2004).

## Coordination

From our literature review, we found that most studies use the term coordination when assessing how organisations work together in the context of disasters (Ammann, 2008; Drabek, 1985; Keast and Mandell, 2011; May, 1985; Morris et al., 2007; Tierney, 1985). Comfort (2007) and Drabek and McEntire (2002) defined coordination as the collaborative process in which organisations align their actions with the actions of other organisations to achieve a common objective.

Consider this recent statement by Raju and Becker (2013) regarding coordination after the 2004 Indian Ocean Tsunami:

*Looking at Comfort's definition of coordination above, there are several ways of 'aligning one's actions with those of other relevant actors and organisations to achieve a shared goal.' The most basic activity to facilitate coordination is to share information with each other. Although information sharing is vital for coordination, it has limited effects on the overall efficiency if the total operation is not combined with more collaborative efforts (Raju and Becker, 2013, p. 84).*

Some authors sum up different stages of interorganisational embeddedness under the term coordination, describing a path from rising interactions to the sharing of information and resources as rising degrees of coordination (see, for example, Corbacioglu and Kapucu, 2006).

Interorganisational coordination depends on the sharing of resources but also on the structure in which the organisations operate (Moore et al., 2003; Stephenson, 2005). For example, the incident command system in the United States was created to coordinate fire operations that required the participation of many responding organisations (Waugh and Streib, 2006).

Partnering in disaster settings is about connecting experts and resources, building on established (however minimally) routines and learning (quickly) from mistakes (Kettl, 2003). Stricter rules and authority may improve coordination (Hood, 1998; Kettl, 2003) but coordination is a 'contingent problem' requiring action among organisations across the sectors, facing unique problems that are unlikely to be repeated in exactly the same way (Kettl, 2003). Coordinating responsibilities across locations also proves difficult (Comfort et al., 2001). Regardless, coordination often requires breaking complex problems into manageable pieces (Kettl, 2003).

## Collaboration

Collaboration is often described as a long-term relationship between organisations, characterised by high levels of interdependency and high risk (Cigler, 2001; Keast and Mandell, 2011), which requires significant power symmetry (Coston, 1998; Najam, 2000). Simo and Bies (2007) use the terms 'partnership', 'alliance' and 'coalition' to describe intentionally collaborative relationships between organisations from different sectors that aim at solving joint problems. Contrarily, Kapucu et al. (2009) see collaboration as one of three different forms of network coordination, the other two being networks and partnerships. As with coordination, some authors describe different stages of collaboration, ranging from informal, episodic activities to highly formalised relationships involving contractual arrangements (Nolte and Boenigk, 2013; Simo and Bies, 2007).

Collaboration in disasters is important to solve problems because resources are scattered, responsibility is dispersed and it is impossible for any single organisation to manage the situation (Waugh and Streib, 2006). Imposing too much control can harm the collaboration, while cultural understanding and a common language are important factors enabling it (Waugh and Streib, 2006). Organisations have to show an ability to collaborate and an ability to adapt to a dynamic environment (Kapucu, 2006b).

By sharing information, organisations can understand each other’s constraints and possible combinations of collaboration (Comfort, 2007). Collaboration is more complex than communication, cooperation or coordination (Huxham and Vangen, 2005) and the high embeddedness of organisations creates a situation of shared risk among collaborators (Kapucu, 2006b).

## Summary of the Four Cs

In highlighting each of the Four Cs as discussed in the literature, we find many definitions included references to one or more of the other three. Cooperation required at the bare minimum some communication, or a willingness to collaborate. But a willingness to collaborate is not collaboration. And the way these words were used often implied a hierarchy of the words in terms of interorganisational embeddedness.

Communication, as we define it, is the most basic or least embedded activity identified. Members of different organisations need to have conversations and talk to each other and there are not significant costs associated with that. We then observe that cooperation, through a recognition of similar aims and goals, coupled with an inclination to work together, was the next component. Again, costs are associated with time, which are not insignificant, but not a lot of shared risk. Coordination serves a more tactical need, and seemed to require both communication and some sense of cooperation. It is costly in that both parties need to spend time and resources to do it well; however, some tangible savings or advantages should result. It is a more applied activity than cooperating, which can be quite passive. Collaboration was seen as the most embedded, riskiest and costly activity of the partnering continuum, signalling a deep relationship that required change and strategic action within both partner organisations. Table 2 shows a summary of the characteristics of the Four Cs. While there is no clear consensus about the characterisation and definition of the Four Cs in the literature, we attempt to give a general overview based on the most common findings from the literature and to interpret them in the context of disaster management networks.

