The Paradox of Social Capital: Reflections on Disaster Response and Climate Adaptation

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ABSTRACT

Social capital refers to social ties, norms, and networks that facilitate group or individual access to resources. Social capital has a collective dimension, and its benefits are generally shared by members of a community. While social capital is generally recognized as an important means to building community resilience, it takes on a double-edge character when applied to real situations. Based on literature review, this paper elaborates how social capital plays its dual role in the process of adapting to climate change towards making communities resilient. Social capital simultaneously strengthens the ability of the community to survive a disaster and recover, while being a barrier to democratic principles and policies.

Keywords: social capital, climate change, disaster response, climate adaptation

INTRODUCTION

Climate change and disasters are perhaps among the most critical and complex issues modern societies face today. The Philippines is one of the world's most disaster-prone nations due to its location and natural attributes. Being located in the Pacific Ring of Fire and along the typhoon belt on the Western North Pacific Basin, its mean annual rainfall is reported to vary from 965 mm to 4,064 mm. Thus, flooding has become a common occurrence and the most prevalent form of disaster since 2000 (NDRRMC, 2012).

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In addition, the nation's high level of ecological degradation and socio-economic vulnerability place people at risk of damage to and loss of life and livelihood. In recent years, the character and the risk of being affected by disasters have increased. Research has pointed that global warming or climate change is one of the major factors responsible for the rise in weather related disasters. Other factors include socio-economic changes such as increased population in urban areas.

Disasters disrupt the normal flow of community life and place an enormous stress on the systems. For developing nations like the Philippines, disasters can be a heavy burden on development processes. A disaster entails perceived threats, disruption of routines, and coping with the crisis are among the challenges that a disaster entails. To mitigate for the adverse impacts of the disasters, the United Nations declared the International Decade for Natural Disaster Reduction (IDNDR) from 1990 to 1999 (UNISDR). During this period, there was a shift from post-disaster to pre-disaster mitigation. Mitigation means to take actions which will lessen a disaster's consequence and subsequent hazards. In its effort to cope with climate change and its attendant disasters, the State fortified physical infrastructures and undertook other similar mitigating measures. Due to various research developments in various disciplines, climate change adaptation and disaster mitigation have become more community-based. An alternative approach to pre-disaster mitigation is to strengthen the social infrastructure, such as social capital, that affects community resilience and adaptation (Aldrich & Meyer, 2014).

Community resilience is described as the ability of a neighborhood or a geographically defined area to deal with stressors and to efficiently resume daily life through cooperation following a disastrous event (Aldrich, 2011a). On the other hand, adaptation is the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderate harm or exploit beneficial opportunities (RA 10121). It may also refer to actions that people and institutions make in anticipation of, or in response to a changing climate. Research on disaster has long recognized the role of communities working together to survive and recover from catastrophic impacts (Quarantelli & Dynes, 1977). Although the image of a disaster situation often calls to mind the presence of trained professionals and formal rescue units, research has shown that neighbors usually serve as first responders (Bracamonte, Ponce, Viloria, Mendoza & Embornas, 2015). During the flashflood brought about by Typhoon Sendong in 2011 for example, majority of the individuals who were pulled to safety were saved by neighbors, not firefighters or rescue workers (Bracamonte, et al., 2015).

Social Capital: Definition and Types

Social capital has been defined in various ways from the different disciplines particularly economy and sociology. However, Putnam (1993, 2000) popularized the concept by focusing on the differences between northern and southern Italy and in his article on "Bowling Alone" where he looked at the role of social capital in producing benefits at the neighborhood and community level. He defined the social capital as the features of social organizations such as networks, norms, and trust that foster action and cooperation for mutual benefit.

There have been different opinions and definitions to understand the meaning of the concept social capital. Some have contended for its positive impact (Aldrich & Meyer, Nakagawa & Shaw) while others argued on its negative impact (Putnam, Woolcock, Portes, Aldrich & Cook, and Foley & Edwards). Many critics of the concept do not deny the existence of trust and its importance. Until recently, human capital was not considered as a capital good, thus there is a need for further study and analysis. There have been many empirical studies that shape the concept and methodology. For instance Aldrich and Crook (2008) concluded in their study of lists of potential sites for trailer parks as a response to the dire need for housing after Hurricane Katrina hit New Orleans that local citizens can join together to balance against state plans in what they call "counterweight". Even after there has been a disaster, local networks bring a "double-edged" quality simultaneously bringing the community together while mobilizing against the threat of trailer parks in their community.

Foley and Edwards (1996) presented that social capital in civil society is envisioned in a paradox. On one hand, social capital in civil society has an often positive impact on associational life on civility and good governance while another perspective focuses on civil society's power as counterweight to the state. These two perspectives are at odds with each other. This paper will present that social capital plays a dual role in the process of communities adapting to climate change and in making them resilient. Social capital simultaneously strengthens the ability of the community to survive a disaster and recover, while being a hindrance to democratic principles and policies.

