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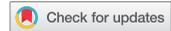


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## Social capital and disasters: How does social capital shape post-disaster conditions in the Philippines?

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### ABSTRACT

Social capital is a common feature among disaster-resilient communities. This research aims to define how social capital shapes the post-disaster conditions in the 2011 Typhoon Washi-affected communities of Cagayan de Oro and Iligan City in Region 10 Philippines. Qualitative analysis was used in analyzing the data gathered through purposive sampling and semi-structured interviews. Thirty typhoon survivors and 14 focal persons of the government and non-government agencies were chosen based on their active involvement in the community. The findings revealed that the solidarity among typhoon-affected communities contributed to the recovery of the survivors. The findings also highlighted that the solidarity in the typhoon-affected communities is part of the normative structure of the society where bonding and linking social capital are nurtured. Further, the community remains to believe that their respective local officials can be trusted and are capable of helping them in times of need despite the shortcomings during the 2011 Typhoon Washi. We argue that social capital in the community is not easily diminished over a crisis and therefore must be nurtured towards effective community-based disaster resilience mechanisms.

### KEYWORDS

Social capital; post-disaster; solidarity; typhoon

## Introduction

The impacts of disasters vary between different communities. Some communities are more resilient while others are not. Understanding the varying capacities and characteristics of each community contributes towards better disaster prevention and rehabilitation. Hence, it is important to consider the social structure of a community in all initiatives (Drabek, Tamminga, Kilijanek, & Adams, 1981).

Several types of research have been made on the role of social capital in disaster management and community resilience (Hawkins & Maurer, 2009; LaLone, 2012; Murphy, 2011; Shaw & Goda, 2004). Disaster resilience is attributed to social capital as the fundamental basis of community engagement (MacRae & Hodgkin, 2011), shared communication and information (Miyaguchi & Shaw, 2007), as well as interventions of non-government organizations (NGOs) (Pierre-Louis, 2011). The role of social capital in

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the recovery of disaster-stricken communities is also explored by Adger (2009) and Patterson, Weil, & Patel (2010). However, only a few researches have been made analyzing the impact of bonding, bridging, and linking social capital in the recovery of the community after a disaster (Aldrich & Meyer, 2015; Chamlee-Wright, 2010).

Over the years, Region 10 Philippines is one of the most typhoon-visited parts of the country. The Philippines, composed of 17 administrative regions and with its exposure to natural disasters, is the third most vulnerable countries in the world. The Philippine Atmospheric, Geophysical, and Astronomical Services Administration reported that Typhoons Washi in 2011 and Bopha in 2012 are two of the worst typhoons in the country since 1947 and have mostly affected the Province of Misamis Oriental and the Cities of Iligan and Cagayan de Oro in Region 10. Thus, the Cities of Iligan and Cagayan de Oro were purposively chosen for this study. The authors deemed it necessary to investigate how social capital shapes the post-disaster conditions in the affected communities of Cagayan de Oro and Iligan City after the 2011 Typhoon Washi. In doing so, social cohesion and trust, as well as the institutional dimensions of social capital, are explored.

## Social capital

Social capital refers to the characteristics of a group or community enabling the fulfillment of a collective aspiration. Social capital refers to the traits of an organizations such as social networks, trust, mutual understanding, shared values, and behavior that bind the members while coordination and cooperation are facilitated towards the achievement of certain goals (Cohen & Prusak, 2002; R. Putnam, 1993; Schuller, Baron, & Field, 2000). Ada and Bolat (2010, p. 34) shared that social capital “facilitates a flow of information providing a basis for action and assisting the individual and community goal attainment.”

There are three forms of social capital: bonding, bridging, and linking. Bonding social capital refers to relationships among members of a network who are similar in some form such as demographic, social, or ethnic status or among community's individuals who already know each other (Putnam, 2000); while 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 (Szreter & Woolcock, 2004); and linking social capital is the extent to which individuals build relationships with institutions and individuals who have relation power over them in order 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 because linking social capital 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 & Maurer, 2009).

Trust is a fundamental element in social capital (Paraskevopoulos, 2010; Shimada, 2015). The mutual confidence that no party to an exchange will exploit the others' vulnerability constitutes the most important component of social capital and is a precondition for competitive success (Paraskevopoulos, 2010). This view on the importance of trust is parallel with the findings of Shimada (2015) on the role of social capital in

rebuilding societies after disasters. Familiarity and strong ties in the community establish trust among network members which minimizes coordination failures during disasters (Shimada, 2015). The presence of NGOs and voluntary town organizations in the interaction between the government and local people in India and Japan fostered trust and facilitated a smoother recovery (Nakagawa & Shaw, 2004). Meanwhile, Portes (1998) and Arrow (2011) mentioned that with social capital, the members or groups in the community who have access to benefits and resources have the tendency to exclude nonmembers from access. Hence, social capital has its own caveat.

