

CHAPTER II

REVIEW OF RELATED LITERATURE, THEORETICAL FRAMEWORK, AND HYPOTHESES

This chapter presents the related works of literature and studies on disaster collaborative governance. This chapter has four parts. First, the Philippine disaster management disaster response during typhoon is discussed. Second, the literature and studies on collaborative governance which includes the aspects of governance processes and structural configuration of the network are presented. Also, works of literature and studies on social capital and its impact on post-disaster conditions are discussed. Third, the theoretical and conceptual framework is presented and lastly, the hypotheses are shown.

2.1 The Philippine disaster response during typhoons

Upon the enactment of the Republic Act 10121 in 2010, all government units adapted the National DRRM Plan with specific modifications on its operations according to what is appropriate and applicable in the context and capacity of every community. Based on the criteria on the level of implementation during disaster response, the Barangay Disaster Council will respond if a barangay is affected; if two or more barangays are affected the City/Municipal DRRMC will manage the operations; while the Provincial DRRMC will respond if two or more cities/municipalities are affected. In cases where two or more provinces are affected, the Regional DRRM Council will manage the response operations and if two or more regions are affected, the National DRRM Council will direct the disaster management operations (see Figure 2.1).

Figure 2.2 presents the National DRRM Council structure as well as its composition. A similar structure is mirrored in the Local Government Unit's DRRM Council (see Figure 2.3). As shown in

Figure 2.3, the structure of the DRRM Councils in the Local Government Units (provinces, cities, municipalities, and villages). As indicated in Figure 2.3, the Local Chief Executives (Governor or Mayor) head the Council where the Local DRRM Offices enables the affairs of the Council in collaboration with the member-agencies. On the other hand, the National DRRM Council (see Figure 2.3) is headed by the Department of National Defense which is assisted by the Regional Offices of Defense.

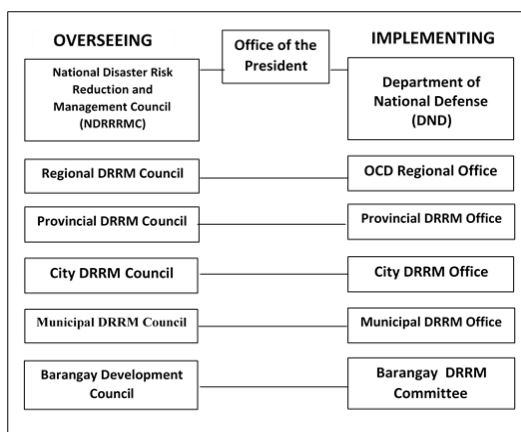


Figure 2.1. The Levels of DRRM Act Implementation

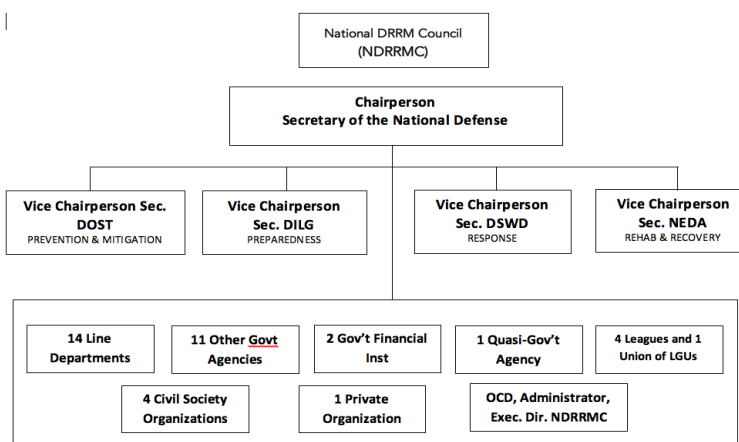


Figure 2.2. The National DRRM Council

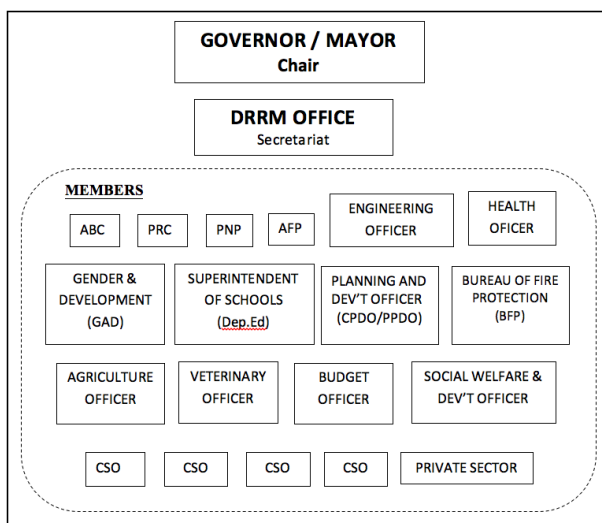


Figure 2.3. The Local DRRM Council

Moreover, to facilitate the response operations, the cluster approach was adopted. The Response Clusters are part of the National DRRM Council's strategic action on providing humanitarian assistance and disaster response services. These are organized groups of government agencies that are designated to undertake coordination functions at the strategic level to provide resource support for a tactical response. The response cluster is composed of nine (9) clusters led by the Department of Social Work and Development being the Vice-Chair on disaster response in the DRRM Council. The response clusters are composed of education, wash health and psychosocial support, logistics support, emergency livelihood, management of the dead and mission, camp coordination and management, search and rescue, emergency telecommunications support and humanitarian services clusters and are led by different government agencies (see Figure 2.2).

In 2014, the Philippine government crafted the National Disaster Response Plan (NRDP) for Hydro-Meteorological Disaster in order to effectively respond to the impacts of natural disasters such

as typhoons. The activities under the NDRP are divided into 3 phases namely: 1) Pre-Disaster; 2) During Disaster, and 3) Post Disaster.

At the outset of the "Pre-disaster phase," the National DRRM Council shall issue alert messages to the public in accordance with the warning message from the designated agencies such as PAGASA for floods, tropical cyclones, and storm surges. Based on the alerts, related agencies shall commence operations. All Local DRRM Councils (Provinces, Cities, and Municipalities) and Regional DRRM Councils shall activate all their Emergency Operation Centers. The Regional DRRM Councils will report the situation on the ground to the NDRRM Council with accounts coming from the LDRRMCs.

Subsequently, augmentation of resources will commence at the "during disaster" phase while the assumption of response activities will commence if there has been no information coming from the affected areas within 6-12 hours after landfall of a tropical cyclone. Significantly, the response clusters are to activate augmentation teams to replace the Prepositioned Rapid Deployment Team/s (RDT) on the ground. The approval for the deployment of support resources is made through the directive of either the Cluster Lead; NDRRMC Chairperson and/or Executive Director and; President of the Philippines. Lastly, "Post Disaster Phase" involves continuing operations which commenced at the "during-disaster phase" and includes activities that lead to the demobilization of resources of the national government which will be determined by the affected LGU in coordination with the Cluster Lead.

Since 2010, the challenges faced by the government during disasters served as a basis for the passage of legal mandates augmenting the disaster management-related initiatives. Table 4.1 shows the summary of the disaster management related-policies.

