Network Governance:
A Case of Disaster Management

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Disaster management presents a formidable challenge for governments because of the extraordinary demands these events impose on the decision-making and service-delivery systems of the communities they affect. Sometimes, disasters exceed the capacity of the governments whose jurisdiction they strike. Thus, the needs of the community during a disaster overwhelm the administrative and resource capabilities of the community's government. The complexity of disaster management requires combining technology, meaningful resource allocation, active information systems, strong institutional capacity, and coordinated implementation and operation. A wide range of activities associated with extreme events requires cross-sector collaborative response and relief strategies. A paradigm shift in disaster management occurs from an individual government's response to network governance including public, private, and nonprofit organizations.

A devastating earthquake in Gujarat, India, in 2001 revealed a need for systematic national disaster management that is capable of responding effectively to the immediate needs of communities and is prepared to coordinate the massive relief efforts required to support recovery. Disaster management is a broad set of functions that go beyond search and rescue, emergency medical services, temporary shelter and feeding, and restoring lifelines. Disaster management includes (1) hazard mitigation to prevent or lessen the impact of the disaster; (2) disaster preparedness; (3) disaster response activities; and (4) disaster recovery (Waugh & Streib, 2006). A need for collaboration was called for at a wide range of levels including government, private, and nonprofit communities. The inter-sector collaborations in responding to the Gujarat earthquake have showed an effective performance for rehabilitation and recovery (The World Bank, 2009).

In this paper we provide an empirical case of network governance and study the disaster management network in Gujarat. The paper addresses the issue of network

effectiveness for disaster management by focusing on the structure of the network governance and the challenges of network management. This paper aims to explore the following questions: (1) What is the structure of the disaster management network? (2) What are the challenges in managing the disaster management network? In conclusion, the paper will present recommendations on how to manage the network effectively.

Network Governance

The term *governance* has achieved wide popularity in the domain of public management. As an organizing concept, the essence of governance generally involves administrative practice and process (Lynn, 2006). To Kooiman (2003), governance refers to the process of policy making through active and cohesive discussion among policy makers who are interconnected through a broad range of networks. By its nature, governance is a process with multiple stakeholders and is a function of the many ways in which individuals and institutions manage their common issues. This process includes actors beyond government, including private and nonprofit organizations. As Rhodes (1996) asserts, in the context of governance, there is no one center, but multiple centers and no sovereign authority. In a broader sense, the concept of "governance" refers to "regimes of laws, rules, judicial decisions, and administrative practices that constrain, prescribe, and enable the provision of publicly supported goods and services" (Lynn, Heinrich & Hill, 2000, p. 3).

These definitions to characterize governance give special attention to the fundamental changes in the role of public management. Peters and Pierre (1998) maintain that governance is about government's changing role in society and its changing capacity to pursue collective interests under severe external and internal constraints. Recent trends of globalization, privatization, and devolution have accelerated these changes. Governance in regard to the effects of the new kinds of arrangement on public management calls for a new concept of public management (Kettl, 2000; Kettle & Milward, 1996; Peters & Pierre, 1998).

First of all, as the government increasingly depends on non-governmental sectors, both for-profit and nonprofit, through collaborative networks, governance is concerned with creating the conditions for ordered rule and collective action. Governance refers to the development of governing styles in situations in which boundaries between and within public and private sectors have become blurred (Peters & Pierre, 1998). As a result, the traditional concept of

public management has changed in the relationship between government and non-governmental sectors.

Second, hierarchical bureaucracies are being replaced by networks that coordinate, negotiate, monitor, and hold accountable a variety of organizations with varying funding streams and levels of authority and responsibility (Kettl, 2000). A growing role of multilayered networks, which Milward and Provan (2000) call "hollow state," (p. 240) is becoming the dominant pattern of management. As Peters and Pierre (1998) note, "Governance is about maintaining public-sector resources under some degree of political control and developing strategies to sustain government's capacity to act" (p. 232) in the face of management tools that replace highly centralized, hierarchical structures with decentralized management environments where decisions on resource allocation and service delivery are made closer to the point of delivery. This change reflects the issue of how government can manage public programs when they consist largely of entities outside the public domain.

The idea of governance seems to be closely related to the analytic concept of network. To many scholars, horizontal networks of public, private, and nonprofit organizations are identified as the new structures of governance, a departure from traditional hierarchical organizations (Bingham, Nabatchi, & O'Leary, 2005; Kapucu, Augustin, & Garayev, 2009). As Frederickson (1999) observes, public administration is moving "toward theories of cooperation, networking, governance, and institution building and maintenance" in response to the "declining relationship between jurisdiction and public management" in a "fragmented and disarticulated state" (p. 702). The idea of governance discussed by Peters and Pierre (1998) also embraces the predominance of network relationships, hybridization of public and private resources, and use of multiple instruments in policy implementation. Given the complexity of the network governance, managing networks effectively presents special challenges.