**Table 2.** Summary of the Four Cs

	Communication	Cooperation	Coordination	Collaboration
Cost of interaction	low	medium	medium	high
Degree of embeddedness	low	medium	high	high
Following of common goals	low	medium	high	high
Frequency of interaction	low	medium	medium	high
Reciprocity	low	medium	high	high
Shared resources	low	medium	medium	high
Shared risk	low	medium	medium	high

**Source:** authors.

## The case of the Haiti earthquake response

To deepen our understanding of different forms of interorganisational embeddedness, we studied the case of the Haiti earthquake response. A devastating earthquake struck the country on 12 January 2010. It severely affected local, Haitian organisations. Therefore, a large number of international organisations were engaged in the disaster response. In addition, being the poorest country in the Western Hemisphere, Haiti was already hosting many international organisations providing humanitarian aid at the time of the disaster.

To learn about the perceptions of interorganisational dynamics in the field, we registered through the One Response network in the days immediately following the earthquake. This is a centralised online forum designed to improve partnering and information dissemination in complex humanitarian emergencies. Several of those we interviewed referred to it as an important tool for networking. This newly created web portal provided links for professionals to various listservs they could join. We asked for and received permission to join the Shelter Cluster Google group as external researchers.

We analysed the first month of listserv activity to have some understanding of the types of exchanges that existed. We then collected all e-mails from 1 March to 9 April 2010 to analyse, resulting in more than 150 pages of coded material. This period represented the biggest volume of e-mail activity and was just six weeks after the earthquake. There were 93 conversation threads from 47 different individual organisational representatives. E-mails were cleaned, organised and broken into these conversation threads. The first author coded all messages initially. Then the other researchers on the project reproduced that work on subsets of the total data. After discussions and several iterations, all authors recoded this material (on subsets of

**Table 3.** The Four Cs: specific codes and frequencies in the online forum

Code #	Name and category	Frequency	Percentage
	<b>Communication</b>	<b>78</b>	<b>15.5</b>
1.1	Notifying: announcing meetings and news	18	
1.2	Sharing best practices	48	
1.3	Offering or requesting for sale and/or donation	12	
	<b>Cooperation</b>	<b>43</b>	<b>8.5</b>
2.1	Requesting aid for others	39	
2.2	Requesting others do something to make things more organised	4	
	<b>Coordination</b>	<b>373</b>	<b>74</b>
3.1	Distribution and logistics	373	
	<b>Collaboration</b>	<b>10</b>	<b>2</b>
4.1	Philosophical and policy statements to improve the system	10	

Source: authors.

exchanges) until the final seven exchange types shown in Table 3 emerged. Then we coded the entire 150-page database into these final exchange types.

Following the analysis of the e-mails in the online forum from March to April 2010, we conducted eight face-to-face interviews in Haiti and many informal conversations. The interviews were held in Port-au-Prince in January 2011. They provide additional context to our work but are not included in our formal analysis. Access was very difficult. We interviewed several NGO leaders and embassy representatives. We spoke at great length to a former presidential candidate. We then met with planning officials for the Port-au-Prince Municipality, as well as the mayor of the City of Port-au-Prince himself. The mayor provided us with some additional access, and invited us to a local conference on the coordination of international assistance, where we met several reporters working on a similar story. This conference took place during the elections, and thus the two leading presidential candidates at the time attended as well, to great fanfare. While these interviews were informative, they were not systematic and thus are only used here to help contextualise the situation.

## Results of the online forum analysis

### Communication

From our analysis of the online forum, we discovered that 15.5 per cent of the posts addressed communication. One of the first notes sent to this online forum was information about another network that could provide even timelier information to members. Information was clearly a necessity in this environment and time was critical. In addition, text information was more reliable early on than the internet.

*To join the SMS/text message network for the Haiti Epidemic Advisory System, follow these steps: go to <http://geochat.instedd.org/>; sign up for an account; search under 'groups' for 'Haiti Epidemic Advisory System' and sign up for the group; once I receive your request, it will be approved ASAP. It is a very powerful text message capability to enable us to rapidly inform each other of events or to simply ask a pressing question about a possible infectious disease event. This network is intended to compliment the efforts of the IDP Surveillance System and encourage rapid reporting of health events of concern.*

There were several different types of communications on the Shelter Cluster Listserv or online forum. First, the forum was used to announce events and meetings to potential partners, for example, 'We have a presentation on shelter assessment tomorrow. We would like your input.' Or, 'The meeting will be held on Friday March 19th at 13h00 at the Laboratoire Nationale, Delmas 33 (Beside Hôpital de la Paix).' Others sent out minutes from meetings and often forwarded Requests for Proposals or announced upcoming grants/deadlines, for example:

*Our organisation has submitted a Master Proposal that is considering many aspects of the rebuilding and recovery in the Port au Prince area. We work with transitional shelters,*

*larger semi-permanent structures for food service and group gatherings, schools and hospitals, and power generation using solar energy.*

Or, 'As raised recently in a general cluster meeting further funds are to become available for use by NGO partners through the Emergency Relief Response Fund.' Another wrote with more detail:

*Here is an update on Project Concern International's shelter plans (in collaboration with USAID/OFDA and FH). All sites remain the same as our original registration. We have added estimated numbers for each community. **Deprez:** N18 31,519' W072 19.925 (a total area of approximately 3 square miles.) Emergency shelter started January 14. 850 Transitional Shelters initiate next week with model shelter for community feedback/land clearing started with CFW. All t-shelters to be built on home sites, not in camps.*

Another major category of communication was offering services or products generally to the entire listserv. Some were for commercial gain, but many were humanitarian in nature, though complex to realise. For example:

*We have a large amount (2,000 pallets) of personal hygiene items in our warehouse in California. We are looking to donate these items to groups who can make kits out of them and distribute to the various camps in and around Port-au-Prince. Ideally we would truck them to your warehouse in the US and your organisation would assemble them and ship them to Haiti for distribution.*

Digicel, based in Haiti, offered phones to NGOs for their field staff to use and used the listserv to get the word out about this:

*I would appreciate it if you could let your cluster members know that Digicel has free handsets with SIMs and 50HTG of credit available for NGOs working in Haiti. The intention is to facilitate contact between organisations and their workers in the field. We have a considerable number available and so I would encourage organisations to take this unique opportunity to ensure they can keep in contact with all their staff.*

But many e-mails along these lines ultimately were trying to generate sales. For example:

*We have an earthquake, hurricane and flood resistant pre-fabricated portable geodesic dome design that is safe for the inhabitants. Each dome is 17' in diameter. Large enough to house at least a family of 5 or 10 children. We have begun production on the first batch of ten domes using mostly in-kind donations from manufacturers and suppliers in our area. We have plans to build 30 more, we are looking for funding opportunities so we can follow through quickly with this plan.*

And:

*We can provide buildings, train Haitians, and perform the work-for-food or cash program as incentive to get Haitians to help with the building of our pre-fabricated STEEL structures,*

*if necessary. We can build to whatever sizes are needed. Attached to this email you will find a plan we have created for Haiti by the request from a Haitian organization. The building size (as requested by the organization) is 12' × 12' (13.3 m<sup>2</sup>), however we can modify this plan to whatever size is requested. During a conversation with Mr. Gerhard Tauscher of the Shelter Cluster Coordination Team I was advised of the shelter requirements (costs to be less than \$1,500 USD per unit and total volume per unit of less than 2m<sup>3</sup>).*

Regardless, many of these were useful contributions that helped to create a general understanding of conditions, needs and resources. We also particularly note the 'name-dropping' of the cluster coordinator perhaps to signal legitimacy.

Updates, warnings and announcements represented another type of communication, warning of impending flooding, asking about NGO preparation efforts, warning them to be prepared, suggesting they 'take action now' or providing a 'heads up'. For example, 'The meteorological forecast for next week calls for thunderstorms beginning this Wednesday and lasting at least through the following Tuesday. We will follow the forecasts closely as this time draws near.' Others provided general 'FYI' statements: 'Please note that unfortunately the US Army no longer has the resources to help with distributions.'

A final category of announcement e-mails was coded as sharing best practices. Questions and answers posed to the group were also common, often evolving into discussions about best practices. For example:

*The cinva blocks seem to be suitable in areas where no aggregates are available, which is not the case in PauP. In our experience in the Dominican Rep, the cinva blocks are more difficult to place by non-skilled workers than concrete blocks, therefore it takes more time to build with them and since no reinforce bars can be used the walls are less resistant to seismos (earthquakes). A well-built concrete blocks wall is better integrated to the other elements of the building (footings, beams, columns and slabs) and at the end could be more economical.*

Or, 'While CEB's can be effective in areas, I would agree with the above observations, Highly controlled aggregate size, consistency, compatibility of stabilisers, base soil profiles, these are just a few important issues before we even get into Placing a CEB in a wall.'

These last two categories could have been coded as cooperation. We find this is a continuum with some overlap. We also note that Keast et al. (2007) likely would have included all of those activities under cooperation. Again, we tried to tease out communication as a distinct activity.