Research has been done on the effect of social capital on disasters using quantitative methodology. For example, Sherrieb and colleagues (2010) produced indices to quantify disaster resilience which includes social capital and resilience at the community level. The study included data on ratio of two-parent households, participation in non-profit, religious, and civic/political organizations, number of registered voters,

and voter participation, migration rates, and crime rates. They were however, unable to measure certain characteristics of social capital such as trust, reciprocity, norms and values although they did find correlation with collective efficacy. With the many potential indicators available, more research is needed to understand the interaction between social capital and other forms of capital and how social capital play a role in climate change adaptation and disaster recovery as well as at the same time, impeding development. However, the outcomes or impacts that social capital may bring are not always functional or advantageous; others can be dysfunctional to the survivors of disasters. And social capital may vary in terms of effectiveness in playing its role during disaster events.

Woolcock (2001) identifies three types of social capital: bonding, bridging, and linking. Variation in strength of relationships and composition of networks are different in each type:

a) "Bonding social capital, which denotes ties between like people in similar situations, such as immediate family, close friends and neighbors;

b) bridging social capital, which encompasses more distant ties of like persons, such as loose friendships and workmates; and

c) linking social capital, which reaches out to unlike people in dissimilar situations, such as those who are entirely outside the community, thus enabling members to leverage a far wider ranges of resources than are available within the community (Woolcock, 2001:19)."

The strong connection between people in the bonding social capital makes it a good source of social support and personal assistance, especially during disasters. In contrast, bridging social capital ties are based more on acquaintances and display demographic diversity and provide information and resources. Granovetter (cited in Aldrich and Meyer, 2014) provides a classic example on weak ties, where bridging ties provided work opportunities compared to bonding ties. Examples of bridging ties include civic and political organizations, parent-teacher associations, sport, educational and religious groups. The last type of social capital involves creating a connection with people in power. This involves respect and trust between people who are interacting in a formal, institutional or hierarchical society. Linking social capital connects people with unequal status, providing them with access to power. Linking social capital brings

together community members with the decision makers and leaders who have authority and can provide the scarce resources needed during a disaster. The capacity to forge linkages with institutions beyond the community enables people to access resources, ideas and information which may be critical for climate change adaptation and disaster resilience.

The next sections of the paper will present the literature on the advantages of social capital in disaster recovery at the individual and community level. The downside of social capital is also presented.

Social Capital: Advantages

Mitigating disasters and adapting to climate change can be done in two levels. At the national or local government level, various mitigating measures can be implemented which may include improved weather forecasting and warning systems, promoting awareness of hazards or mapping disaster prone areas, disseminating information about disaster preparedness and climate change adaptation, policies that responsibly manage the environment and natural resources and laws that promote better management of disasters, such as Republic Act 10121 in the case of the Philippines. At the individual level, being prepared would include having an emergency kit, planning a household evacuation plan, and purchasing insurance protection against disasters.

Resilience and adaptation can also be cultivated by social networks. As defined earlier, community resilience can be achieved through cooperation in order to effectively manage the stress caused by disastrous events. Social capital can be an element in promoting adaptation and resilience to disaster. Research has shown that individual and community social capital networks provide various resources during disaster situations such as information, food, financial resources, and emotional and psychological support (Hurlbert, Haines, & Beggs, 2000). Social networks provide both financial and nonfinancial resources.

According to   Norris and colleagues (2002) the most common form of social network accessed by disaster survivors is the bonding social capital. Access to an extensive bonding social capital allows a person to receive warnings, locate shelter and food, and get immediate help and initial recovery assistance (Bracamonte et al., 2015). In a study conducted by Bracamonte and colleagues (2015) family members and relatives served as first providers of assistance. When families evacuate, where do they go? Certain studies showed that most evacuees prefer to go to relatives and friends, not public evacuation sites. A number of survivors during the typhoon Sendong stayed at their relatives' houses after the disaster instead

of taking refuge at the evacuation camps. This was more particularly seen among the Maranao residents of Iligan City who practiced *katetebanga* or family/communal reciprocity. Furthermore, when people evacuate they do it as a group – typically as a family. However, this also resulted to underreporting of the number of victims since the local government focused their attention on the evacuation camps (Bracamonte et al., 2015). Indeed as Hurlbert, Haines, and Beggs (2000) stated, bonding social capital reduces the likelihood that individuals will seek help from formal organizations and increase the possibility that there will be a corresponding response to disaster survivor's needs. Social networks provide avenues through which the perception of risk and the taking of preventive action can be transferred.