Network effectiveness is conceptualized as "the attainment of positive network-level outcomes that could not normally be achieved by individual organizational participants acting independently" (Provan & Kenis, 2008, p. 230). A discussion of network effectiveness clearly suggests a greater need for contingency factors. For example, network governance requires a new emphasis on skills such as negotiation and persuasion, collaboration, and coordination (Kettl, 2002; Salamon, 2002). As networks in the public sector

rely on interdependent structures which have informal and formal relationships including exchange, reciprocal relations, common interests, and shared beliefs, public managers need improved skills in communication, negotiation, and collaboration (Bingham et al., 2005; Frederickson, 1999)

Network Governance and Disaster Management

In the complex and turbulent environments of disasters, organizations frequently develop formal and informal relationships in order to work together to pursue shared goals and address common concerns. In recent years, such interorganizational networks have become a prominent aspect of the functioning of many different types of organizations. Given the networked nature of disaster management, their effectiveness depends on several factors such as resource exchange, trust, and communication and coordination among the members of the network.

Organizations may form networked arrangements in order to acquire needed resources. According to the resource dependence theory, resources are critical for organizational survival, and there are a number of motivations for organizations to be a part of a network. One of these motivations is resource acquisition. Resources have attributes that are both tangible and intangible. While tangible resources are material ones like funding, intangible resources include information, reputation, power, influence, and so forth (Huang & Provan, 2007; Thompson & Perry, 2006).

The flexible and horizontal relationships created through networks are forms of organizational relations and can be utilized to identify better ways to respond to disaster situations. Networks are considered to be flexible, efficient, and innovative organizing hybrids that enable participants to achieve something collectively that could not be accomplished individually. Considering these organizational characteristics, network governance lacks authoritative structure or hierarchical divisions of labor. In dealing with collaborative tasks, participants are not only directly responsible for reaching an agreement but must also impose decisions on themselves (Thomson and Perry, 2006). Therefore, networks have a distinctive way to communicate as they are open to sharing resource or information, show respect for others' opinions, and can reach agreement through potentially lengthy negotiations and deliberations.

Literature suggests that factors such as trust and communication are important for effectiveness of network governance (Provan & Kenis 2008). Networks require

a high level of trust among participants. Scholars conclude that trust is a critical component of collaboration. Trust is "an aspect of a relationship that reflects the willingness to accept vulnerability based on positive expectations about another's intentions or behaviors" (Provan & Kenis, 2008, p. 237). Trust is a key element in network governance, but trust building takes an inordinate amount of time and nurturing. The existing relationship plays a pivotal role because it is through the collaboration that participants judge the trustworthiness of other partners and the legitimacy of the collaborative networks. In contrast, if a prior relationship does not exist or fails to solidify, a process of trust building is likely to occur in a small and informal way (Bryson, Crosby, & Stone, 2006).

The case of the disaster management network for the Gujarat earthquake shows both the effectiveness and challenges of network management. Though the response to the earthquake is considered a success, knowledge about challenges faced by various members can contribute to increase effective management of a disaster management network. Before presenting the findings of the study, the next section establishes the context for the study and presents the background of disaster management in the state of Gujarat.

The Setting: Disaster Management Network in the State of Gujarat, India

Gujarat State, India, has been traditionally vulnerable to natural disasters such as cyclones, floods, and earthquakes. Most of the recurrent disasters come from its unique geo-climatic conditions. The catastrophic phenomena impact millions of people across the country leaving behind a trail of heavy loss of lives, property, and livelihoods. The challenge that the Government of Gujarat faces is to manage and coordinate a comprehensive multi-sector program, aimed at rehabilitation and recovery for the disaster-affected areas.

On 26 January 2001, a giant earthquake hit the western Indian State of Gujarat. At least 20,000 people were dead, 300,000 injured, and more than a million homes destroyed. The earthquake was recorded as the worst in India since the 1737 Calcutta earthquake, in which 300,000 people were killed (UNDP, 2001). After the earthquake, ad hoc response arrangements were made. The Government of Gujarat quickly began emergency rescue operations and initiated efforts to restore lost communication links, electricity, water supply, and civil supplies. The state and central government mobilized 36 units of army engineers, 34 companies of

paramilitary personnel, over 3,000 police, 2,600 homeguards, 480 engineers, over 120 senior administrative officers, and 11,000 employees from different departments in the relief operations (UNDP, 2001; The World Bank & ADB, 2001).

However, due to the magnitude and scale of the earthquake, massive relief operations were beyond the government's own capacity, and required overwhelming quantities of aid from the non-governmental sector and the international community. On 8 February 2001, the Government of Gujarat formed the Gujarat State Disaster Management Authority (GSDMA) to implement the reconstruction and rehabilitation programs. The GSDMA is the nodal agency that coordinates the comprehensive earthquake recovery program. With the formation of GSDMA, the Gujarat Earthquake Rehabilitation and Reconstruction Project (GERRP) was conducted. The GERRP followed a series of implementation strategies for the objective assessment of rehabilitation needs and the rehabilitation program. The implementation of the GERRP stimulated a collaborative networking among governmental agencies, NGOs, private sector, community society, and international organizations, replacing the government's sole efforts with cross-

sector collaborations (GSDMA, n.d.).