## Cooperation

Unlike the SMS text offering above, which was specifically for immediate and perhaps one-way information flows, an early e-mail also informed listserv participants that 'A Google group has been set up for use as a forum for discussing shelter solutions

being proposed for Haiti's earthquake affected population, as well as offers from individuals and private sector. Please see <http://haitisheltersolution> for more information.' This would prove a more cooperative forum where participants posted information and commentary. Our analysis of the online forum revealed that 8.5 per cent of the posts addressed topics that we would define as cooperation.

Another distinct type of e-mail coded as 'cooperative' was what we referred to as 'requests for assistance' that came in several forms. Some asked for help on behalf of their own organisation, for example:

*We are running a field hospital at Delmas 33 (Lope de Vega tennis club) providing orthopedic and plastic reconstructive surgery. We are giving a few NFI items out to discharged patients at the moment, but would like to provide more if possible. Please let me know if you are able to provide us with the following items to distribute to discharged patients + Haitian staff.*

Others asked for help on behalf of communities they came across that needed assistance, or other local organisations: 'I am trying to help a group of 40 families living in one garage in northern suburb of PAP. Because they are a small group, they have received no aid. Please let me know if your organization will help this group.' The following example provides a bit more detail, but is not immediately actionable. Follow up would be required before any specific action.

*The compound is situated at the Petionville Club, and there is an IDP camp of approx 45,000 people living there. Last night the hospital tent was damaged and has no flooring so it is taking on water and is a muddy disaster, but they are still using it to treat urgent care and emergency patients. Equipment, including an x-ray machine was moved under shelter but there is more equipment in danger from the rain and mud/flooding. The school tents (over 300 kids enrolled) were ruined and unusable, all of the school supplies and tables/chairs have been moved to high ground, but are not under shelter. We need to replace the clinic and school tents, and provide flooring, today if possible. The location for the school has been moved to more stable ground to avoid this happening again if we have the necessary flooring/tents. The clinic would be stabilized if there was flooring and a more stable tent structure.*

And some posed questions to the group though not specifically to any single player.

*I'm also trying to draw up a list which can be used in our outpatient department, which is seeing ~150 patients per day. Where can they go to get tents, blankets, mosquito nets, jerry cans etc.? It would be helpful if we could point them in the right direction. Thanks for any help you can offer. Please reply to [. . .]*

These requests did not seem specific enough to be considered actionable coordination efforts. However, it is clear that participants were inching towards more coordinated activity.

## Coordination

Coordination represented the most frequent type of interorganisational partnering in the online forum, accounting for almost three quarters of the total posts. Most e-mail exchanges addressed logistics. These notes typically included ‘plans to distribute’, announcing the name of the organisation, the items being distributed, the date, location and an estimation of the number of households that will be covered by the distribution. These became quite specific over time. A typical message, for example, would be, ‘Solidarités is working on camp sites through WASH Cluster. This week, we plan to distribute hygiene kits, tarpaulins and jerrycans on these sites: March, 2<sup>nd</sup> Bellevue I: 118 HHs, 593 persons and Bellevue II: 103 HHs, 489 persons.’ Or:

*JEN plan to conduct 2 Shelter Kits\* distributions in Grand Goave the next 2 days:*

*- Tomorrow, March 11<sup>th</sup>, in Vieux Caille for 73 HHs*

*- After Tomorrow, March 12<sup>th</sup>, in Mayotte for 114 HHs*

*\* Shelters kits include Wood, CGI Sheets, Hammers, Saws, Gloves and Nails*

Logistics also included requests for mapping and exact locations of activities for coordination purposes. For example, this e-mail read:

*As promised in this morning’s meeting, please find on the Google group (under ‘files’) a .kmz file that maps out all the sites where Concern Worldwide is delivering shelter/NFIs, Camp management and WASH. Simply download Google Earth, and double click on the file to open it. It includes polygons mapping the areas of the sites as well as the exact locations of all of our current Camp centres and some of our bladders, latrines and distribution points.*

Others asked recipients to identify their own activities on similar maps, or highlight areas of concern, or those in need of help. These coordination e-mails began to have a common standard set of contents. They soon all included:

- 1) Name of the organisation distributing items.*
- 2) Items to be distributed (hygiene kits; shelter kits, NFI (nonfood items), tents, timber, tarps, plastic sheeting, LLIN (mosquito nets), jerry cans (water jugs), aquatabs, family kit (soap, bucket, jerry can, aquatab).*
- 3) Date—usually weekly notes—upcoming week plans.*
- 4) Location: town, name of camp, reference/directions (for example, just south of airport), and many included exact GIS coordinates.*
- 5) Number of households—estimated number of beneficiaries product might serve.*
- 6) Maps: supplying maps—GIS or Google Earth.*

Other coordination e-mails asked for information from others generally or specifically in the hopes of better coordinating, though it is not specifically stated as such.