Building social capital based on social interaction through social networking and receiving help does not seem to facilitate morale (Cheung & Chan, 2010). The feeling of indebtedness arising from the unreciprocated reception of help and the reaction towards the help offered may pose a challenge to the person's self-esteem and invoke the person's consciousness about the problems and deficiency (Cheung & Chan, 2010). Hence, these feelings would compromise morale. Therefore, social interaction may not be helpful and may instead be costly, as it drains the person's time, vitality, and other resources (Grootaert & Van Bastelar, 2002).

Comparably, Quisumbing, McNiven, and Godquin (2012) looked into collective action, such as membership in formal groups and social networks in the Philippines. Their findings revealed that the poor do not easily build social capital due to differences in ethnicity, assets, and education. However, the networks of these Filipino families are composed of their children who are migrants in other places as norms are easier to observe within the family. The barriers that prevent the poor from participating in collective action are that poorer folk often express feelings of "hiya" or shame (meaning the uncomfortable feeling of one in a socially unacceptable position)—in approaching wealthier individuals for help in times of need (Quisumbing et al., 2012). Further, Quisumbing cited Hollnsteiner (1979) that the fear of being unable to reciprocate may also prevent poorer households from approaching richer households for help because reciprocity is at the core of Filipino social transactions. However, such shame may be tempered if the richer individual is a relative, even a distant one, but it is not uncommon for kinship networks to perform consumption-smoothing functions (Quisumbing et al., 2012).

### ***Social capital and disaster management***

Disaster response and recovery emphasized the importance of social capital. 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. 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 (LaLone, 2012).

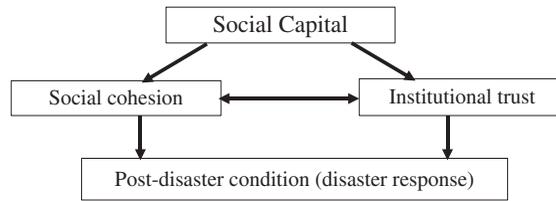
In New Orleans, after Hurricane Katrina, bonding, bridging, and linking social capital was instrumental in aiding participants to prepare for, endure, and mutually aid one another before and during the storm, in addition to recovery following the floods

(Hawkins & Maurer, 2009). Social capital helps maintain security and operates within a social-psychological manner consistent with the context of disaster research (Hawkins & Maurer, 2009). Additionally, the caring relationships developed and nurtured in times of difficulties enable affected communities to endure and survive a crisis as revealed in the case of confined prisoners of war in Japan (Clason, 1983).

Moreover, community-based emergency management suggests strong social capital which provides better chances of building resilience (Murphy, 2011; Shaw & Goda, 2004). Shaw and Goda (2004) on their study on the 1995 earthquake in Kobe, Japan, emphasize the importance of cooperation as well as building social capital (mutual trust, bonds, social norms, community cohesion, leadership, and networks) among other actors in order to provide fast output in terms of reconstructions and also to sustain initial initiatives. They also pointed out that building and increasing the capacities of the community as recipients and creating a venue for an effective communication enhance community participation and capacities that eventually lead to the success of the initiatives. Moreover, Murphy (2011) examined local emergency management from the perspective of community coping capacity and found that the presence of social capital such as kinship, friendship, and communal relationships can develop but do not guarantee community resilience. Resilience, on the other hand, is anchored primarily in the role of government, and the importance of community involvement to official activities is magnified in times of disasters (Murphy, 2011).

Further, MacRae and Hodgkin (2011) consider community engagement as a promising mechanism in a post-disaster scenario, and the relationship of the NGOs to the local government can help and/or delay the response operations as protocols vary from every area. Communication barriers between NGOs and local actors should be addressed, and the decision-making process should be inclusive of the stakeholders instead of being monopolized by the international organizations (MacRae & Hodgkin, 2011). Moreover, a collaboration between the community and the corporate sector may lead to long-term success for environment and disaster management when information is shared, and there is a clear understanding of what the community can do before and after natural catastrophes (Miyaguchi & Shaw, 2007). The presence of NGOs after the 2010 Haiti earthquake caused serious concerns as each NGO grabbed a sector of the territory which resulted to competition of resources and turf hegemony (Pierre-Louis, 2011). Hence, the lack of coordination on the ground among the NGOs resulted in an inefficient management of relief to address the crisis in Haiti.

In general, the participation of Civil Society Organizations (CSOs), NGOs, and the private sector in times of disaster is highly relevant as they provided immediate support to the affected communities. With definite and sound government structures and paradigm, CSOs can harness its potentials in crisis situations. Responsive government structures facilitate collaboration between and among organizations and agencies towards an efficient management of relief. More importantly, social capital should be nurtured in the community. In doing so, CSOs and government can align its efforts and mobilize empowered partners in the community for more efficient and effective crisis management or post-disaster interventions.