In order to identify the damages and immediate needs, the international community responded by sending a five-member UN Disaster Assessment and Coordination team on January 27, the day following the disaster. The UN Disaster Management Team (UNDMT), boosted with staff from the United Nations Development Programme (UNDP) Emergency Response Division, was also deployed immediately to coordinate the UN response. The team established an On-Site Operations Coordination Center (OSOCC) within the District Collector's compound in Bhuj, the earthquake-affected area. The OSOCC enabled the development of a close working relationship and a continuous exchange of information between the Chief Relief Coordinator, the Collector and the UN system. The OSOCC also included the World Health Organization (WHO) Disease Surveillance team to offer medical services and the World Food Programme (WFP) to provide relief food provisions (UNDP, 2002; The World Bank & ADB, 2001; The World Bank, 2009).

The World Bank and the Asian Development Bank (ADB) jointly undertook a preliminary assessment of damage and reconstruction needs resulting from the disaster. The assessment included a review of

reconstruction priorities, identified the most urgent needs, and outlined a comprehensive recovery strategy. The assessment was conducted through extensive field visits in rural and urban areas throughout the earthquake-affected areas, and widespread consultation with villagers, urban dwellers, NGOs, industries, and UN and bilateral agencies working in the area. The assessment called for a close collaboration with the Indian Government, the Government of Gujarat, and all line departments of the Government of Gujarat (ADB, 2008; The World Bank, 2009). This joint assessment, conducted jointly by the World Bank and the Asian Development Bank (ADB) in collaboration with the governments of India and Gujarat, was a preliminary contribution to the development of a comprehensive recovery strategy.

A variety of nongovernmental organizations (NGOs) joined the reconstruction and rehabilitation programs. The relief effort was centrally coordinated by the Natural Disaster Management Control Room in the Department of Agriculture and Cooperation, which worked closely with the Government of Gujarat. To coordinate the longer-term relief and reconstruction, the state government also established the GSDMA, headed by the Chief Minister. With the guidance and assistance of GSDMA, NGOs immediately mobilized to help communities in accordance with other participants in the recovery project. Local and national NGOs effectively helped people in the disaster-affected area meet their needs and restore their livelihoods. In addition, a local NGO, Kutch Navnirman Abhiyan, acted as the coordinator of NGO activities and developed a reconstruction plan. Extensive cooperation and collaboration between international and local NGOs were encouraged by the state government in order to manage resources and better respond to disaster relief needs (The World Bank & ADB, 2001; The World Bank, 2009).

Method

The research was conducted in the cities of Ahmedabad and Bhuj, Gujarat, India, located in the western part of India. The research was conducted in two phases. The first phase intended to capture the inter-sector collaboration as network by identifying the actors involved in the disaster management through their connections with each other. To do so, first, a tentative list was put together by analyzing different archival sources such as websites, newspapers and reports. The list consisted of 101 organizations as actors that were considered to be "influential," for disaster management. To define the network, this list was then given to the five individuals who are

known in the state in the field of disaster management but were not in the studied network, such as retired officers of a disaster management agency. These individuals were asked to rate the list from 0 to 5, with 5 being the most important actor for disaster management in Gujarat. The list came down to a total of 34 actors. The social network data on communication ties were collected using structured interviews, which were then analyzed using UCINET software to draw the network of the disaster management.

Phase two of the data collection intended to identify factors that are critical for network effectiveness of governance. The semi-structured interviews were conducted with individuals from government and nonprofit organizations involved in the cross-sector relationships for disaster management. The non-probability sample consisted of a total of 30 individuals- 15 from the government, 15 from nonprofit organizations (N=30). The sample from the government consisted of the municipal commissioner, District collectors, District Development Officers (DDO), and officers and staff of the Gujarat State Disaster Management Administration (GSDMA) task force. To get the NGO perspective on issues, directors of NGOs, program managers/leaders, and team members were included. Most of the interviews took 90 minutes to two hours, with a few exceptions. The data was coded for the analysis. Open coding and selective coding techniques were used

(Strauss & Corbin, 1998). The open coding method was used to identify the concepts from the data. Through this technique, characteristics of the categories were defined and discovered in the data. Selective coding was used to integrate and refine categories.

Governance Structure: Social Network Analysis

The findings indicate that response to the earthquake evolved as network governance. The network consists of various organizations from different sectors besides government agencies. The network members were international funding agencies, government organizations, nonprofit organizations and experts from academic institutions. Government actors were policy makers, state leaders, state-level service departments, and district and village-level administration officers. Nonprofit organizations include local and international nonprofit organizations. Table 1 shows the description of the individual organizations that are members of the State of Gujarat disaster management network. The description of the organizations is limited due to the confidentiality agreements made with the organizations. Figure 1provides a visual representation of the State of Gujarat disaster management network.