*Is it possible for you to draw up a list of orphanages that:*

- *have already been assessed, approved*
- *have already been assessed, not approved*
- *are on the list to be assessed.*

*Please inform [XXX] or [XXX] of KAY FANM from whom they should get those tents from in PAP.*

The following is an example of a more explicit coordinating series of e-mails, where the follow up is clear, though perhaps inefficient given the several days it took from the first note to the last:

**(3/10/2010) Person A:** *Hello, I've been trying to get help for needs that have not been served for the Reveil Matinal Orphanage for weeks. It has now become a critical situation. There are 20 girls ages 3–11 yrs. old. 5 of them have recently taken ill and had to go to the hospital. They've been sleeping outdoors exposed since the quake with no tents. An NGO stopped by a few weeks back, measured for the tents and never returned. They have a well, but no water filtration. They need the following: FOOD (rice/beans/cooking oil/canned food/juice/ powdered milk, etc.); EMERGENCY HEALTH CARE; MEDICINES (OTC & Antibiotics); VITAMINS; WATER FILTRATION SYSTEM; GENERATOR; 2 LARGE TENTS (Still sleeping outdoors exposed); STRUCTURAL ENGINEER TO EVALUATE SAFETY OF BUILDING.*

*Reveil Matinal Orphanage Foundation  
Delmas 75 - Rue Jean Content #41  
GPS coordinates: 18°32'15.00'N 72°16'11.28'W  
U.S. Contact:, Director (718) [xxx-xxxx] (NY)  
Haiti Orphanage Director: 011-509-[xxxx-xxxx]*

*Please let me know if any organizations in the shelter cluster will be able to assist with the above. I am querying with several NGO's concurrently due to the urgency and lack of response at this point, and I don't want to duplicate serving them (but need to approach it in this manner because of the critical needs). My thanks to you for any assistance you can provide.*

**3/14/2010 Person B:** *I was wondering if any assistance has yet been provided to the Reveil Matinal [. . .]*

**3/15/2010 Person C:** *My team visited this location today. The situation did not appear as dire as [. . .]*

**3/15/2010 Person A:** *Greetings, As a result of posting these needs to the shelter cluster, multiple organizations responded visiting this site and fulfilling their needs in the last 48 hours. Please remove this needs plea from any urgent listing within the cluster system that the Reveil Matinal Orphanage has been placed. OXFAM visited recently and is providing mattresses, and is also giving the caregivers recommendations and a Social Worker to conduct an evaluation. Several other NGO's have provided tents, food, water filtration, etc. Thanks to all.*

Although these coordination notes include varying levels of specificity, it is clear that they are not only desiring some actions on behalf of others, but they are providing enough information to perhaps find synergies and efficiencies with others through coordination. We suspect that many actual coordination efforts were actually discussed in more depth upon receipt of a note like those above that included enough information to elicit a phone call from an interested potential partner. However, the effectiveness of this exchange might be examined in terms of efficiencies: five days passed from the first communication to the last and, more importantly, ‘multiple organizations responded visiting this site’.

## Collaboration

Only two per cent of our coded material addressed collaboration, as defined by the literature. Requests for action from cluster members were the most common form of collaborative e-mails, such as ‘Please be sure you register new sites’ through an agency who took responsibility for something. For example, ‘If any agencies are working in these areas and capable of fulfilling these needs, please contact the shelter cluster so that we can mark these off and avoid any duplication of effort.’ But those were minor collaborations, more likely even, coordinating efforts. The following more philosophical or policy statements provide a better example of attempts at collaboration:

*Perhaps those with more experience in this work have more to say on the subject. It seems that the move to provision of transitional shelter, with registration of families and increased knowledge of the households being served, could lead to some resolution of this situation.*

*I wanted to raise an issue my colleagues in the field are increasingly encountering. Although we’ve had an agreed cluster strategy prioritizing Sheeting over Tents in Port au Prince for some time now, the highly visible distributions of tents, particularly near the Logs base, have raised expectations amongst beneficiaries that there will be universal coverage of dome or tunnel tents, and this is raising equity issues. We are increasingly receiving complaints from beneficiaries in our locations that other sites are receiving ‘better’ shelter support. Anecdotally, beneficiaries like tents because they (a) look nicer (b) are easier to move and (c) leak less than sheet-covered emergency shelters. They also free up materials that can be relocated elsewhere. There is increasing evidence of families establishing multiple bases to maximize access to assistance—family size in Boliman Brant has dropped to 3.32 for example—and for those who have to take down their shelters during the day (i.e. those sleeping in the streets rather than in a stable site) it’s likely that tents are a better solution.*

These types of exchanges implied solutions that would require significant internal change within organisations involved. They would require changes in standard operating procedures that likely could not happen solely in the field and would require more institutional approval and discussions and likely home office approval. They would have significant implications for all involved—and yet many recognised its importance. To solve these issues going forward, as a matter of new policy for all

responders, would truly require interorganisational collaboration. These are more macro strategic activities that also require a level of management that provides perspective and is not solely, 100 per cent field based.