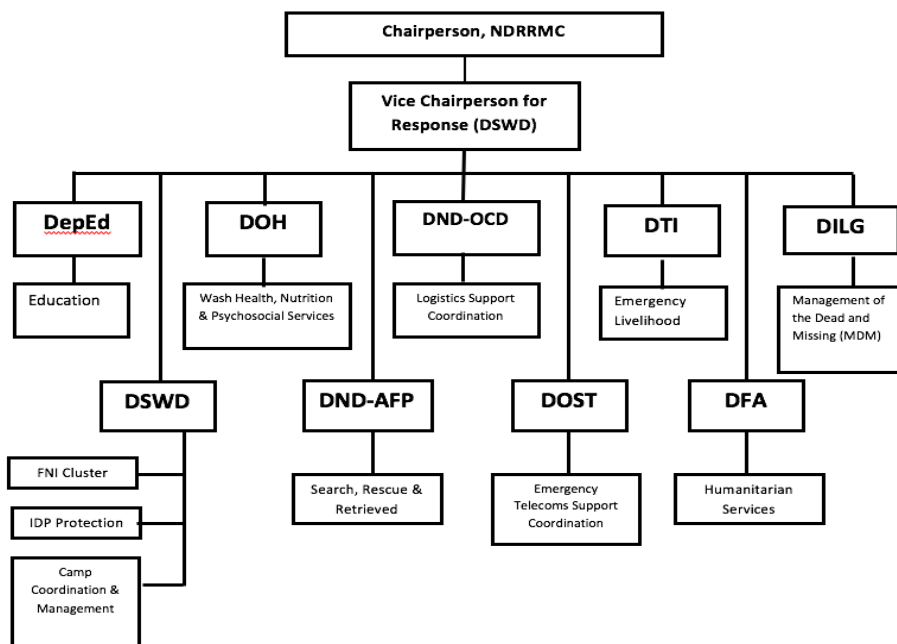


Figure 2.4. The Organizational Structure under the NDRP

Table 2.1. DRRM Related - Policies

Memorandum Circular Number	Agency	Subject
Joint Memo Circular No. 2014-1	National DRRM Council DILG, DBM, Civil Service Commission, DBM	Implementing Guidelines for the Establishment of Local DRRM Offices or Barangay DRRM Committees in LGUs
Memorandum Circular No. 2014-002	Commission on Audit	Accounting and Reporting Guidelines on the receipt and utilization of NDRRM Fund, cash and in-kind aids/donations from foreign and local sources, and funds allocated from the agency's regular budget for DRRM program
Joint Memo Circular No. 2012-002	Commission on Audit	Accounting and Reporting Guidelines for the LDRRMF of LGUs, NDRRMF given to LGUs and receipts from sources
Joint Memo Circular No. 2013-1	National DRRM Council DBM DILG	Allocation and Utilization of the Local Disaster Risk Reduction and Management Fund (LDRRM Fund)
Memorandum Circular No. 2012-73	DILG	Utilization of Local DRRM Fund

In practice, disaster management in the Philippines faced severe damages and challenges on the implementation of Republic Act 10121 in 2010. Rasquinho, et.al (2013) found that the major problems of Typhoon Washi in 2011 were the unreliable communication systems and inefficient equipment and capacities for immediate response. The power outage in the region and the offices in the regional level which was expected to facilitate the entire response operations were affected by flood themselves, thus it undermined their capacities to address the demand for operations (Rasquinho et al., 2013). Similarly, the impacts on the power outage and the lack of access to the affected areas were the main challenges after Typhoon Bopha left the country in 2012. Access Aid International (2013) reported that the entire disaster response operations were delayed because the roads and bridges were impassable and water supply was disrupted in many areas. On the same vein, there was a lack of clarity on who will lead the disaster response operations after Typhoon Haiyan in 2013. Enriquez (2013) explained that the coordination of tasks was unclear and there were “shortages of tents and satellite phones in the first few days after the disaster, which the NDRRMC sourced from other agencies such as Public Works and Highways and the Philippine Navy.”

2.2 Collaborative governance

Social concerns across sectors in the community has better chances of being resolve through collaboration among public and private agencies. Collaboration or sometimes referred to as coordination may also refer to cross-sector collaboration (Bryson et al., 2006), collaborative governance (Ansell and Gash, 2008) or network governance (Provan and Kenis, 2008).

Commonly, governance pertains to the activities and mechanism put in place in the society to address the public goods through public services (road, schools, jobs, food, peace, and order,

etc.). However, due to the growing needs and demands which remained unfixed, public distrust is growing with the belief that the government has been wasteful towards the resources of the state and failed to represent the interest of the public (Hetherington, 2006). Hence, public agencies have "reinvented" itself to be more business-like aiming at focusing on business sector principles of performance-based, client-centric management and output and impact goals that are intended to produce savings and improved public satisfaction (Mazmanian and Tang 2009).

Fung (2015) explained that governance can only be effective to the extent that governance arrangements are capable of solving the substantive problems that they are set to address. On the other hand, the problems of the 21st century go beyond what the democratic governments can do alone: human rights, territorial disputes, peace and order, security and many others. These problems encourage governments to embrace innovations among its mechanisms and strategies to be more effective.

As a concept, collaboration is defined by Schrage (1995) as "a purposive relationship designed to solve a problem by creating or discovering a solution within a given set of constraints." Thus, collaboration occurs across organizational and sectoral boundaries.

With the increasing demand for good governance, Agranoff and Mcguire (2003) pointed out that there have been more public agencies that are involved in the formulation and implementation of policy. Frederickson (1999) consider this as the "declining relationship between jurisdiction and public management" as there are increasingly complex mixes of public and private activities as well as increasing number of structural relationships. Hence, collaboration occurs both vertically (city government works with the policy and regulatory frameworks of state while gaining access to resources) and horizontally (interlocal resources held by

nongovernmental organizations, private agencies, and area local governments) (Agranoff and Mcguire 2003). These collaborations usually overlap, and boundaries are difficult to identify. Consequently, collaboration must be managed in a skillful way considering that the activity and strategy involved in collaboration vary as politics, economy, structural and administrative factors determine the extent and type of collaborative management that must be practiced.

Ansell and Gash (2008) defined collaborative governance as "the process of establishing, steering, facilitating, operating and monitoring cross-sectoral organizational arrangement to address public policy problems that cannot be easily addressed by a single organization or the public sector alone." This means that the government needs to engage in collaborative undertakings with multiple organizations and connections that are necessary in order to carry out public purposes. The theory of Ansell and Gash (2008) on collaborative governance highlights a one-way relationship between the impact of institutional conditions to the collaborative process where the institutional design sets the basic ground under which collaboration takes place. Also, they highlighted the essential role of leadership in providing mediation and facilitation in the governance process. The presence of incentives as well as the advantages of the pre-existing relationship among agencies where trust and social capital is built serve as a primary start of collaboration Ansell and Gash (2008). Interestingly, they suggested that collaborative governance is a cyclical process (non-linear).

Meanwhile, Bryson, Crosby, and Stone (2006) defined cross-sector collaboration as the process of "linking or sharing of information, resources, activities, and capabilities by organizations in two or more sectors to achieve jointly an outcome that could not be achieved by the organization in one sector separately" (see Figure 2.5). This kind of collaboration acknowledges the limitations and

strengths of every sector and the cooperation between and among them complements the functions of each sector. Though ideal, collaboration did not work all the time.

Bryson *et al.*, (2006) postulated that structures among collaborative actions changes and tends to be flexible because of the ambiguity of membership and complexity on local environments. Such ambiguity arises from many features of membership including perceptions of who belongs to the collaboration, and what these members actually represent. Moreover, the hierarchies of collaboration in which individuals and organizations are often members of overlapping partnerships further exacerbated the ambiguity of memberships. On the other hand, governance among networks determines the survival and success of the network or collaboration. Bryson *et al.*, (2006) viewed governance, characterized by the initial agreement, leadership, planning, trust and managing conflict, as a set of coordinating and monitoring activities that occur in the network for it to survive. Apparently, governance is highly dependent on the structure of the network and as Bryson *et al.*, (2006) emphasized, the choice among types of governance structure is likely to influence network effectiveness. The study of Bryson, Crosby, and Stone (2015), suggested that agreements are attained if public managers adopt an inclusive process which is enabled by a flat structure.