Both international funding agencies, IF1 and IF2, had funding relationships for disaster management with different regions of India for many years prior to

FIGURE 1
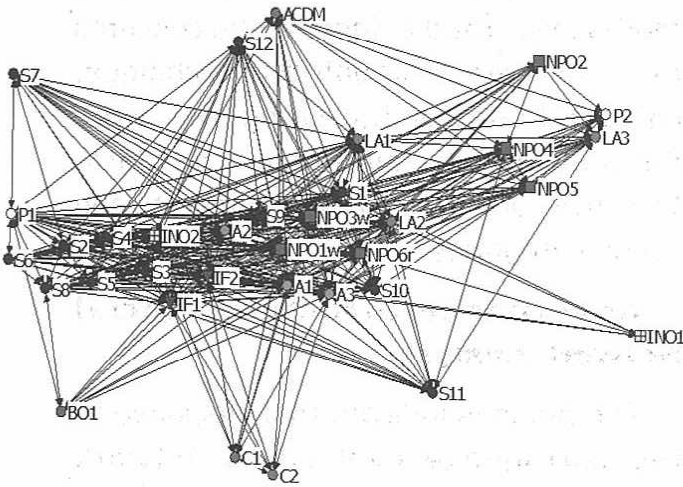
the earthquake. Thus, they became the primary source of long-term funding (three years with a possibility of extension) for the government for the rescue and rehabilitation efforts. Government collaborated with nonprofit organizations and directed these funds for rehabilitation efforts at the grassroots level. To understand the intricacies of the network, it is vital to unravel the importance of actor A3, the disaster management agency. According to the policy document of the disaster management agency (Authority 2001), the role of the agency is to plan for disaster management, manage disaster management funds, coordinate disaster management efforts, and monitor disaster management efforts. However, the head of organization A1 held two positions; one as secretary to a political leader of the state P1 and another as leader (appointed by political leader) of A3. Interestingly, political leader P1 appointed his personal secretary as a leader of the disaster management

agency A3, so that P1 could have direct involvement and oversight in decision making.

All of the nonprofit organizations (NPO actors) in the network have been working in the State of Gujarat for more than ten years. All of them have past working experiences and a presence in the disaster affected region. International developmental organizations INO1 and INO2 had been working in the region prior to the disaster. They each had their own projects, but also collaborated on projects with local nonprofit organizations in the region. In most of the cases, INOs did not channel their funding through government agencies. Instead, they collaborated as funding partners with nonprofit organizations directly.

The majority of the service agencies (S actors) mainly worked with government in the immediate phase of rescue and rehabilitation in order to restore basic amenities such as water, electricity, telecommunications, etc. However, actor S9 had a different role compared to others. Actor S9 dealt with all previous disasters prior to the creation of a separate agency for disaster management (A3). As a result, S9 not only performed its agency specific role but also shared some disaster management responsibilities with A3.

In a nutshell, response to the disaster evolved as network governance between government and nonprofit organizations for the rescue and recovery phase.

According to a report by the World Bank (2009), the disaster management of Gujarat state has been characterized as effective. However, the networked response that demanded multi-sector collaboration for disaster management also had its own challenges. The following section discusses the findings from the interview data analysis and presents these challenges in managing the networked governance.

Challenges for Network Effectiveness

In this section, the results of the interview analysis are presented. Three major challenges for network effectiveness are identified in the network governance of disaster management: (1) unclear understanding of roles and responsibilities; (2) difficulty in building trust; and (3) lack of effective communication.

Unclear Roles and Responsibilities

All 30 participants acknowledge that cross-sector collaborations are vital for disaster response. A majority (N=30, 80%) of the leaders indicated that when collaborations take place, roles and responsibilities of government and nonprofit organizations are not always explicit. Though it is understood that government will function as facilitator, the role and specific responsibility is not outlined; therefore leaders independently assume, according to their individual perception, what role government will play and what role nonprofit organizations will assume. This leads to an unclear understanding of the responsibilities. Thus, one of the nonprofit leaders mentioned the lack of clear goals when explaining his experience with coordinating meetings organized by government as a first response.

"It was a very frustrating experience. We were surprised when the head of the host agency asked us to start the meeting and let him know that 'why we were getting together today (agenda).' We were expecting him to come up with some plan for the facilitation and coordination for the joint actions between NGO-NGO and NGO-government for the disaster relief and rehabilitation."

Similarly, a head of one of the government agencies stated:

"We understand our role as a facilitator. NGOs are responsive. It is really nice of them to take initiative; however, they did not come up with a plan on how to co-ordinate the efforts. They depend on us [government] to establish the plan. This is a little difficult as government can only facilitate the meeting. We can help all the NGOS get together for meetings, but actual work can be done only by them [NGOs]."

Nonprofit collaborators raised the concern that although the government took the role of the facilitator there was no clear plan and there were no set goals to be achieved. Many times, all the organizations that are a part of the disaster management network have different stakes in the collaboration. As a result, if goals are not explicitly set, members work according to their own preferences. The interaction with nonprofit members is more driven by the individual perception of the government administrator, as the role of government is not explicitly clear at all levels of the government officers. The primary reason for such confusion is the absence of a disaster management plan prior to the occurrence of disaster. Government and nonprofit organizations lacked the leadership and strategic planning to manage the unforeseen crisis through cross-sector collaboration employing a networked approach. A nonprofit leader reported that

"Both sectors lack the strategic and visionary leadership to deal with the crisis. There is no upfront strategy on how to deal with disasters and how to collaborate, what role an organization could play depending on its mission and scope, what role government can play. It is almost impossible to come up with a spontaneous collaboration strategy after the disaster has occurred. Unclear roles and responsibilities end up wasting time and resources for cross-sector collaborations."