**Figure 1.** Research model.

## Research model

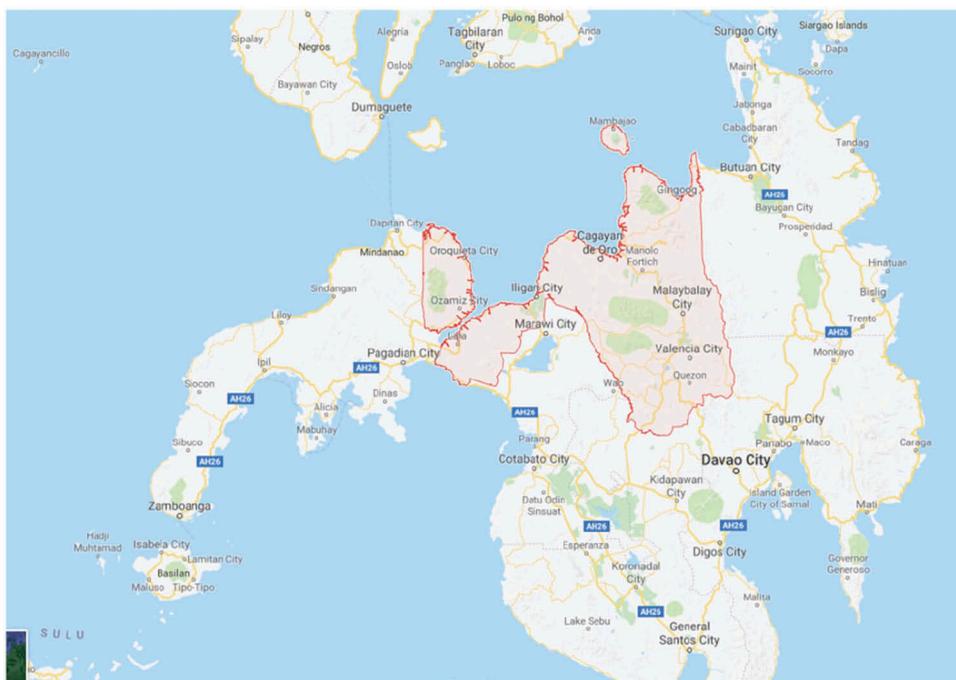
This study adopts the Qualitative Tools designed by Dudwick, Kuehnast, Jones, and Woolcock (2006) in measuring the six dimensions of social capital: (1) groups and networks; (2) trust and solidarity; (3) collective action and cooperation; (4) information and communication; (5) social cohesion and inclusion; and (6) empowerment and political action. For this research, our focus is only on the dimensions of trust and solidarity and the social cohesion and inclusion (see Figure 1).

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). Dudwick et al. cited Kuehnast and Dudwick (2004) who offered two matrices in measuring social trust as they studied the social networks in the Kyrgyz Republic. The first matrix addresses the questions such as: “What do you give and to whom?” and “What do you receive and from whom?” The matrix is filled out by an interviewer using one of the following answers: “always,” “most of the time,” “sometimes,” or “seldom or never.” Moreover, the second matrix illustrates the kinds of people that are integral to one household in the community, “To whom do you turn to for help or assistance?” (Dudwick et al., 2006, pp. 18–19). Moreover, social cohesion and inclusion focus on the tenacity of social bonds and their dual potential to include or exclude members of community, while institutional analysis can offer insight into which institutions support or undermine local cohesion from the perspective of different groups (Dudwick et al., 2006).

Generally, this study looks into social capital in terms of the trust and solidarity as well as the social cohesion and inclusion in the community in understanding how social capital shaped the post-disaster conditions in the communities of Iligan and Cagayan de Oro after the 2011 Typhoon Washi.

## Research methods

This research primarily looks into how social capital affects the outcomes of disaster management during Typhoon Washi (Tropical Storm Sendong) which hit the communities of Cagayan de Oro and Iligan City. According to the final report of the NDRRMC, a total of 131,618 families/698,882 persons were affected by the tropical storm Sendong in 866 barangays of 60 municipalities and nine cities in the 13 provinces of Regions VI, VII, IX, X, XI, CARAGA, and ARMM. The final report mentioned that Region X suffered the most where Iligan and Cagayan de Oro City experienced enormous infrastructure damage and loss of lives (NDRRMC, 2012). Hence, the Cities of Iligan and Cagayan de Oro in Region 10 were chosen for this study (see Figure 2).



**Figure 2.** Map of the Philippines showing Region 10 where the cities of Cagayan de Oro and Iligan are located.

Source: <https://www.google.com/maps/place/Northern+Mindanao,+Philippines/>.