Meanwhile, network governance is coined by Provan and Kenis (2008) which refers to the process of attaining positive network-level outcomes that could not normally achieve by individual organisational participants acting independently.” One of their propositions is that structure determines the process of the network. “As trust becomes less densely distributed throughout the network, as the number of participants gets larger, as network goal consensus declines, and as the need for network-level competencies increases, brokered forms of network governance, like lead

organisation and NAO, are likely to become more effective than shared-governance networks” (Provan & Kenis, 2008). On the same vein, Rabb, Manna, and Cambre (2015) explored the way in which network structure, network context, and network governance mode relate to network effectiveness. The results showed that the configurations for network effectiveness included low density and high centralisation as necessary conditions. Nevertheless, high density was a sufficient predictor of network effectiveness while, age, system stability, and centralised integration are necessary but not sufficient conditions for the effectiveness.

Broadly, networks “are structures of interdependence with many or multiple organisations made up many parts wherein one unit is not merely the formal subordinate of the others in some larger hierarchical arrangement” (O’Toole 1997). The network structure is the most noticeable acreage of a network (Anklan, 2007). Jatmiko and Tandiarang (2015) cited Anklam (2007) in explaining the patterns of network structures: centralised; mesh; hub-and-spoke; clusters; and core/periphery. Hence, the structure of the network provides a glimpse of how it is governed and predicts the possible output of the collaboration. The flat and tall structures of the network pertain to the number of hierarchical levels of the organization where the span of control for the tall structure is narrower while the span of control for flat structure can be wider (Dalton *et al.*, 1978).

On the other hand, Dalton *et al.*, (1978) argued that the organization is structured in such a way that it fits its intended functions and therefore, the structure of the organization may vary but ‘they may remain within a reasonable range in which there will be no difference in performance attributable to structure’.

In sum, the findings of the Mazmanian and Tang (2009), Fung (2015), Agranoff and Mcguire (2003) and Bryson, Crosby and Stone (2006) led to the emphasis of the growing need to establish good

governance as there has been increasing distrust among the public towards the capacity of the government to deliver effective and efficient public service due to various cases of unmet public expectations. Ideally, governments are placed in a position to either innovate/improve its mechanisms or face the consequences from the unsatisfied public. Having the latter as more difficult than the former, governments as public organizations embraces intergovernmental and inter-organizational collaborative undertakings by working with stakeholders in order to properly address pressing social concerns which the government alone cannot handle such as natural disaster and other public services – related concerns. Jung, Mazmanian, and Tang (2009) posited that one of the main functions of managers is to build networks and employ effective strategies and mechanisms to ensure the sustainability and success of the network.

Therefore, cross-sector collaboration as utilized in this study refers to the partnerships of two or more agencies and organizations across social and political boundaries in order to mutually and effectively address an unrelenting social concern, where resources and capacities are shared and relationships among partners are sustained and strengthened. Without such partnerships, successful public management is hardly attained.

2.2.1 How does collaboration work?

The characteristics of the institutional environment and the need to address complex public issues often precede collaboration. The failure of efforts to solve a public problem as well as other environmental factors influences inter-organizational relationships and cross-sector collaborations (Bryson, Crosby and Stone, 2006). Meanwhile, the idea of good performance during disasters refers to the “ability to assess and adapt capacity, restore or enhance disrupted or inadequate communications, utilize uncharacteristically flexible

decision making, and expand coordination and trust of emergency response agencies” (Kapucu and Van Wart, 2006).

Primarily, government solutions in forms of policies and regulations are products of either market or sector failure. Lessons from the previous performance which may suggest sector failure, serve as the foundation for committed sponsors and effective champions to emerge, as well as increase the informal and formal agreements in collaboration particularly in terms of composition and accountability (Bryson and Crosby, 2015). Moreover, trust in terms of common bond and confidence in organization competence might have been developed despite the failed efforts towards successful collaboration and can be a basis in starting new collaborative efforts (Rashid and Edmondson, 2011). Meanwhile, the causes and implications of the sector failure may lead to effective measures in managing conflict (Ojo and Abolade, 2014) and planning process (Sial et al., 2011). Thus, the previous performance of the network, which study refers to the Regional DRRM Council’s performance in terms of the targets and the performance indicators established in the Regional DRRM Plan (see Table 2.4 DRRM Council Indicators for Collaborative Effectiveness), may have led to the existing relationship among network member (Takim and Akintoye, 2002). Hence, Hypothesis 1 (1.1, 1.2, 1.3, 1.4, 1.5 and 1.6) is formulated.

Additionally, forging initial agreements by providing incentives and proper motivation mechanisms foster inter-organizational communication and trust, improving inter-organizational network coordination in emergency management response operations (Kapucu, 2006); (Ansell and Gash, 2008); Tang and Tang, 2014). The studies of Mazmanian and Tang (2009) and Tang and Tang (2014) in the field of collaborative management discussed the importance of the right incentives as a motivation and the various dynamics that went with it. The former suggested that the collaboration can be analyzed by looking into how agencies and

organizations perceive collaboration, their intentions and willingness to collaborate. On the other hand, incentives and other motivation schemes should be implemented according to the right sequence and manner to be effective (Tang and Tang, 2014). Rainey and Steinbauer (1999) and Wright et al., (2014) explained public service motivation as “a general altruistic motivation to serve the interests of a community of people” and self-sacrifice, as an aspect of public service motivation, makes an individual commit to organizational change (Wright et al., 2014). Therefore, providing the right kind of motivation demands a careful understanding of what the organization needs and what inspires its members. Since providing appropriate motivation mechanisms can lead to better performance, the initial agreement is considered in this study (Hypotheses 2.1, 2.2, 2.3, 2.4 and 3.1). This study measures initial agreement in the context of the motivation of the stakeholders and implementers in terms of altruism, organizational goal, or increasing the legitimacy of the organization (Shortell et al., 2002).

Moreover, managers need to understand and work strategically within the institutional environment and build capacity across boundaries through rigorous structures and processes with the extra commitment and coordination required to work across agency boundaries towards a successful cross-agency collaborative management and good network outcome (Fountain, 2013). Crucial to the success of the collaboration is the operationalization of each member's responsibility in order to continue the work and accomplish the goal despite the absence of leadership. Lester and Krejci (2007) explained that during disasters, the person exercising leadership is more important than the person who is authorized to lead. On the other hand, poor communication, misguided and poorly executed leadership, lack of contingency plans and insufficient coordination with various stakeholders as well as insufficient preparation among communities, lead to collaborative failures (Menzel et al., 2006; Walters and Kettl 2005; Wise, 2006) or sector failure (Bryson,

Crosby and Stone, 2006). Thus, the hypotheses 2.5, 2.6, 2.7 and 3.2 are made. This study measures leadership using six (6) indicators with a 5-point scale: vision, self-leadership, motivating and inspiring others, empowering people, collaborating and influencing and creativity and innovation (<http://www.stepintoleadership.info>).