Government plans and policies indicate the roles and responsibilities of members in the network along with mandates that are important for crisis management. Policies and procedures are crucial information resources which need to be shared among participating members of the network. However, eleven out of fifteen (N=15, 73%) nonprofit network members mentioned that administrators at all the levels are not aware of the various provisions made in the policy. Thus, at times projects proposed by network nonprofit partners are rejected because they do not meet the policy guidelines. The members of the network face challenges in working with some members who have an unclear understanding of the government policies and procedures. For example, nonprofit leaders who want to take advantage of policy provisions struggle with agency officers in some instances. This mainly happens at the local level where officials are not aware of the provisions available for nonprofit partners. A nonprofit leader heavily engaged in the process of asking for permits and clearances mentioned that

"Top-level officials always know what rules and policies exist. It's the middle

level administrators who are not aware of this. These middle level officers are many times not cooperative because they find themselves caught between upper level administration and NGOs."

This disjoint creates confusion and drains time and resources from the network efforts for disaster management. Due to the top-down power structure of the government, middle level administrators receive information about new policy provisions from their higher officials. On one hand, upper levels, at times, do not inform local administrators about the changes, and on the other hand, nonprofit partners pressure them to implement the changes. Participants also reported that at times nonprofit partners bring attention of the administrators to the changes in the rules or new policies. In such cases administrators are skeptical about such new rules or provisions as they are introduced to them not by their superiors but by the nonprofit partners who are benefiting from the change. Therefore, first, officers must verify policy and provisions with the district level administration and then respond to the nonprofit organizations. This is time consuming and adds to the bureaucratic procedures. Also, 20 out of 30 individuals from government and nonprofits mentioned that once the policy is identified, its interpretation is a problem.

The language used in policy documents remains ambiguous. Each individual interprets it in a different manner. This creates problems in the interaction, as members of the network are tempted to infer the meaning that benefits their own organization. Thus, the lack of awareness about the policy and procedure poses challenges for defining roles and responsibilities of network members for the disaster management network.

Another issue about the unclear roles and responsibility is related to the language of formal contracts. A legal procedure of contract writing takes place to formalize the partnership between the NGO and the government. The government is supposed to draft the document, which indicates the responsibilities of both the parties in the collaboration. This document should be signed by the nonprofit agency accepting the roles and responsibilities as collaborator. However, the government does not sign any document, nor does it provide clear guidelines about its role and responsibility in the collaboration within the formal contract document. One of the directors of an NGO raised his concern during the interview that on many occasions, government prefers to leaves the spaces of the deadlines blank for the tasks that it is responsible for and it requires persuasion to get them to pin

down their commitment on paper. This made the NGO officers skeptical about the government's commitment for the networked efforts. Such persuasion not only wastes time and resources but also generates the environment of lack of trust among network members. He further said that,

"The experience of working with government and bureaucracy is very frustrating. If given a choice, I would wish to escape from such partnerships; however, it is very important especially now (after a massive disaster) that GO-NGO should work together and try to have trustful sincere interactions...that is why I am inviting partnerships"

Furthermore, the issue of frequent transfer of the government officers adds additional challenges for the entire disaster managing network. Twenty-two out of 30 (N=30, 73%) individuals from both government and nonprofit sectors mentioned that transfers make the long-term rehabilitation process less efficient. Government collaborators reported that they are not able to work efficiently because they need some time to grasp what is happening in the region. Newly appointed officers need to understand the assigned roles and responsibilities of each member of the network from different sectors. By the time government officers get familiar with the nonprofit partner and

their working styles in the region, they are transferred to another office. Nonprofit partners pointed out that each new administrator who takes charge has his own priority and way of working. As a result, there is no consistency. The culture of the agency changes as the leader of the organization changes. NGOs have to adopt these changes and pave their way with the administrators in a short period of time. This frequent transfer also affects the level of trust and comfort for both NGOs and GOs in working together. Frequent transfers create a turbulent unstable environment that breaks the consistency of the efforts by wasting time and resources and ends up in the loss of efficiency.

Ten (N=15, 67%) government officials reported during the interview that due to the massive magnitude of the disaster and with no guidelines for disaster response, it was not possible for them to come up with any long-term plan and their focus was immediate rescue of victims. However, after the immediate rescue phase, government has taken steps to formalize its role in the collaboration with other sectors for rehabilitation. The government initiated an 'owner-driven approach' under a 50-50 Government-NGO partnership program. NGOs and corporate organizations were welcomed under a public-private partnership

program with these agencies sharing the cost with the government by at least 50%. The government decided to provide resources (in the form of financial compensation and cheaper building materials) and owners of the houses are supposed to undertake reconstruction, with the help of NGOs. One officer from a nonprofit organization reported that after the immediate rescues, "In the rehabilitation phase, all the organizations had decided the outreach of their work and the kind of service they will provide. Government has helped us in identifying the beneficiaries and helped us with the needs assessment."