A qualitative approach was utilized in this study. Data were gathered through semi-structured, open-ended interviews among the 30 typhoon survivors and 14 focal persons of the government (10) and non-government agencies (4). The 30 survivors were chosen (15 survivors from Cagayan de Oro and 15 survivors from Iligan City) based on their active involvement in the community as suggested by their respective community leaders, while the representatives of Department of Social Welfare and Development, Disaster Risk Reduction Office, City Planning and Development Office, Mayors Office and PNP of both Local Government Units, MSU-Iligan Institute of Technology (academe), Touch Foundation Incorporated (NGO), and the Catholic Church representatives of Iligan and Cagayan de Oro were interviewed based on the crucial role they played in times of disaster. In sum, there are a total of 44 key informants interviewed for this study who were purposively chosen based on their active participation in their respective communities and based on their experience in disaster management during the 2011 Typhoon Washi. Also, both published and unpublished documents related to the topic accessed from government agencies, and credible websites were gathered and utilized to substantiate the findings.

## Findings

The typhoon survivors covered in this study are composed of 67% female and 33% males and ages ranging from 21 to 80 years old where 40% are between 21 and 40 years old. In

terms of income, 70% of the typhoon survivors earn less than 100USD monthly, which is less than the minimum wage in both Cagayan de Oro and Iligan Cities.

Trust and solidarity as dimensions of social capital refer to the extent to which people feel they can rely on relatives, neighbors, colleagues, acquaintances, key service providers, and even strangers, either to assist them or (at least) do them no harm (Dudwick et al., 2006). In measuring the trust and solidarity dimension of social capital, typhoon survivors were asked about the goods or services that they have received from the people who have more than they have, people who have less than they have, people who have the same capacity as they have, and closely related family members.

Figure 3 shows that for both Cities, food, clothes, medicine, household items, and introduction to potential employers are the goods and services that are most received from the people who have more than what the survivors have. On the other hand, in terms of the goods received from the people who have less than the survivors, food and in-kind services are the most common among the typhoon survivors from both cities including clothes and households items for Iligan City informants. Meanwhile, in terms of the goods and services received from those people who have about the same as what the survivors have, food, clothes, school supplies, household items, and in-kind services are common in Iligan, while in Cagayan de Oro City, food, money, medicine, and in-kind services are commonly received by typhoon survivors. Lastly, money, food, and clothes are the most received goods from the typhoon survivors' close family friends and relatives.

Generally, food is the most received goods in times of disasters, followed by clothes, money, medicine, and in-kind services. Moreover, introduction to potential employers or influential people is only offered by the people who have more than what the survivors have. On the other hand, in-kind services are rendered both by the people who have less and who have the same status with typhoon survivors. G. Rivera recalled that “our neighbors helped us during the typhoon. They rescued us from our homes and they gave us clothes in the evacuation center” (personal communication, December 16, 2016). Ms. R. Polinar expressed that “our condition in the evacuation center was bearable. Me and the other victims shared our experiences, sentiments and grief, and somehow, I feel lighter, and better” (personal communication, December 21, 2016). These findings imply

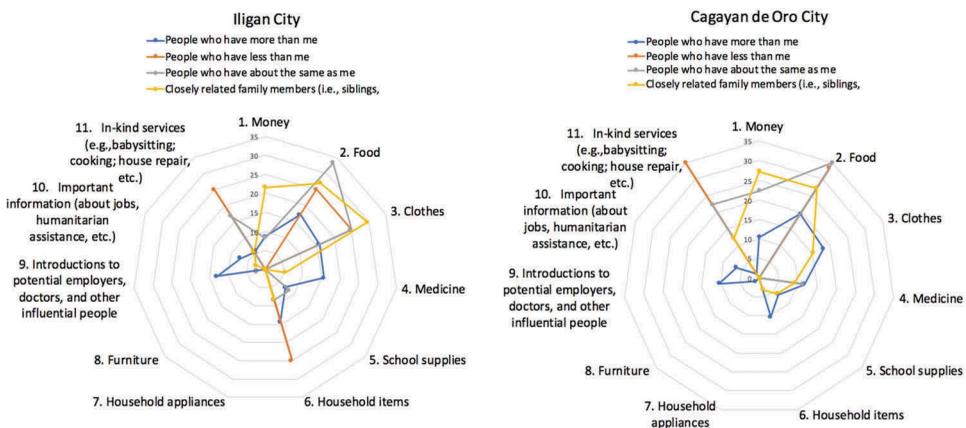


Figure 3. Trust and solidarity based on the goods and services received by typhoon survivors.

that solidarity is apparent in the community. These findings revealed that, during disasters, the collective action among the poor comes in handy, and the feelings of shame and fear of reciprocity are weakened with the greater feeling of compassion and camaraderie. The active exchange of resources between and among victims of typhoon proved that solidarity exists and the desire to help each other cuts across economic differences.