Significantly, Kapucu (2005) noted that effective response and recovery operations require collaborations and trust between government agencies at all levels and between the public and nonprofit sectors. Generally, trust refers to a person's confidence in the reliability of another person with respect to certain outcomes while the shared confidence held by the members an organization is called inter-organizational trust (Giddens 1990, Zaheer et al. 1998, and Rashid and Edmondson, 2011). Interdependencies among agencies and organizations through interactive processes such as face to face dialogues increases trust, builds social capital and can develop into collaborative culture which substantially increase the speed of decision making and can lead to successful collaborations (Ansell and Gash, 2008, Mazmanian and Tang, 2009; Paraskevopoulos, 2010; Kapucu, Arslan, & Demiroz, 2010; Emerson et al., 2012; Shaw and Goda, 2004; and Shimada, 2015). Thus, this study considers trust, which is measured in terms of integrity, competence, and dependability (Paine, 2003), as one of the aspects of governance aspects. In doing so, Hypotheses 2.8, 2.9 and 3.3 are tested.

Meanwhile, the division of labor and the different functions of the organizations in the network influence the attitude and behavior of the members and inevitably creates conflict. Thus, the interpersonal skills of the members and their relationship to the organizational integration should be looked into (Lawrence and Lorsch, 1967). Moreover, Bryson et al (2006) elucidated the factors that influence the sustainability of the collaboration process: type of collaboration, power imbalances among members, and competing for institutional logics within the collaboration. Huxham and Vangen

(2005) believe that the power imbalances among collaborating partners cause mistrust and it has the tendency to worsen in cases of difficulty among partners in agreeing on a shared purpose. Hence, power imbalances and competing for institutional logics are a threat towards effective collaboration but with tactics such as strategic planning and scenario, development collaborations will likely to succeed (Bryson et al., 2006). Thus, managing conflict, which is measured using the indicators related to team focus, personal style and action orientation (Managing Conflict at Work, CIPD), is considered in this study (Hypotheses 2.10 and 3.4).

Lastly, effective and emergent planning facilitates disaster management. It is argued that planning process should be participated by the leaders of the institutions involved in the disaster operations if not, these leaders will attempt to assert themselves into the disaster situation despite earlier agreements put in place by subordinates or predecessors, putting all disaster plans in vain (Lester and Krejci, 2007). The disaster response operations during the World Trade Center attack, Hurricane Andrew, and Katrina, revealed major challenges which include poor or nonexistent planning, incompetent managers, political inattention before the event, and political squabbling afterward (Kapucu and Van Wart, 2006). Thus, contingency plans can lead to successful collaborative disaster management (Hypothesis 3.5). Planning as used in this is measured using the following indicators: Conduct Comprehensive Needs Assessment, Determine Objectives and Strategies, Plan Implementation, and Evaluation (Organizational Planning Tool, <https://s3.amazonaws.com/>).

Given the complexities of cross-sector collaboration, what are the possible outcomes and how could it be assessed?

2.2.2 Collaborative Outcome and Accountabilities

The public value followed by resilience and reassessments are the ultimate goal of collaborative engagements (Bryson et.al., 2006). Public value commonly advances when collaboration is built on individuals and organizations' self-interests and sectors' strengths while finding ways to minimize, overcome, or compensate for each sector's weaknesses. Agranoff (2007) cited Moore (1995) expounded that collaboration results need to be assessed because any loss in efficiency due to political, institutional, or technical pressures diminishes public value. Consequently, we should be impressed by the idea of collaboration only if it produces better organizational performance or lower costs than its alternatives do (p. 17). This means that the performance criteria may or may not include some measurable outcome. In many cases, the outcomes can be further collaboration. On the other hand, Provan and Milward (2001) argued that networks must be judged by the communities they are trying to serve, their viability in the community in meeting organization partner expectations, and in those broader values that accrue to participant members and organizations. Hence, the idea of social capital is explored.

Social capital is commonly defined as “the features of social organization, such as trust, norms or reciprocity, and networks of civic engagement, that can improve the efficiency of society by facilitating coordinated actions” (Putnam et al. 1993). Social capital also refers to the “social networks, the reciprocities that arise from them, and the value of these for achieving certain goals” (Schuller et al. 2000). Cohen and Prusak (2001) define social capital as “the trust, mutual understanding, and shared values and behaviors that bind the members of human networks and communities and make cooperative action possible”. Ada & Bolat (2010) argue that social capital “facilitates a flow of information providing a basis for action and assisting in individual and community goal attainment”.

There are three forms of social capital: bonding, bridging and linking (Gitell and Vidal 1998; Szreter and Woolcock 2004). Bonding social capital refer to relationships among members of a network who are similar in some form such as demographic, social or ethnic status, or among community's individual who already know each other (Putnam 2000); bridging social capital refers to relationships among people who are dissimilar in a demonstrable fashion such as age, socio-economic conditions, race or ethnicity and education (Szeter and Woolcock 2004); and linking social capital is the extent to which individuals build relationships with institutions and individuals who have relation power over them such as to provide access to services, jobs or resources (Woolcock 2001). Hawkins and Maurer (2009) noted that linking social capital is the result of the weakest relationship but the most valuable outcome, as linking provides access and connection to power structure and institutions. Unlike bonding, it is bridging and linking that are characterized by exposure to and development of new ideas, values and perspectives (Hawkins and Maurer 2009).

Meanwhile, disaster response and recovery emphasized the importance of social capital in all the disaster related process. LaLone (2012) defined social capital as the potential resources in goods, labor, and other forms of assistance, that are embedded in local-level social networks of family and neighbors, and other groups formed through place based, work-based, and common interest-based bonds of interaction, trust, reciprocity, and support, that people can mobilize individually and collectively to use for community resilience in the face of disasters. Her research revealed that social capital was mobilized using a mixture of long-standing social norms and networks along with twenty-first century modes of technology that extended, and perhaps speeded up, the mobilization process. Lalone explained that mobilizing social capital by calling public assistance needs enough preparation and planning in managing the influx of

resources in order to avoid chaos and one limitation of social capital support is that it becomes harder to sustain over an extended period of time beyond the disaster (2012).

In this study, social capital as the outcome of collaborative governance is also measured using the Qualitative Tools designed by Dudwick et al. (2006) in measuring the six dimensions of social capital: a) groups and networks; b) trust and solidarity; c) collective action and cooperation; d) information and communication; e) social cohesion and inclusion; and f) empowerment and political action. For this research, our focus is only on the dimensions of trust and solidarity and the social cohesion and inclusion.

Trust and solidarity as a dimension of social capital pertains to “the extent to which people feel they can rely on relatives, neighbors, colleagues, key service providers, and even strangers, either to assist them or (at least) do them no harm” (Dudwick et al. 2006). Commonly, trust reflects dependency and not just a mere choice hence, distinguishing trust from dependency is important for understanding the range of people’s social relationships and the ability of these relationships to endure difficult or rapidly changing circumstances. Kuehnast and Dudwick (2004) offered two matrices in measuring social trust as they studied the social networks in the Kyrgyz Republic.

Moreover, social cohesion and inclusion focus on the tenacity of social bonds and their dual potential to include or exclude members of the community. Cohesion and inclusion can be demonstrated through community events, such as weddings and funerals, or through activities that increase solidarity, strengthen social cohesion, improve communication, provide learning for coordinated activities, promote civic-mindedness and altruistic behavior, and develop a sense of collective consciousness. Meanwhile, institutional analysis can offer insight into which

institutions support or undermine local cohesion from the perspective of different groups.