Individuals from both sectors reported that although things got better in the rehabilitation phase, clarity of roles and responsibilities—clarity about who is accountable to manage, monitor and evaluate the disaster management efforts— poses a challenge for the cross-sector collaborative efforts. Organizations were intertwined in the complex relationships in the disaster management network, and formalization of all kinds of joint actions was not always feasible due to the crisis situation. This calls for clarity in roles and responsibilities at the time of collaboration in the network to make it more effective.

Lack of Trust

The lack of trust among the collaborators from two different sectors, both government and nonprofit, was clearly apparent. A majority (N=15, 65%) of the government officers indicated that the NGOs should be transparent to gain the trust from government agencies. According to one government agency leader,

"There are many fraud NGOs. It is hard to trust all who come to us for joint actions. NGOs are very enthusiastic about the project proposal, but in many instances, they do not have the same enthusiasm about the follow-up. In most of the cases NGOs finish the projects, but it is difficult to decide which is the right one for the joint actions."

The government officials are skeptical because, in some instances, they have experienced self-serving motives of the nonprofit organizations rather than genuine public service partnerships. As the number of nonprofit organizations grew, concern grew about the issues of transparency and accountability. This was mainly because of two possible scenarios that present unethical motives behind creating an NGO. First, an NGO might have been formed by a politically influential individual as a cover up for their corruption or, second, it can be formed by a for-profit organization to take the tax advantages by providing minimal

services. Such cases leave government with distrust for the motives of NGO that seek their partnership. Government officers mention that if nonprofits provide all the information and documents to the government and are transparent, it will help government to believe in them when they collaborate.

Another reason for the low level of trust mentioned by government leaders was the opportunistic attitude of nonprofit organizations. According to government leaders, occasionally nonprofit organizations handle projects in which they are not specialized. Nonprofit leaders collaborate with government on projects outside of their area of expertise, only for financial sustainability. In such instances nonprofits overestimate their ability, where in reality they do not have enough knowledge or resources to expand their scope of work by collaborating on such projects. This results in inefficiency and often results in failure. According to government leaders, nonprofit leaders should strategically opt for projects in their field of specialization:

"Otherwise it becomes hard to get the desired output from networked collaboration. In most of the cases government is always to blame for the failure, and falsely labeled as not responsive to the needs of victims. But that is not always the real reason; NGOs could be the reason too."

As indicated in the above mentioned quote, government administrators also felt that nonprofits do not give due credits to government when the joint project is successful, but they quickly blame government for the failure. Due to the grassroots connection, nonprofits have higher presence in the field and stronger connections with the public than government. Nonprofits at times take advantage of such visibility at the local level, and do not publically acknowledge the role that government plays in the projects. According to a government administrator,

"NGOs in the village claim that they are the ones who think about betterment for the village. They do not share the credit for success with the government. Villagers see only NGO workers working on site, however, in most of the cases government is a financial partner for a project. Villagers will know little, if the NGO will not announce that government also has some share in the success of this project."

A majority (N=15, 60%) of the nonprofit leaders assert the similar trust and transparency issue for government. Nonprofits have very little trust in the government and its sincerity to play the assigned role in cross-sector collaboration. It seems from the interview analysis that many times government

officials do not keep the deadlines for supply of materials or take too long to give clearance to the projects. This reduces the level of trust. Nonprofit leaders have to deal with many layers of bureaucracy. Many times nonprofit leaders experience attitudinal barriers and lack of trust from the government officials. 9 out of 15 nonprofit leaders also mentioned that frustrating past experiences in dealing with government also creates some pre-notions in nonprofit leaders, which reduces their trust levels when working for the cross-sector partnerships. However, nonprofit partners also indicated that trust can be developed based on positive collaborative experience by working together more. According to a nonprofit leader,

"Once the trust is established between the NGO and government, it is very easy to work with them. To develop the trust, we kept our books open. All our financial information was available to the government. We also have trustworthy relationships with the people of the villages in which we work. All this demonstrates how trustworthy we are. The more you work with the government the more they trust you."

Communication

Communication is another challenge faced by members of the disaster management network. During the time of crisis the environment is very vulnerable and turbulent. Timely response to the disaster remains a difficult task, with no pre-existing plan, and where the majority of the population lives in the rural settlement with inadequate communication facilities. Leaders of government and nonprofit organizations both reported a lack of timely and clear communication. In the opinion of one of nonprofit leaders, "participants of the joint actions have not communicated often enough to avoid duplication of the rescue and rehabilitation effort." Government and nonprofit leaders mentioned that communication on a regular basis was missing. Communication took place only when need for resources or information arises. Communication rarely took place for the updates on projects undertaken as a joint action. Officers from government and NGOs communicate only when they need something from the other. A nonprofit leader reported that "some administrators call us only when they need reports to show to their higher officials. They do not have a genuine interest in the joint actions." An administrator from the government agency reported that,

"Some NGOs are very communicative in the beginning when they are starting the project. They communicate with us frequently when they are asking for

resources. Once the joint actions are formed they do not bother to report to us on a regular basis. It is unfair to forget us once the resources are allocated to them. But not all are like that; some NGOs brief us and keep in touch with us even if we are not in partnership."