Moreover, in terms of social cohesion, survivors were asked about their social networks (see Figure 4). The social institutions involved in meeting the basic needs, improving the social and economic situation, and maintaining social relationships in the community were identified by the survivors. Figure 4 shows that in terms of meeting the minimum basic needs, the survivors, generally, turn to closely related family members, NGOs, and religious organizations. Primarily, typhoon survivors from Cagayan de Oro turn to community elders or community leaders. Meanwhile, in terms of improving the social or economic condition, the typhoon survivors are more keen on NGOs followed by closely related family members. Typhoon survivors from Iligan turn to religious organization too, and those from Cagayan de Oro turn to nearby friends. Lastly, in terms of maintaining social relationships, survivors most often go to closely related family members, NGOs, and nearby friends. Survivors from Iligan City turn to rural relatives and religious organizations, while survivors from Cagayan de Oro turn to neighbors and community elders and traditional leaders.

Generally, in times of disasters, survivors commonly go to NGOs and closely related family members such as siblings, parents, and children. Typhoon survivors from Iligan City go to religious organizations, charities, and rural relatives more than the informants from Cagayan de Oro. While survivors from Cagayan de Oro turn to their nearby friends, neighbors, and community elder or traditional leaders. Ms. C. Rapanot shared that “Bible study was conducted regularly in our evacuation center and it made us feel better and closer with each other” (personal interview, December 16, 2017). Additionally, Ms. D. Camasura explained that “the help from the government and other groups arrived days after the typhoon. And in order for us to survive, my family and other evacuees shared whatever we had like food, milk, biscuits.” Meanwhile, survivors from Iligan City received assistance from religious organizations. Mr. F. Maturan shared that “when Sendong happened, the

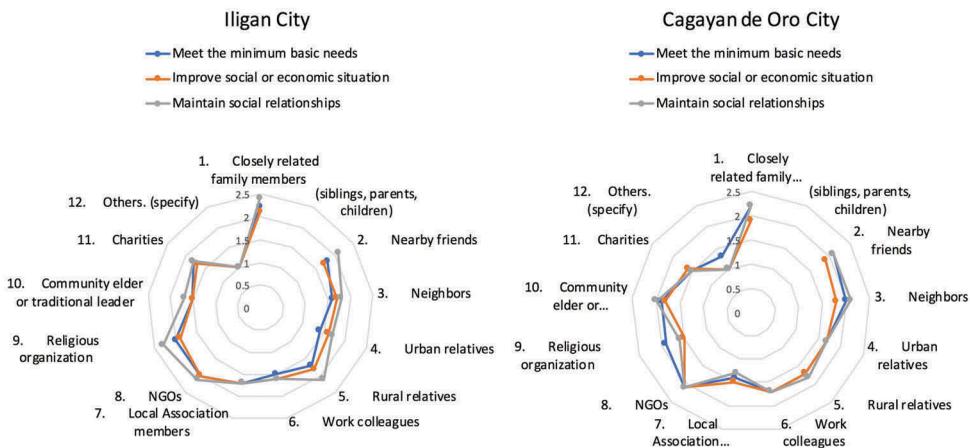


Figure 4. Social networks.

Church was quick to send us food and clothing in our evacuation centers. The Church also gave us a temporary source of income” (personal interview, December 18, 2017). These findings imply that typhoon survivors in Cagayan de Oro have stronger bonding social capital, while survivors in Iligan City have stronger linking social capital.

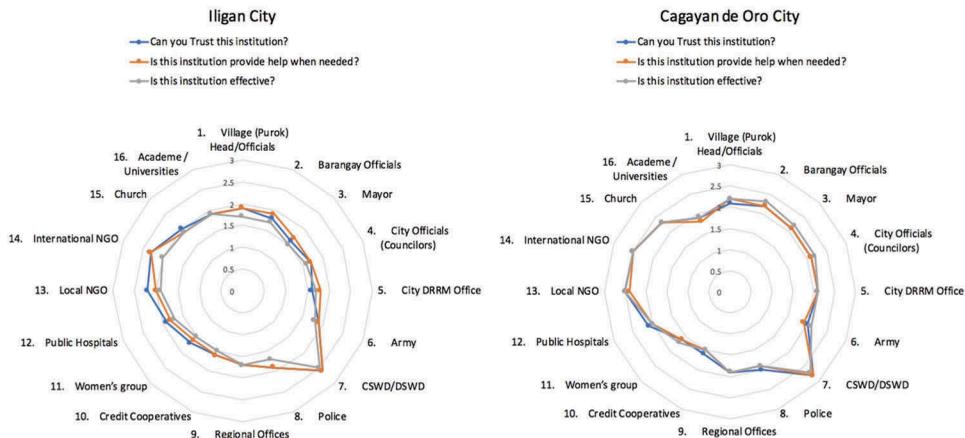
Majority of the typhoon survivors are no longer part of any group after the typhoon, and some typhoon survivors remain part of their respective social networks. In Iligan City, most of the typhoon survivors (20%) who belong to a group are members of the Basic Ecclesiastical Community, a church-based group, while in Cagayan de Oro, 26.67% of the survivors are members of the Homeowners Association who cited that being a member of the Homeowners Association gave them the assurance that in times of calamity, their group will help its affected members. On the other hand, survivors from Iligan City expressed that being a member of a church-based group help them in praying and in loving God more. Other benefits of a group membership mentioned are the livelihood assistance and the cash assistance that a member can avail to address the daily needs of the family.