On the other hand, Provan and Kenis (2008) explored the concept of network governance and its impact on network effectiveness. They defined network effectiveness as the attainment of positive network-level outcomes that could not normally achieve by individual organizational participants acting independently.” One of their propositions is that “as trust becomes less densely distributed throughout the network, as the number of participants gets larger, as network goal consensus declines, and as the need for network-level competencies increases, brokered forms of network governance, like lead organization and NAO, are likely to become more effective than shared-governance networks” (Provan & Kenis, 2008).

Therefore, the outcome of collaboration could be assessed either by the partners in the collaborative engagements or the community they are serving. Hence, this study measures both. The output of collaboration based on the relationship of the member agencies is evaluated. Also, the outcome of collaboration is defined by community as social capital, particularly, social trust and institutional support is examined.

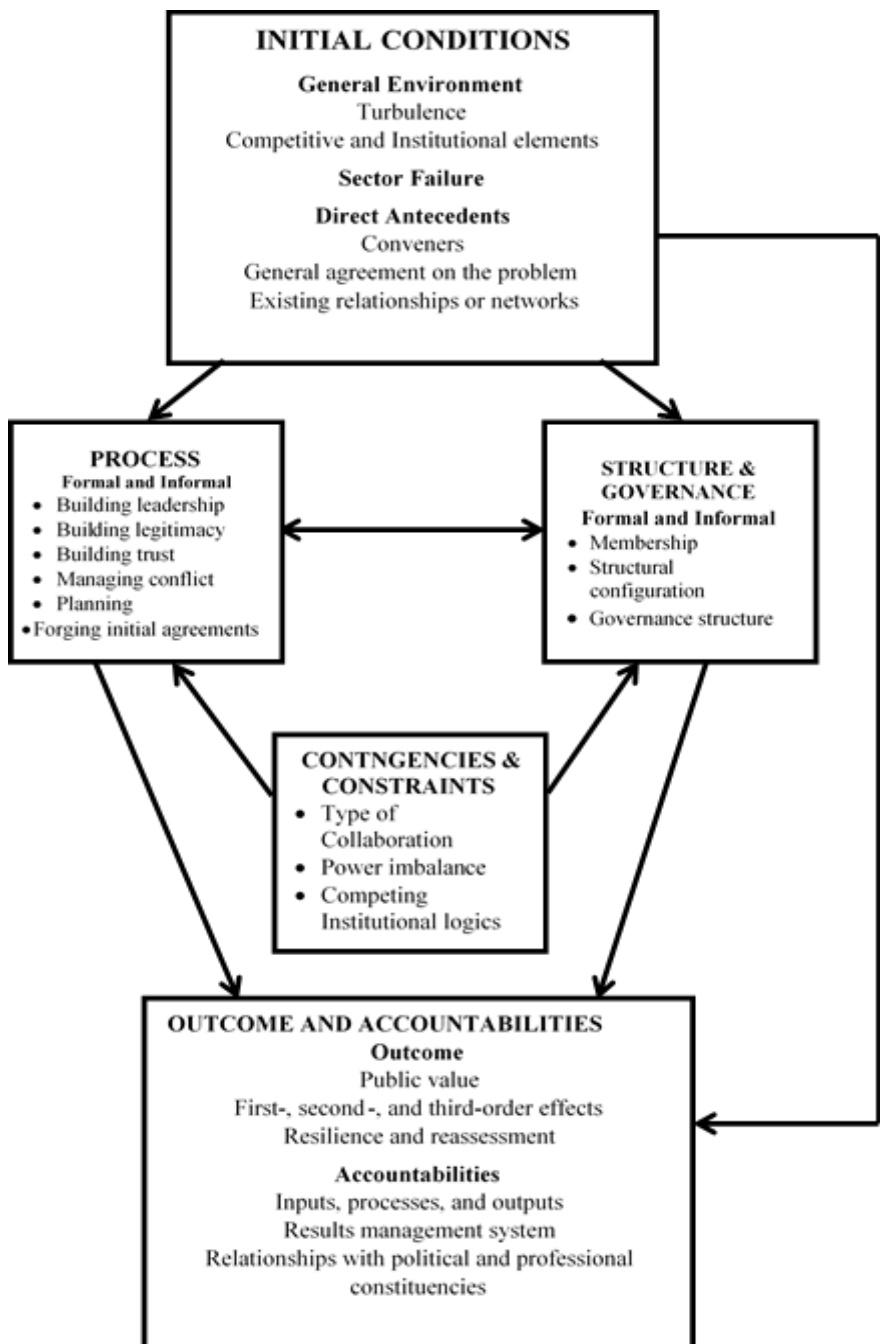


Figure 2.5 Cross-sector Collaboration Model of Bryson, Stone, and Crosby (2006)

Table 2.2. Map of related literature on collaborative governance

Authors	Research focus and methods	Indicators	comments
Bryson et al., 2006	organization theory, public administration theory, leadership theory, strategic management theory qualitative	Initial conditions Formal and informal agreements Formal and informal structures Contingencies and constraints Outcomes and accountabilities	Less emphasis on structure
Ansell and Gash, 2008	organization theory, public administration theory, policy studies, planning and environmental management studies qualitative	Starting conditions Collaborative process <ul style="list-style-type: none"> • Face-to-face dialogue • Trust building • Commitment to process • Shared understanding • Intermediate outcomes • Facilitative leadership Outcomes Core contingencies: time, trust and interdependence	Suggests that the collaborative process is cyclical. The analysis focuses on the collaborative activities in the government sector
Fung (2015)	citizen participation to advance three values of democratic governance: effectiveness, legitimacy, and social justice. qualitative	three challenges in participatory governance: *the absence of systematic leadership, *the lack of popular or elite consensus on the place of direct citizen participation, *and the limited scope and powers of participatory innovations. -enhancing effectiveness or legitimacy instead of social justice.	institutional change should go hand in hand with political change the former enables the latter and vice versa
Lawrence and Lorsch (1967)	Differentiation and Integration in Complex Organizations comparative study of six organizations operating in the same industrial environment. quanti	six determinants of effectiveness <ul style="list-style-type: none"> • Modes of Conflict Resolution • Locus of Influence in Subsystems • Total Influence in the Organizational System. • Perceived Basis of Rewards for Integrators • Influence Attributed to Integrative Subsystem • Structure and Orientation of Integrative Subsystem 	The nature of the organization and how it affects the performance of the administrations.
Jung, Tang, and Mazmanian, 2008	collaborative governance perspectives	-trust and reciprocity - defined boundaries - transaction problems and governance structures - political coalition - political connections and acquire more resources	Broad discussion on collaborative governance. The dynamic of features of network and its implications to governance were not explained.
Agranoff (2007)	Diverse, including organization theory, public administration theory, strategic management theory	Decision networks processes <ul style="list-style-type: none"> • Activation • Framing • Mobilizing • Synthesizing Leadership through a whole range of roles, processes, and structures, public value, capacity building and learning	