Data analysis indicates that a majority (N=15, 83%) of the nonprofit leaders have raised their concerns about the communication and lack of responsiveness from the government officials. Their experiences have been frustrating and time consuming as in most of the cases staff from the NGOs need to go through long chains of communication of the bureaucracy, which is very time consuming and takes a lot of energy and resources.

Discussion

The overall performance of the network governance in responding to the Gujarat earthquake has showed effectiveness (ADB, 2008; The World Bank, 2009). The government performed rescue operations in a close relationship with many of the international organizations, local NGOs, and private entities. Through networked governance, the government successfully responded to the disaster and managed recovery efforts efficiently.

In this successful response, government played a key role as a lead organization in the network governance. Based on the findings, we found that the structure of disaster management networks is relatively centralized; the governmental agency has the most power and resources, and the rest of the nonprofit organizations participate in the networks. International funding agencies played an important role as funding agencies and coordinated and monitored the networked efforts of government and nonprofit organizations. Most participants from nonprofit organizations acknowledged that government functioned as facilitator in a variety of activities such as making meeting arrangements. However, some problems were identified with the lead organization's role in response to the disaster. Nonprofit network members also raised concerns that though government took the role of the facilitator there was no clear plan or no set goals to be achieved prior to the disaster. This has led to chaos in the efforts and confusion of roles and responsibilities. Many times, all the organizations that are a part of the disaster management network have different stakes from the collaboration. As a result, if goals are not explicitly set, each member works according to their own preferences. The interaction with nonprofit members is more driven by the individual perception of the government

administrator, as the role of government is not explicitly clear at all levels of the government officers.

This presents challenges to effectively manage the networks for disaster management. Lack of clarity in roles and responsibilities, difficulty of trust-building, and poor communication are discussed as major issues in managing the collaborative networked efforts. Roles and responsibilities of government and nonprofit organizations are not always explicit. With no consensus on network goals, government and nonprofit organizations lack leadership and strategic planning to manage unexpected crises through inter-sector collaboration for disaster management. By focusing on immediate rescue operations, there is no long-term plan or guideline to follow. As a result, coordinating disaster management efforts at the time when disaster hits is not easy. Findings also indicate a close relationship between network effectiveness and trust. It is important that a memorandum or contract agreement should be signed by both government and NGO to define their roles and responsibilities clearly. This will increase the accountability and transparency in the relationship. In the long run this will establish trust among the members of the two sectors.

Now that the challenges in managing networks effectively are identified, what recommendations are appropriate for network governance for effective disaster management? Based on our findings, we present recommendations as follows: the disaster management network members, both government and nonprofit, should reach an agreement on roles and responsibilities of each in the initial phase; the network-level goals should be closely aligned with the lead organization's goals; government policies, procedures, and laws should be clear and

shared among all participating organizations; communication in cross-sector collaboration should be a routine and regular dialogue; and culture to build trust between government and nongovernment agencies should be encouraged. These issues should be discussed and thought about during the non-crisis situation. The plan should be in place with full details for all three phases of rescue, recovery, and rehabilitation. Long-term planning that is developed in agreement with members from all sectors is a key for effective network governance in disaster management for the future. These recommendations provide knowledge to stakeholders of networks such as policy practitioners and nonprofit organization leaders to develop a local disaster management plan and effective network governance.

Conclusion

This paper explores the structure of a disaster management network from the network governance perspective and presents challenges in managing networks effectively. In conclusion, the analysis suggests that the networks with interactive resource exchanges and clear communication are more likely to be effective because the participants have a clearer picture of the network activity and communication flows. Whereas networks with ambiguous information or poorly understood communications are more likely to fail during a disaster or emergency situation. Trust-building is identified as a key for successful disaster management network. It is a hope that challenges identified in this research in the network governance for disaster management will help policy makers and public managers to enhance their capacity and provide better network governance in the future situation of crisis.

References

Agranoff, R. (2006). Inside collaborative networks: Ten lessons for public managers. *Public Administration Review, 66*, 66-75.

Asian Development Bank (ADB). (2008). *India: Gujarat earthquake rehabilitation and reconstruction project*. Retrieved from http://www.adb.org/Documents/PCRs/IND/35068-IND-PCR.pdf

Bingham, L. B., Nabatchi, T., & O'Leary, R. (2005). The new governance: Practices and processes for stakeholder and citizen participation in the work of government. *Public Administration Review, 65*(5), 547-558.

Bryson, J. M., Crosby, B. C., & Stone, M. M. (2006). The design and implementation of cross-sector collaborations: Propositions from the literature, *Public Administration Review, 66*, 44-55.

Frederickson, H. G. (1999). The repositioning of American public administration. *Political Science and Politics, 32*(4), 701-711.

Gazley, B. (2008). Beyond the contract: The scope and nature of informal government-nonprofit   partnerships. *Public Administration Review, 68*(1), 141-154.

Gujarat State Disaster Management Authority (GSDMA). (n.d.). *GSDMA: An initiative of Govt. of Gujarat*. Retrieved from http://www.gsdma.org/

Huang, K., & Provan, K. G. (2007). Resource tangibility and patterns of interaction in a publicly funded health and human services network. *Journal of Public Administration Research and Theory, 17*(3), 543-454.