In an interview with Ms. R. Tomondo (Iligan City), she stated that “being part of a group in the community helps in securing the daily needs of my family especially in times of emergencies” (personal interview, December 22, 2017). When asked about the problems encountered in being a member of a group, the survivors mentioned that the most common problem is that some members are not able to comply with their obligations, such as payment of their debts and sometimes misunderstanding during meetings which results to a bigger conflict. Meetings are held to fix the differences among members, and in terms of financial obligations, the group members pay for the unpaid debt. Ms. S. Barrios shared that “because of the differences among members in the group, many are no longer active and sometimes, the group is taken down” (personal interview, December 18, 2017).

This finding implies that social cohesion in the disaster-affected communities is bounded by common interests and abilities which are commonly demonstrated through communal activities such as *Barrio fiesta* commonly for religious groups and other activities which the group had initially agreed. For example, some groups are organized to provide assistance to the family of the member who is in need or provide financial assistance or in-kind services whenever there is a funeral in the household of a member. The findings revealed that the success of these groups lies on the members’ adherence to norms and agreed policies. In doing so, some members of the community are excluded in these organized groups.

Moreover, [Figure 4](#) also revealed that NGO is one of the social institutions that typhoon survivors go to in times of need. This result is consistent with the data in [Figure 5](#) where local and international NGOs are the most trusted institution of the typhoon survivors in times of disasters. As shown in [Figure 5](#), typhoon survivors perceived that among the social institutions, the Social and Welfare Office of the government is to the most trusted, reliable, and effective institution, followed by international and local NGOs and the church. Ms. S. Colot of Iligan City stated that, “the Social and Welfare Office of the City and the Mayor’s Office gave us relief such as food and clothing and later on, the aid from the Regional office of DSWD, and NGOs arrived” (personal interview, December 16, 2017).

Interestingly, typhoon survivors from Cagayan de Oro City expressed relatively higher trust among public hospitals, village, barangay and city officials (Mayor, Councilors,



**Figure 5.** Institutional analysis.

DRRM Office), army, and the police forces (see Figure 5). One of the survivors from Cagayan de Oro, Mr. M.J. Pagayogdog explained that “I will always be grateful to the soldiers and rescuers who saved me and my family during Sendong. If it were not for their quick response, any of my family members could have been dead by now. They brought us to the evacuation center where there were food and water” (personal interview, December 27, 2017). Ms. L. Ramirez added that “aside from the relief goods from the City and NGOs, we also received cash from our LGU. It was only 1,000.00php but it meant so much to us because we were able to buy the things that we need that were not provided in the relief goods” (personal interview, December 19, 2017). These findings are supported by the results of the Citizen Satisfaction Index System.

In 2012, the Department of Interior and Local Government launched the Citizen Satisfaction Survey (CSIS) as part of the Philippine Development Plan 2011–2016 of the Aquino Administration. The CSIS served as a set of mechanisms that generate citizens’ feedback on local governments’ performance on service delivery and the citizens’ general satisfaction. The CSIS results showed interesting findings particularly in terms of social services, governance, and response services of Cagayan de Oro and Iligan City.

For Cagayan de Oro (Quibal, 2014) and Iligan City (Jovita, Calamba, & Labadiso, 2014), the findings on social services as well as governance and response services are almost similar as it revealed that many of the respondents were not aware of the social services offered by the City Social and Welfare Development as well as the governance and response services offered by the City Government. As a result, they were not able to avail most of these services. However, for the very few who were able to avail of such services, they were highly satisfied. The results of the CSIS also revealed that most of the respondents of the survey (80%) were survivors of Typhoon Sendong, who affirmed that the Barangays were more active than the city in activities related to disasters. Nevertheless, the respondents commonly asserted that they are generally satisfied in the adequacy of the government responses that came in the forms of relief, food, and relocation. These CSIS results imply that the people of the community trust the government and its institutions in their respective Cities as they are highly satisfied with the services rendered to them.

On the other hand, the findings in [Figure 5](#) showed that the trust of the typhoon survivors in Iligan City is relatively lower than that of Cagayan de Oro. In an interview with Ms. D. Gomez and Mr. F. Risal, survivors from Iligan City, they mentioned that, “they were disappointed because they know that there were donations which were corrupted by the City Government who received the assistance from various donors” (personal interview, December 8 and 13, 2017).