Tang and Tang 2014	incentive problems and dynamics	The regulatory approach - the mandatory taking of the lands -government-provided incentives facilitate the transactions on a voluntary approach -the collaborative approach entails various incentives, which refer to both material and non-material must complement each other in order to be effective.	-the sequence and manner of presenting potential threats, benefits, and losses are highly important on how individuals would perceive their self-interests. -successful policies should not only be delivered with the right incentives but in a right sequence and manner too.
Dalton et.al (1978)	for hierarchical levels of organization	span of control for the tall structure is narrower while the span of control for flat structure can be wider. -the structure of the organization may vary but 'they may remain within a reasonable range in which there will be no difference in performance attributable to structure'	Performance is empirically proven to have been affected by network structure.
Provan and Lemaire (2012)	organizational service delivery networks -whole network approach	-examines the connections that are both present and absent among a defined set of organization, indicating the extent to which the organization are working with one another to achieve a common goal - a deep understanding will steer public managers in handling their respective organizations effectively and efficiently	Conditions on how networks were built affect the relationship among organizations
Provan and Kenis, 2008	Network theory qualitative	Ideal types of network governance Critical contingencies • the degree of trust, number of members, goal consensus, need for network level competencies Evolution of these governance systems over time	The analysis is limited to how the network is structured
O'Toole 1997	network concept in contemporary administration. -qualitative	administrators are either operating with inappropriate organizational models or adapting conventional structures to meet the more challenging demands.	Focuses only on the outcome of administration and failed to look into the process and dynamics in building networks
Graddy and Chen (2006)	Sizes and scope of networks and social services delivery, USA 27 networks at los angeles county quali	Our model proved effective at explaining network size. -potential partners, the greater the number of services required in a contract -the more ethnically homogeneous the client population, the more organizations are included in the service delivery network.	the focus is limited to the government networks involved in the service delivery
Paraskevopoulos (2010)	institutionalist and cultural/historical approach to social capital review and assessment of recent scholarly contributions	- performance of democratic institutions - responsive democratic institutions -civicness - citizens' participation	How is social control began and sustained despite the dynamic nature of people?

Table 2.3 Map of related studies on disaster collaborative governance

Authors	Focus, location, and method	Implications for disaster governance	Comments
Kapucu, 2006	Inter-organizational communication, USA Qualitative Method	- contingency plans should be tested - Incentives and information before disasters - communication and trust decentralized disaster operations - centralized decision making	- Empowered local agencies determine the success of decentralized disaster response.
Sarkar and Sarma (2006)	The effectiveness of the Disaster Management Act, India Content analysis	- powers and functions should be worked out - careful formulation of rules and regulations - qualified disaster management authority - the rights of the people and local capacities	- an evaluation of the implementation of the Act should be conducted
Lester and Krejci (2007)	Hurricane Katrina in 2001 and the power struggle between the federal and state governments, USA Content analysis	- interventional leadership - who exercises leadership over who is in authority - leaders' active participation during planning -members capabilities and sense of responsibility	- the idea of an exchange was not discussed. What could be the gains/losses of both parties if they collaborate?
Kapucu and Van Wart (2008)	the emerging role of the public sector in dealing with catastrophic disasters. Case studies	- excellent contingency planning, interagency coordination, training, and up-to-date technology - private sector involvement and citizen participation during the response - The consistent commitment of political leaders - decentralized decision making as excessive formalism can provide excessive reliance on centralized authorities	- the focus should be on building the capacities of the partners in the community
Kapucu, Arslan, & Demiroz, 2010	analyze scholarly discussions and findings regarding collaborative emergency management (CEM) Meta-analysis	- Collaborative culture - Emergency managers' grasp of the value and different aspects of collaboration - In the absence of trust, interdependency should be present - Common cause (shared vision) is insufficient - the willingness of members to collaborate is crucial	- focuses on the failure of disaster planning and preparation, then everybody should be capable of running the disaster response operations
Kapucu, Arslan, & Collins, 2010	Intergovernmental and inter-organizational response to catastrophic disasters Content analysis;	- Leaders should remain committed to the process of interagency collaboration. - local agencies are faster and more effective in responding to disasters -- dynamic and network- centered - approach over command and control	- The approach can be effective if only there is an existing formal network in place
Bharosa, Lee, and Janssen (2010)	sharing and coordinating of information during disasters, Netherlands a case study; participatory observation and surveys.	- Institutionalized incentive mechanisms - Fair distribution of the benefits from interagency - Understanding the operations of other agencies - Inter-Organizational Information-Sharing in the daily routine	- The structure, nature of collaboration and contingencies should be given more emphasis.

Djalante et al., (nd)	interlinkages of adaptive governance (AG), resilience, and disaster risk reduction(DRR). Quali	-preexisting inequalities, a lack of trust, and ineffective government hamper participation and collaboration. - sufficient incentives in joining up agencies and governments to willingly share power -ensure lower-level bodies have sufficient motivation to genuinely engage in joint governance processes --building networks to increase cohesion in the community towards resilience	-top-down approach on AG and DRR - characteristics of AG: polycentric and multilayered institutions, participation and collaboration, self-organization and networks, and learning and innovation.
Chang-Seng (2010)	Tsunami Early Warning System, Indonesia	- a mixture model of the EWS process consisting of the local people-centered-adaptive approach and the national technocratic system approach -- polycentric multilayered architecture and top-down technocratic TEWS is not completely adequate in Indonesia	- the mixture model will work if the government and the public/community will align their initiatives. Who will adjust?
Jatmiko and Tandiarrang (2014)	coordinating policy and operations in Maritime Security, Indonesia	- network structure inadequately supports the information-sharing process	- the capacity and willingness of the respondents were not considered.
Nurmandi, et al., (2015)	Comparison of the cross-sector governance network in the emergency and post-disaster stages, Indonesia	- Cross-sector collaboration in the local faces serious concerns on supply - The need for national inter-agency coordinated efforts supports collaborations in addressing policy issues. - different disaster calls for different cross-sectoral governance	- Leadership, interdependencies and community capacity facing each hazard can be explored
Allegado (2014)	CSO in disaster management, Philippines Qualitative	rapid assessments are one of their major contributions in times of disasters - with definite and sound government structures and paradigm, CSOs can harness its potentials in crisis situations.	-intentions and commitment of CSO's
Rasquinho, Liu, and Leong	Impact assessment on the impacts of Typhoon Washi, Philippines Quali	Unreliable means of communication LGUs have no DRRMC Operations Center Despite the bulletins from PAGASA, measures were not taken at local level and no flood warning was issued for CDO and Iligan cities.	Expound the implications to law and governance
Quisumbing et.al (2012)	-Social capital -shocks, groups, and networks in risk management, the Philippines. -Qualitative analysis	- the poor do not easily build social capital due to differences in ethnicity, assets, and education -the uncomfortable feeling of one in a socially unacceptable position (shame) -the fear of being unable to reciprocate networks of these Filipino families are composed of their children motivated by the norms to help families otherwise face the threats of divine retribution	-common experiences such as actual disasters bind Filipino communities together -camaraderie is a Filipino trait
Hawkin and Mauerer (2010)	social capital to survive the storm, relocate and rebuild. , USA qualitative approach	- low incomes residents relied on social capital for i survival. -close ties (bonding) for immediate support, but bridging and linking social capital lead to survival and broader community recovery.	Community exchanges and interdependencies facilitate survival during disasters

Continuation of Table 2.3 Map of related studies on disaster collaborative governance