## **The UN cluster system as partnering**

Several high visibility mechanisms were established to improve partnering in Haiti following the earthquake. The UN Cluster System, developed in part for the 2004 Indian Ocean Tsunami response, served as the main focal point for Haitian activity. But it had its detractors. One respondent suggested, ‘The cluster approach was a farce, no real effective collaboration ongoing in food cluster and later also not so much in agriculture cluster; difficult to network otherwise.’ Others were more measured in their responses:

*The earthquake was the first time all humanitarian actors effectively used the cluster system adopted around the world. This system allows for all organizations to regroup according to specific themes and share information. I strongly believe that factors such as the unprecedented scale of the disaster, the very large number of organizations involved and the trial of a new system, have affected the outcomes of the network.*

*GOAL's Response in Haiti is emergency focused so by definition it is high cost and intensive. We work through the Cluster coordination system so obviously we collaborate. There is limited crossover because of the cluster system. Information is generally shared but it depends on the cluster how strong the coordination is. Similarly for information. A question that could be asked is was the higher level coordination considered to be strong, effective and did it provide good guidance or direction to partners regarding the policy to follow or coordinated approach that should be adopted. The answer is that this was weak. Organizations generally have been strong, coordination generally has been good (possibly health sector excluded) but government level direction and support has been weak.*

The Interim Haiti Recovery Commission also provided some leadership in this respect by asking that all stakeholders submit all projects through this mechanism. The IHRC could then catalogue and analyse all activities and serve as a central repository of action, close to the Haitian government. Not everyone was thrilled with their leadership in this respect, but the sentiment was applauded. In addition, other similar efforts emerged, for example, the One Response web portal, which served an important function for the housing and shelter cluster. Much more was done informally—locally, regionally and sectorally.

The local government should have provided some leadership. Estimates suggest that approximately 3,000 to 10,000 international NGOs had operations in Haiti in the two years following the earthquake. However, of those, only 495 registered with the government to conduct this work and most of those that did register were already in the country prior to the quake. Furthermore, our interviews suggested that of those

495, only 20 regularly go through the *Ministre de Planification* with updates and reports. Consider this exchange we had with the mayor of Port-au-Prince:

*Mayor: We have difficulty to work with the central government and difficulty to work with the NGOs because the NGOs don't accept the municipality.*

*Interviewer: Why?*

*Mayor: I don't know exactly. They have to come to the city to register, but they refuse.*

*Interviewer: All NGOs?*

*Mayor: All NGOs! We work with [major well-known NGO], for example, but they are not registered at the municipality.*

*Interviewer: But I saw them hauling away trash downtown today.*

*Mayor: Yes they do, but they don't have a contract. They do the work, but we don't know exactly their project. We want to help NGOs. We want to work with them but it is very difficult. We have a lot to give them because we are the most meaningful institution. We have a project for the city we want to discuss. We want to build something with them. But they think we are not ready to plan, to assume responsibility. And I think that is a past thing too. Now we are at this municipality for three years. I try to do my best to have responsibility for outbreak of cholera, the hurricanes, etc. Help is very important, but the fact is we want to discuss our problems, we want to discuss them with people who will try to understand what are our needs. Understand today, the NGOs think they are, how can I say this? They act for us, but they don't speak for us.*

Like Raju and Becker (2013, p. 89) found after the tsunami, 'regardless of the government perceiving coordination as important and playing an important role at least initially, it did not engage actively in taking ownership at all levels'. Whose fault this is remains an important question.

## **The Four Cs in action**

The research questions guiding this work sought answers to 1) whether the four Cs represented distinct activities and 2) to what extent they were sequential in terms of embeddedness with partner organisations. We discuss this below.

First, *communication*, as we defined it, represented the most basic of the Four Cs. Technical capacity and problems can make it nearly impossible. From our interviews and the analysis of the online forum we found that most participants valued communication and sought to contribute information where time and resources permitted. Without communication, whether through IT or face-to-face, we assume very little additional partnering can take place. Announcing events and meetings, sharing best practices and offering services or products served as rather low-level partnering that we labelled communication. We witnessed these often: about 15 per cent of our coded

material from the listserv activity addressed communication. These were largely risk-free offers of information generically to a large group. They tended to be unidirectional and thus required little feedback. Regardless, these instances that we labelled communication represent a rather low level of interorganisational embeddedness as they were low risk, low cost and required minimal knowledge of other stakeholders. Goal alignment was not important in such instances. We understand this can differ dramatically depending on the actual information exchanges. The content of such exchanges, in examples of good communication, may involve much more cooperation, coordination and collaboration. We maintain a rather low-level definition for our purposes here, capturing more intense exchanges in higher-order codes.