In an interview with the former DRRM Officer of Iligan, Mr. A. Bendijo narrated that “pre-emptive evacuations were made as well as ensuring that all human resources (i.e Army, Police, disaster responders) are positioned, to look after the communities in high risk areas. Unfortunately, flashfloods wiped the communities near the major rivers and the damage was beyond the level of our preparation. Unfortunately, the City Government of Iligan was unable to respond fully as resources were needed to be re-aligned according to the level of priorities and the DRRM Council was unable to convene immediately until January of 2012 because the members themselves were affected by the flood and had to tend to the needs of their families. Despite our lack of manpower, we evacuated the victims of TS Washi in covered courts of every barangay, schools, and churches. Together with the City Social Welfare and Development, who is the frontline in the City’s disaster response and camp management, we provided the basic needs of the victims especially those who were in the hinterlands. Fortunately, the NGOs, CSOs, Church, and academe were able to mobilize on the spot, and there were assistance and resources poured for Iligan including the arrival of the response teams from the neighboring towns of Linamon and Kauswagan, Lanao del Norte who came to help in the retrieval and rescue operations” (personal interview, December 14, 2017).

Meanwhile, the Church and the Academe were instrumental to the post-disaster management in both Cities (see [Figure 5](#)). Fr. D. Manipon, representative of the Catholic Church in Iligan, and Prof. E. Empig, the representative of the MSU-IIT, stated that, “we were not ready for disaster but we had to address the need of the people who sought refuge in the Churches and University Gymnasiums and the absence or unavailability of government agencies in the first few days after TS Washi, forced us to create our own ways of managing the evacuees in our property” (personal communications, December 15 and 18, 2017). Volunteers such as Church parishioners and officials, University students, staff and faculty as well as people who survived the flood extended assistance and facilitated the activities in the Churches and gymnasiums. Disaster managers came out of the need to manage not just the victims but also the huge amount of donations given.

Beyond initial disaster response, the Church also donated hectares of land for the rehabilitation of the victims and the Academe strengthened its respective community engagement efforts by adapting and empowering communities. For example, Xavier University launched the Xavier Ecoville Project (<http://www.xu.edu.ph/xavier-ecoville>), a special resettlement project located in Lumbia, Cagayan de Oro City, for the TS Sendong survivors. Xavier Ecoville is reputed as the first university-led resettlement project in the world. It serves approximately 2,800 people from different barangays of CDO with its current 568 permanent houses, chapel, multipurpose hall, multipurpose cooperative, basketball court, and other facilities for its residents. Different stakeholders are involved to ensure effective and sustainable partnerships: (1) the Xavier Ecoville community; (2) Government agencies, especially the Barangay Local Government Unit; (3) Xavier University; and (4)

private organizations. In January 2012, the City Government started to oversee the evacuation centers managed by the University and the Church.

Similarly, CSOs and NGOs were also of huge assistance to the affected communities. Mr. I. Borja of Touch Foundation Incorporated of Cagayan de Oro stated that “I think many local NGOs, like us, were not prepared or trained to respond to disasters, out of the need to do something, we mobilized our resources, and coordinated with the Church and Universities in managing the assistance coming in as well as addressing the needs of the victims” (personal communications, December 15 and 18, 2017).

## Discussion

The presence of solidarity and generalized trust among the members of the community who survived Typhoon Washi in 2011 imply that bonding social capital is strong. Uslaner (2016a) explained that generalized trust depends on the optimistic worldview and a sense of control-life is good, going to get better, and I can help make it better. He argued that generalized trust is learned early in life and does not change for most people over time unless mistrust is already strong in the community (Uslaner, 2016b). The findings revealed that in times of disaster such as Typhoon Washi, social trust is enhanced with the assistance received and shared by the typhoon survivors. Particularly, the relatively high scores for family members and non-government institutions (Church and NGOs) show that solidarity and generalized trust are deeply rooted in the social relations for the community to rely on to in times of need. These findings are validated in the study of Rod (2016) where he found that *Bayanihan* or cooperation is widely practiced among Filipino communities. The practice of sharing or *Bayanihan* includes doing business, sharing jobs, money, and favors with friends and family, which is beyond sharing and taking care of your family and kin during disasters (Rod, 2016). Further, the findings support the study of Quisumbing et al. (2012) that family is at the core of the social network among Filipinos. On the contrary, these findings revealed that during disasters, the collective action among the poor comes in handy and the feelings of shame and fear of reciprocity are weakened with the greater feeling of compassion and camaraderie. The active exchange of resources between and among victims of typhoon proved that solidarity exists and the desire to help each other cuts across economic differences. Lastly, the camaraderie among Filipinos in times of disasters, as revealed in the findings, validated the study of Clason (1983) that the caring relationships developed and nurtured in times of difficulties enable affected communities to endure and survive a crisis as revealed in the case of confined prisoners of war in Japan.

Social capital is proportional to economic status. The findings showed that the solidarity among victims of disaster could be attributed to their economic status. This study validates the study of Brisson and Usher (2005) that bonding social capital which pertains to the network of trusting relationships, or social cohesion and trust, among members of a neighborhood, as well as linking social capital or the network of relationships between the members of the community (organizations and institutions) is commonly shared in low-income neighborhoods.