Weisenfeld's (2012)	Altruism and corrosion after disasters, Japan quali	-Disaster causes intracommunity conflict that reveals or deepens social divisions. It blurs the lines between victims and perpetrators. -traumatic collective experiences provided chances to reform community and leadership	In different cultures, the findings could vary.
Gultom and Joyce (2014)	Crisis communication capacity for disaster resilience, Indonesia	social capital in disaster resilience -the accuracy of community-based information community capacity	mechanism to validate the information transmitted from the ground
LaLone (2012)	Community-based participation and disaster resilience, ,Virginia Qualitative approach	- the inclusion of social capital assessment research and participatory development in disaster preparedness, response, and recovery. - community-based model shifts the emphasis toward developing collaborative civil society-government partnerships.	Nature and dynamics in the community against the institutional mechanisms set for disaster resilience.
MacRae and Hodgkin (2010)	the international and national response that unfolded in the earthquake of 27 May 2006. Jogjakarta, Indonesia qualitative	-credible provincial govt in Jogja aided the recovery, - coordination between components of the larger process is less successful - no space for the local actors, NGOs, and communities to participate in the cluster decision making or inter-cluster coordination provided	-building interdependence between local and intl partners possibly led to the more efficient recovery and response operations
Miyaguchi and Shaw (2007)	corporate community interface in disaster management, India exploratory survey	the corporate sector rarely forms a partnership or collaborative group with local governments or civil-based organization - successful interventions were not disseminated to the wider public which hinders replicability and lesson-sharing	-CSR is only limited to response and recovery efforts. No relationship between the corporate community and the institutions and community.
Shaw and Goda (2004)	People's participation and cooperation, Kobe, Japan quali	-the community and family education motivate a person to take risk-reducing action -resident's associations set daily activities and services -activities/services lead to economic incentives -leadership should build the support system for the sustainability of the civil-society activities	Community efforts should be sustained towards resilience

Based on the reviewed literatures, cross-sector collaboration as utilized in this study refers to the partnerships of two or more agencies and organizations across social and political boundaries in order to mutually and effectively address an unrelenting social concern, where resources and capacities are shared and relationships among partners are sustained and strengthened. Without such partnerships, successful public management is hardly attained.

2.3. Theoretical Framework

Theoretically, Bryson, Crosby and Stone (2006) pioneered the comprehensive approach to cross-sector collaboration with emphasis on the challenges and constraints in the aspects of collaborative process and structures (configuration and governance). Thomson and Perry (2006), Ansell and Gash (2008), Agranoff (2007), Provan and Kenis (2008), Emerson, Nabatchi, and Balogh (2011) and Koschmann, Kuhn and Pfarrer (2012) empirically explored the variables of collaborative management, network theory as well as the various factors and contingencies that lead to successful collaboration. On the other hand, Kapucu (2015), Kapucu, Arslan and Demiroz (2010), Kapucu, Arslan and Collins (2010) examined emergency management response scenarios and postulated theories on what constitutes better and effective disaster response.

Earlier studies revealed that cross-sector collaboration in disaster management provide valuable implications. Developing polycentric and multi-layered institutions and structures are ideal governance architectures for improved performance and for building national resilience to local and transboundary multi-hazard risks and disaster but it is not completely adequate for dealing with local field earthquake generated tsunami risks due to problems of fit, adaptability, institutional diversity and norms in Indonesia (Chang Seng, 2010). Moreover, a new network structure for the Indonesian maritime was suggested to improve the coordination and information sharing within the Indonesian maritime network after it was found that the existing structure does not adequately support the information sharing process (Jatmiko and Tandiarang, 2014). After reviewing the data of previous disasters and comparing the cross-sectoral governance in managing the disasters in Aceh, Merapi and Kelud Volcano, and Way Ela Dam burst, it was revealed that the different types of disasters in Indonesia created different models of cross-sector governance (Nurmandi et al., 2015).

Disasters are characterized by unexpected or unusual size and causes disruptions to the communication and decision-making capabilities, require decentralized decision making and intensive human interactions (Kapucu and Van Wart, 2006). Managing disasters require dynamic processes which are ideal yet demanding for government at all levels. The Greek word “krisis” refers to tensions that call for critical judgments, exercising critique, reflexivity, which would inform decisions reached and actions taken (Antonacopoulou and Sheaffer, 2014). With transformational leadership ensconced at the top, the next step is to get these very engaged organizational members to look not only at the good of the organization but also at the greater societal good with the temptation of federalizing disaster response put away, leadership must recognize the need for a basic change in relationships within and across governments (Lester and Krejci, 2007). Thus, collaboration among organizations and government agencies is essential for the development of an effective strategy and better performance during disaster response.

This research aims to provide an empirical analysis of what constitutes successful disaster governance in the context of Region X, Philippines. The framework on collaborative governance of Bryson, Crosby, and Stone (2006) and network governance of Provan and Kenis (2008), as well as certain concepts from previous researches, are particularly utilized in this research. In doing so, this study explores three major aspects of disaster collaborative governance. First, this study examines how the network structure affects the performance of the Region X, Philippine disaster management network (Hypothesis 1). Second, this research explores the relationship among the aspects of collaborative governance processes (Hypothesis 2) by answering the question “How does the previous performance of the disaster management network influence the aspects of governance process (initial agreements, leadership, planning, trust, and managing conflict) and how does these

relationships affect the existing relationships in the network (Hypothesis 3)?” Lastly, this research investigates the impacts of disaster governance on the social capital in the community and how social capital shape the post-disaster conditions in the affected communities.