Kettl, D. F. (2002). The transformation of governance: Public administration for twenty-first century America. Baltimore: Johns Hopkins University Press.

Kettl, D. F. (2000). The transformation of governance: Globalization, devolution, and the role of government. *Public Administration Review, 60* (6), 488-497.

Kettl, D. F., & Milward, B. H. (Eds.). (1996). *The state of public management*. Baltimore, MD: Johns Hopkins Press.

Kapucu, N., Augustin, M., & Garayev, V. (2009). Interstate partnerships in emergency management: Emergency Management Assistance Compact in response to catastrophic disaster. *Public Administration Review, 69*(2), 297-313.

Kooiman, J. (2003). *Governing as governance*. Thousand Oaks, CA: Sage Publications.

Lundin, M. (2007). Explaining cooperation: How resource interdependence, goal congruence, and trust affect joint actions in policy implementation. *Journal of Public Administration Research and Theory, 17*(4), 651-672.

Lynn, L. E., Jr. (2006). *Public management: Old and new*. New York: Routledge.

Lynn, L. E., Jr., Heinrich, C., & Hill, C. (2000). Studying governance and public management: challenges and prospects. *Journal of Public Administration Research and Theory, 10* (2), 233-262.

Milward, H. B., & Provan, K. G. (2000). How networks are governed. In L. E. Lynn, Jr. & C. Heinrich (Eds.), *Governance and performance: New perspectives*. Washington, DC: Georgetown University Press.

Peters, B. G., & Pierre, J. (1998). Governance without government? Rethinking public administration. *Journal of Public Administration Research and Theory, 8*(2), 223-243.

Provan, K. G., Kenis, P. (2008). Modes of network governance: Structure, management, and effectiveness, *Journal of Public Administration Research and Theory, 18*(2), 229-252.

Rhodes, R. A. W. (1996). The new governance: Governing without government. *Political Studies, 44*, 652-667.

Salamon, L. (Ed.). (2002). *The tools of government: A guide to the new governance*. New York: Oxford University Press.

The World Bank. (2009). *Implementation completion and results report on a credit in the amount of SDR 356.0 million to the Republic of India for a Gujarat emergency earthquake reconstruction project*. Retrieved from http://www-64187510wds.worldbank.org/servlet/main?menuPK=&pagePK=64193027&piPK=64187937&theSitePK=523679&entityID=000333038_20090608014529

The World Bank and the Asian Development Bank. (2001). *Gujarat earthquake recovery program: Assessment report*. Retrieved from http://siteresources.worldbank.org/INDIAEXTN/Resources/Reports-Publications/gujarat-earthquake/full_report.pdf

Thomson, A. M., & Perry, J. L. (2006). Collaboration processes: Inside the black box. *Public Administration Review, 66*(4), 20-32.

United Nations Development Programme (UNDP). (2002). *Gujarat transition recovery team – A synopsis*. Retrieved from http://www. undp. org/cpr/disred/documents/publications/regions/asia/gujaratupdate2003.pdf

United Nations Development Programme (UNDP). (2001). *From relief to recovery: the Gujarat experience*. Retrieved from http://www.undp.org/cpr/disred/documents/regions/asia/gujarat_report.pdf

Waugh, W. L., Jr., & Streib, G. (2006). Collaboration and leadership for effective emergency management. *Public Administration Review, 66*(s1), 131-140.

Weber, E. P., & Khademian, A. M. (2008). Wicked problems, knowledge challenges, and collaborative capacity builders in network settings. *Public Administration Review, 68*(2), 334-349.

Table 1

Number	Actor Code	Actor Description
1	P1	Political leader of the state
2	A1	Secretary to political leader of the state and appointed leader of A3 for 2 years
3	S1	Government unit deals with revenue
4	S2	Government unit deals with finance
5	S3	Government unit deals with home affairs
6	S4	Government unit deals with urban housing development
7	S5	Government unit deals with roads and building
8	S6	Government unit deals with health related issues
9	S7	Government unit deals with irrigation related issues
10	S8	Government unit deals with education and related issues
11	A2	Representative of the State
12	A3	Government unit deals with disaster management
13	S9	Revenue related matters/Office that used to deal with disaster relief
14	S10	Government unit deals with law and order
15	INO1	International developmental organization
16	INO2	International developmental organization
17	IF1	International funding organization
18	IF2	International funding organization
19	C1	Consulting company
20	C2	Consulting company
21	S11	Semi government organization working in housing development
22	NPO1w	Nonprofit organization led by woman
23	BO1	Business organization
24	ACDM	Academic institution
25	LA1	Top local (district) level government administrator
26	NPO2	Nonprofit organization created by a prominent industry
27	NPO3w	Umbrella nonprofit organization led by woman
28	NPO4	Nonprofit organization
29	NPO5	Nonprofit research and training institute
30	LA2	District level development officer
31	LA3	District level representative
32	P2	Village level representative
33	S12	Government unit deals with water supply
34	NPO6r	Faith based nonprofit organization