*Cooperation* involved mutual respect and professional courtesies. In our analysis of the online forum and during our interviews we did not hear reports of aid organisations being overtly ‘uncooperative’, though some small and local organisations did accuse the large (especially UN) organisations of this. There were few reports of aid organisations fighting over beneficiaries or sitting on unused but desperately needed resources (which is surprisingly common at times). Those would all represent uncooperative partnering efforts. For our work here, requesting aid on behalf of others and asking others to do special things they would not normally do were coded as ‘cooperative’ efforts. Such activities were focused on the need of the requestor or were clearly on behalf of third party beneficiaries. We saw these statements as more than simple communiqués. To us they represented a spirit or shared culture of aid, and thus had connections to personal, religious, professional and institutional identities—a bond between those whose job it is to serve others. Efforts are made—even just generic posts—to inform others out of respect, concern and/or interest in a greater impact overall.

*Coordination* was coded as a more strategic action that required a bit of perspective. For example, new players arriving and offering specialised assistance often felt as though things on the ground were not well coordinated. The niche they could fill may not have been immediately apparent. We found coordinating logistics statements most often seemed to represent one-way flows of information. Most large organisations simply announced what they would do, when and where. However, the intent of these was to improve coordination. Smaller organisations posted less. Regardless, the overwhelming majority of e-mails sent were of this nature, informing others about actions with the hope of coordinating in the future. These statements were clearly not making just basic announcements, rather they were explicitly and quite precisely informing related stakeholders about their intended actions. On several occasions follow-up e-mails suggested that plans were altered in response to learning about certain activities. It is not surprising to us that the overwhelming number of disaster studies we explored focused on coordination rather than the other three Cs.

Real *collaborative* activity seemed to require time and resources to re-allocate or re-budget or re-align an organisation’s efforts in concert with other partners to improve overall effectiveness of the assistance provided. For example, responders can and do

divide search and rescue efforts geographically at the field level, which represents a higher-order level of coordination. But how does someone on the ground re-allocate resources or personnel with the arrival of each new organisation every day or the discovery of a new set of problems? Collaboration becomes more difficult as responders need a firm understanding of the capacity of the other players offering assistance. Learning about those things takes time, and doing so takes time away from more valuable activities that directly save lives. We sensed the collaborative proposals sent via e-mail came with caveats of when time permits or if given the resources. As such, we saw relatively few examples of ‘collaboration’, although e-mail may not be the best venue to witness for such embedded activity.

## **Implications for practice and policy**

This work provides an understanding of the different tasks associated with each of the Four Cs. We also propose a soft ordering of this continuum of interorganisational embeddedness starting with communication, moving to cooperation, onto coordination and ultimately, perhaps, collaboration, in disaster settings. We found that the large majority of disaster management literature seems to focus on coordination, as evidenced in Table 1. Much of this research on coordination discusses the integral roles that communication, cooperation and collaboration play in making coordination effective. We offer some insight into the practical and policy related implications of this work.

We found that working together with other organisations to provide aid after the Haiti earthquake was considered positive by the participants. However, a large number of the organisations involved in disaster response were international organisations, many of which had engaged in Haiti before the earthquake, establishing a large international community of NGOs (Kristoff and Panarelli, 2010). This international community had experience in working together after a disaster from previous work in Haiti as well as other joint commitments abroad. This familiarity generally facilitates joint disaster response (Waugh and Streib, 2006). Therefore, rather than experiencing problems between large and small organisations or between public and non-profit organisations within the international community, we found more concern about integrating locals—the local government, local nonprofits and citizens—into the overall disaster response. This is critical, as local knowledge may be essential for the performance of the joint disaster response (Huxham and Vangen, 1996). Vigoda (2002) stated that the movement of New Public Management has been accompanied by a lower willingness of organisations to partner with local citizens. Waugh and Streib (2006, p. 138) warned that, ‘responders can be blinded by their own good intentions’. We did not find this external or international control necessarily intentional, but it was indeed the focus of much concern in e-mails, if not indirectly. This brings up a more important implication; the players’ understanding of their own network. Nowell and Steelman (2014) suggest the primary network of importance in disasters

relates to functional interdependence. Local players are not seen, in this case, as functionally interdependent and thus are not included in these exchanges. Other forms of communications may have existed but, as evidenced in our conversation with the mayor of Port au Prince, this does not seem to be the case.