Social cohesion in the disaster-affected communities (linking social capital) is bound by common interests and are commonly demonstrated through communal activities. For example, some groups are organized to provide assistance to the family of the member

who is in need or provide financial assistance or in-kind services whenever there is a funeral. Moreover, the findings revealed that the success of these groups lies on the members' adherence to norms and agreed policies. In doing so, some members of the community are excluded in these organized groups. These findings are parallel to the findings of Portes (1998) and Arrow (2011) that social capital enables members of a group in the community to access certain resources where nonmembers are excluded from doing so. As a result, social capital based on social interaction opportunity through social networking and receiving help did not seem to facilitate morale (Cheung & Chan, 2010) which explains the survivors' lack of membership to any particular group years after the 2011 Typhoon Washi. These findings validate the study of Calo-Blanco, Kovářik, Mengel, and Romero (2017) as they expounded that social cohesion increases after a disaster and slowly erodes in periods where environmental conditions are less adverse.

Moreover, social capital is enhanced through voluntary memberships. The typhoon survivors' strong affinity to the Church-based organizations and NGOs as well as charities implies that bridging social capital is strong which provides better chances in building an effective community-based emergency management. These findings support the findings of Hawkins and Maurer (2009) that bonding, bridging, and linking social capital was instrumental in aiding participants to prepare for, endure, and mutually aid one another before and during the storm, in addition to recovery following the floods. Moreover, the finding is consistent with Murphy (2011) that the relationships in the community such as friendships, membership to a certain group, and level of familiarity to certain groups or its members indicate social capital vital coping capacity in times of crisis or disasters. Additionally, the Church and some NGOs have strong relationships with the community in terms of mutual understanding and trust which could lead to effective response. Social capital, in all cooperation, enables faster output in terms of reconstruction, sustains initial alternatives, improves the capacity of the community, and enhances community participation which leads to successful initiatives (Shaw & Goda, 2004). Further, Church and NGOs foster voluntary association, broaden the network, and increase the relationships among community members which facilitates the building of social capital through a healthy flow and exchange of information in the community (Robinson & Williams, 2001).

Disaster resilience requires more than social capital to achieve. The accounts of key informants (both survivors and local government officials) revealed shortcomings during the post-disaster activities. Fung (Robinson & Williams, 2001) believed that the failure to be responsive to the needs of the public adds to the continuing decline of public trust among government institutions. Brillantes and Fernandez (2011) explained that Philippines' unresponsive governance, including the inefficient and ineffective delivery of services, waste of public resources, graft and corruption, lack of integrity in government, poor leadership, excessive red tape, ineffective reorganization and structural changes, too much centralization, among other things, led to the decline of trust in government and therefore require reforms. Quah (2010) explained that the lower level of trust and governance in the Philippines is the result of political instability, the failure of the political leaders to deliver the goods and combat corruption effectively, and its unfavorable policy context.

Significantly, political trust is unaffected despite failure in governance. The findings revealed that typhoon survivors, particularly from Cagayan de Oro City, have relatively

higher trust in political institutions which imply that social capital is either unaffected or strengthened after the disaster. These findings are consistent with the research of Albrecht (2017) who investigated whether natural disasters and their management by governments generally affect political trust and satisfaction with the government among individuals and found that “disasters generally hardly affect political trust or satisfaction with the government among citizens.” Instead, as revealed in the results of the Citizen Satisfaction Index System presented in the findings, the selected political attitudes among individuals appear largely unaffected with the highly satisfied ratings given on both social and governance and response services of both cities. This study implies that despite the shortcomings of disaster response, relief and rehabilitation efforts of the government, the community remains to believe that their respective local officials are capable of helping them in times of need and are therefore can be trusted. As Robinson and William (2001, p. 55) put it, the use of social capital does not decrease its value because “what has been taken has also been replaced and added to by the interaction of the parties: existing relationships are reaffirmed, new experiences are encountered and another dimension of the relationship is established.”

## Conclusion

This study found that the generalized trust among Filipinos is part of the social norms. The idea of close family ties and the practice of Bayanihan and cooperation, as well as religiosity, enhance bonding social capital as well as linking social capital which explains resilience among Filipino communities. Moreover, this study revealed that disasters and crisis do not affect the quality of trust that communities have among its members despite the negative impacts disasters might have caused, such as crimes. Similarly, trust with social institutions is unaffected despite several lapses during post-disaster management. Instead, solidarity increases during disasters as implied in the neighbors helping neighbors' practices, pouring out of donations, and the volunteers. Significantly, communities develop a certain level of tolerance in terms of the failure and appreciation on the performance of its government and social institutions in times of disasters. Therefore, the generalized trust among communities proves that there is a mutual confidence among members of the community that nobody will exploit each other's vulnerability. Hence, the socially cohesive nature of communities in terms of camaraderie facilitated the rebuilding of societies after the 2011 Typhoon Washi.

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