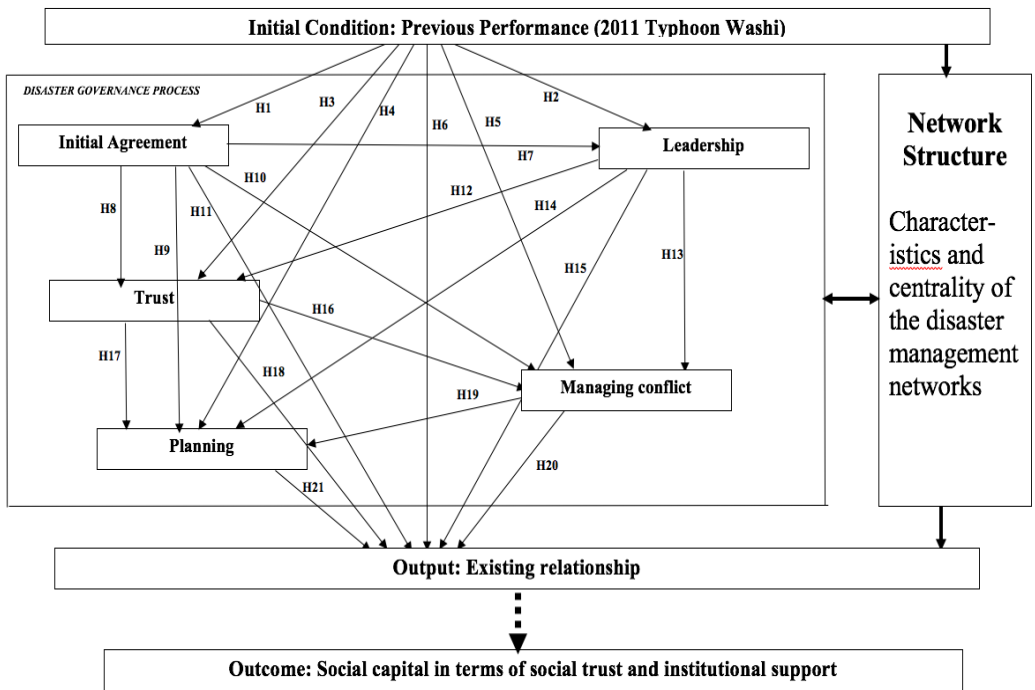


Figure 2.6 Research Model

Table 2.4 The Conceptual and Operational Definition of Terms

Concept	Variables	Indicators
Independent Variables A. Process	Initial condition: Previous Performance Collaborative Effectiveness “The attainment of positive network-level outcomes that could not normally be achieved by individual organizational participants acting independently.”- Provan and Milward (2008)	a. The accomplishment of Targets in the Regional DRRM Plan (Kindly refer to Table 2.5). b. Assessment of the respondents
	Initial agreements Bryson et.al (2006) emphasized that although informal agreements can work in the collaborative process, formal agreements have a better advantage as it supports accountability.	Motivation: 1. altruism, 2. the organizational goal, or 3. increasing the legitimacy of the organization
	Building Leadership “Cross-sector collaborations are likely to succeed when they have committed sponsors and effective champions at many levels who provide formal and informal leadership.” Bryson (2006)	1. vision, 2. motivating and inspiring others, 3. empowering people, 4. collaborating and influencing 5. creativity and innovation.
	Trust and Value Trust is “both the lubricant and the glue” as it facilitates the work in the collaboration and it holds collaboration together – Bryson et.al (2006)	1. Integrity 2. Dependability 3. competence
	Managing Conflict According to Gray (1996), power issues are the prime causes of conflict and as Bryson et.al puts it, resources and tactics should be used in order to equalize the status of the organizations (2006).	1. team focus, 2. personal style 3. action orientation
	Planning Cross-sector collaborations are most likely to succeed if deliberate and emergent planning is made and if such planning makes use of stakeholder analyses, emphasizes responsiveness to key stakeholders, uses the process to build trust and the capacity to manage conflict and builds on distinctive competencies for collaborators” (Bryson et.al 2006).	1. Needs Assessment 2. Objectives and Strategies 3. Implement the Plan 4. Evaluation
	Structural Configuration Structural configurations affect a network’s overall effectiveness, - Provan and Milward (1995) and Provan and Sebastian (1998). Governance Structure - Network governance emerges through frequent, structured exchanges that develop network level values, norms and trust, enabling the social mechanism to coordinate and monitor behavior (Ostrom 1990).	Social Network Analysis 1. Centrality 2. Closeness 3. Betweenness
Dependent Variables	Output: Existing Relationships	Network characteristics Density, diameter, and the average distance
	Outcome: Public Value and Goods Cross-sector collaboration most likely creates public value when they produce positive first-, second-, and third-order effects (Innes and Boohar 1999 in Bryson et.al 2006).	Social capital - Social trust - Institutional support

Table 2.5 DRRM Council Assessment of Performance

DISASTER RESPONSE	Target	Agencies Involved
IMPACT: Percentage of affected individuals needing assistance provided with appropriate intervention	85%	DSWD
OUTCOME 1. Percentage of people needing assistance search and rescue	85%	PNP with AFP, PCG, BFP, DILG, DOH, PRC and LGUs
Output 1.1. Percentage of the disaster-affected area in need deployed with trained and equipped responders	100%	PNP with AFP, PCG, BFP, DILG, DOH, PRC, and LGUs.
Output 1.2. Percentage of disaster incidents with DANA report within 72 hours	100%	DSWD with OCD, DILG, DOH, DA, DPWH, Dep.Ed. and LGUs.
OUTCOME 2. Percentage of dead bodies searched and retrieved	85%	DOH with PNP, AFPPCG, BFP, PRC, and LGUs.
Output 2.1. Percentage of disaster-affected areas in need deployed with trained and equipped retrieval teams	100%	DOH with PNP, AFPPCG, BFP, PRC, and LGUs.
Output 2.2. Percentage of search and retrieval locations with collection point/area	100%	DOH, AFP, PNP – CL, NBI, PCG, BFP, DILG, PRC and LGUs
OUTCOME 3. Percentage of affected families provided with relief assistance inside and outside evacuation centers	100%	DSWD with DOH, AFP OCD, LGUs and NGOs
Output 3.1. Percentage of evacuation center with proper evacuation/camp management	100%	DSWD with LGUs.
Output 3.2. Percentage of affected families provided with relief assistance inside and outside evacuation centers	100%	DSWD with OCD, DOH, Dep.Ed and CSOs.
Output 3.3. Percentage of disease outbreak inside and outside evacuation centers prevented	95%	DOH with LGUs.
Output 3.4. Percentage of affected individuals with psychosocial concerns inside and outside evacuation centers provided with mental health and psychosocial services	100%	DOH with DSWD, Dep.Ed and NGOs.
OUTCOME 4. Percentage of affected families with continuing social assistance	100%	DSWD with DOH, LGU, DOH, DPWH, Dep.Ed, DOLE, and TESDA
Output 4.1. Percentage of children with education services restored immediately	100%	Dep.Ed.
Output 4.2. Percentage of affected families with emergency livelihood opportunities	100%	DSWD with DOH, LGU, DPWH, Dep.Ed, DOLE, and TESDA
Output 4.3. Percentage of basic lifelines restores immediately	100%	DPWH with LGUs, Electric/Water/Communications comp.
Output 4.4. Percentage of disaster-affected areas with debris and wastes cleared within 1 week	100%	DPWH with LGUs
Output 4.5. Percentage of affected families sheltered in the safe and more durable facility while waiting for their permanent shelter	100%	DSWD with DPWH, DOH, DENR, and LGUs

2.4 Research Hypotheses

The researchers' extensive review of the literature led to the formulation of hypotheses related to the initial condition, governance process and outcome of collaboration, particularly on the interrelationships of the variables - initial agreement, leadership, trust, planning and managing conflict as well as the initial condition and outcome of collaboration. Figure 2.6 shows the framework of analysis for this study.

Hypothesis 1. The previous performance of the disaster network significantly affects the aspects of disaster governance process (initial agreement, leadership, trust, planning and managing conflict) and the existing relationship of the network.

- Hypothesis 1.1 The previous performance of the disaster network significantly affects the initial agreement in the disaster governance process.
- Hypothesis 1.2 The previous performance of the disaster network significantly affects the leadership in the disaster governance process.
- Hypothesis 1.3 The previous performance of the disaster network significantly affects the trust in the disaster governance process.
- Hypothesis 1.4 The previous performance of the disaster network significantly affects the managing conflict aspect of the disaster governance process.
- Hypothesis 1.5 The previous performance of the disaster network significantly affects the planning in the disaster governance process.
- Hypothesis 1.6 The previous performance of the disaster network significantly affects the existing relationships among network members (outcome).

Hypothesis 2. There are significant (inter) relationships between the aspects of disaster governance process (initial agreement, leadership, trust, planning and managing conflict).

- Hypothesis 2.1 There is a significant relationship between initial agreement and leadership.
- Hypothesis 2.2 There is a significant relationship between initial agreement and trust.
- Hypothesis 2.3 There is a significant relationship between initial agreement and managing conflict.
- Hypothesis 2.4 There is a significant relationship between initial agreement and planning.
- Hypothesis 2.5 There is a significant relationship between leadership and trust.
- Hypothesis 2.6 There is a significant relationship between leadership and managing conflict.
- Hypothesis 2.7 There is a significant relationship between leadership and planning.
- Hypothesis 2.8 There is a significant relationship between trust and managing conflict.
- Hypothesis 2.9 There is a significant relationship between trust and planning.
- Hypothesis 2.10 There is a significant relationship between managing conflict and planning.

Hypothesis 3. The relationship of the aspects of disaster governance process (initial agreement, leadership, trust, planning and managing conflict) to the existing relationships in the network are statistically significant.

- Hypothesis 3.1 There is a significant relationship between initial agreement and the existing relationships in the network.
- Hypothesis 3.2 There is a significant relationship between leadership and the existing relationships in the network.
- Hypothesis 3.3 There is a significant relationship between trust and the existing relationships in the network.
- Hypothesis 3.4 There is a significant relationship between managing conflict and the existing relationships in the network.
- Hypothesis 3.5 There is a significant relationship between planning and the existing relationships in the network.