We also found that different mechanisms and venues might enhance or detract from different types of partnering. E-mails seemed suited for coordination efforts and indeed we coded many more instances of coordination efforts than any other partnering activity. Text messages seemed better for timelier and more reliable news communiqués and warnings, but they were brief and thus not very detailed. Meetings seemed required for collaboration.

Practitioners might also consider the costs of the various forms of partnering. Communication and cooperation need not be very costly while coordination and collaboration may be. Impression management may be important in this respect. Not everyone expects collaboration, but most expect communication and cooperative predispositions. Small outreach efforts may result in greater, longer-term willingness to partner more closely in the future. Considering costs, stakeholders should consider the value of contracting for such partnering activities. If these activities take time and cost money, how are players being compensated to do this work, especially when it may detract from time spent on more mission-related activities? We noted several instances where spokespersons or organisational representatives seemingly were responsible for outreach efforts (public affairs, public relations officers, communications directors). Smaller organisations relied on programme personnel to serve this function alongside their other responsibilities. Contracts and job descriptions could include such activities, however, at some cost to programmatic activity.

Finally, organisations may value or be better at one or more of the Four Cs. For example, large NGOs, which have some middle management structure and thus the luxury of an office and a person perhaps designated for external relations, tend to be pretty good at cooperating and communicating. They hold meetings and invite stakeholders. They may not, however, be as nimble in terms of coordinating and collaborating, as they are beholden to longer grant cycles, home office oversight and responsibilities to multiple constituencies. The military, on the other hand, is typically excellent at coordinating and collaborating, especially when they take a lead role. However, they often raise the ire of critics by not communicating or cooperating well with other stakeholders. The discussion of their efforts to take control of the airport immediately after the quake serves as an excellent example of this. Some felt they brought order to chaos, others accused them of ‘occupying Haiti’.

Finally, we might highlight that there are extremely nimble, small, rapid reaction teams that might indeed be considered collaborative. However, without infrastructure and overheads such teams likely lack effective communication mechanisms, do not stay on the ground long enough to build cooperative relationships, and lack long-term coordination capacity. The NYC Medics provide an example. This small team of volunteer emergency response professionals travels the world to assist in disaster relief. Light, mobile and talented, they can partner with military, nonprofits, firms or

governments. We consider them improvisational collaborators. They collaborate on the ground without great prior connections or planning. They go where they are asked to go and do what they are asked to do typically based on chance encounters on the scene. They give of themselves and expect little in return. They are self-funded. Few of the more institutionalised players in such settings have this level of flexibility.

## Conclusion

Based on the work reported here, we believe the Four Cs represent distinct activities. We also believe they are sequential, leading to higher-order partnering. We clarify these terms based on existing literature and then use a substantial collection of e-mail exchanges to code the various activities. We offer some theoretical insights about the Four Cs, followed by some implications of this work for policy and practice. We specifically discuss international versus host country participation, the usefulness of different forums or vehicles for action, the costs of partnering and necessity to perhaps contract for some activities, and the varying capacity of different stakeholders to engage in one or more of the Four Cs.

We suspect that individual rankings of the difficulty or ‘interorganisational embeddedness’ required for each of the Four Cs, however, might differ based on a number of factors. Our next step for this research is to develop scenarios based on those reported to us in this work and ask various emergency response practitioners to label each scenario (as either communication, cooperation, coordination or collaboration) and rank them in order of interorganisational embeddedness. For example:

- 1) ‘A meeting is held to discuss best practices.’
- 2) ‘A listserv is created to disseminate site visits, locations and beneficiaries.’
- 3) ‘Two donors meet to discuss dividing the country into targeted funding areas.’
- 4) ‘A public-private partnership is subcontracted for debris removal.’

Doing this may clarify whether all types of responders label these activities similarly, and whether responders order the activities in the same way. For example, perhaps the military seems better at coordination than cooperation because coordination is in fact easier for it, or represents a less interorganisationally embedded position than cooperation from its perspective. Moreover, perhaps asking all players to coordinate is not only overly complex but also unnecessary. Some need to coordinate, others do not—instead they need to collaborate or just cooperate and communicate. Also, if lower-level embedded activities lead to higher-order partnering, perhaps focusing on the low-hanging fruit may be a wiser use of time than would appear during crisis moments. Practitioners and first responders might therefore find it worthwhile to focus on lower-level partnering activities, even during those time-critical, chaotic early moments after a crisis, especially if they are specifically contracted and thus staffed or remunerated to do so.

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