Although bonding social capital is the most commonly accessed resource, research has shown that bridging social capital also enhances recovery. Bridging social capital also provide resources that support long-term recovery. Hurlbert, Haines, and Beggs (2000) showed that ties to social organizations provide further connections to institutions which may not be available through bonding social capital. Other researchers have confirmed that bridging social capital can promote resilience. Aldrich (2011a) found that post-disaster recovery was positively correlated with the number of nongovernmental organizations, clubs and social groups. With membership in an organization, people increase their social network. They are able to establish valuable contacts with persons in authority in the organizations. Additionally, as a member of the organization, they also expand their contact with other community members.

In general, people who have good social networks have more bridging and linking social capital. Consequently, people who are not members of an organization have fewer contacts and usually most of their contacts are within their family – which is bonding social capital. It can be gleaned that membership in an organization predictably increase social relations resulting in access to resources and support.

A study by Witvorapong and colleagues (2015) examined the relationship between social capital and disaster risk reduction actions in Thailand following the 2012 Indian Ocean earthquakes. Using a survey, they found that disaster experience increases the likelihood of participation in community activities which in turn can have positive externalities in disaster mitigation. In a similar fashion, Witvorapong and colleagues (2015) uncovered that disaster experience can also enhance social capital. During normal situations, fulfillment of citizenship responsibilities is unexceptional such as participating in elections or volunteering for a cause. During disastrous situations, some life

threatening problems that members of the community experience together provide opportunity to develop attachment to each other.

Information is very important during an emergency. Social networks provide channels where people can develop a perception of risk and thus take preventive action. In disaster prone areas, being regularly exposed to risks stimulates information diffusion about preventive measures and helps in coping with risks through collective learning. This in turn, reinforces social trust and community participation useful during a disaster situation. However, sometimes the public information warning provided by officials through the media can fail. Bracamonte and colleagues (2015) showed that social network is an important element in responding to a warning. Other people help you hear, understand, believe and decide on how to respond to the news report on typhoon warnings because not everyone watches the news all the time. Fitzpatrick and Mileti (1994) pointed out:

> People respond to warnings through a social psychological process . . . which persons in an endangered public do and do not hear, understand, believe, personalize, and respond to emergency warnings is not the result of chance. (1994, p. 82)

The importance of social networks as sources of information can be appreciated when disaster preparedness were not implemented. One example is described by Bracamonte and colleagues (2015) where Iligan City residents were provided warnings by PAGASA of the incoming typhoon Sendong but was not understood and believed. As of 16 January 2012, more than 1,250 people were killed, over 6,000 were injured. The damage assessment and loss analysis estimated infrastructure and utilities to be P551.8M, social sector reaching P72.6M and economic sector to be P295M or a total of P919.4M (NDRRMC, 2012).

In Northern Mindanao, located in the Southern Philippines, strong typhoons had not been reported to visit the area. Thus, although residents of Iligan City watched the television news report about typhoon Sendong hitting Lanao del Norte at signal number 3 on December 16, 2011, this did not translate as clues for an impending danger. In addition, Iligan City was not mentioned in the news reports specifically since the city was declared a lone district separate from Lanao del Norte. Because of this, people were unable to provide warnings to other people which resulted in massive destruction. Going back to Fitzpatrick and Mileti's discussion of the

warning process, if people do not hear, it is impossible to understand, believe, or decide and respond.

Additionally, disaster situations facilitate the emergence of norms of helping behavior. Disasters produce scenarios for the development of altruistic norms. Disaster as a concept refers to "relatively sudden occasions" implying social space and time (Quarantelli & Dynes, 1977). This sudden and random damage create a condition of obligating people to help and emphasize helping as a community norm. In this way, having developed a community norm of helping increases the actual helping behavior.

Aside from developing altruistic norms, the emergency situation suggests that caring for the victims and restoring services are placed as high priority while education, leisure and non-critical efforts are set aside until higher priorities are achieved. For example, school buildings and school personnel are utilized to house and care for the victims instead of conducting classes. Aside from looking at high priority values, there seems to be a reduction in the operation of appropriate norms for a given workplace or institution. For example, offices and people tolerate not wearing proper work clothes when coming to work. In addition, certain bureaucratic procedures are temporarily repealed, for example during typhoon Sendong, some line agencies of the government fast-tracked the processing of supplies and equipment for rehabilitation. There is informality and less attention to status; however, at the end of the emergency period, there is an expectation that norms will be re-institutionalized.

Filipinos have cultures of hazard coping. Bankoff (2003) outlined some age-old practices of the Filipinos to adapt to natural hazards ranging from flexible use of technology in domestic architecture, diversified crop/farming method to formal and informal community stakeholders/reciprocal exchanges like *bayanihan*. In the study of Orejas (2003), he acknowledged the role of non-government organizations (NGOs) in transforming at-risk communities into resilient ones through community initiatives and people's organizations. The NGOs are responsible in mobilizing local resources/support while facilitating international humanitarian assistance. The synergy created by this relationship is responsible for the creation of disaster resilient communities.

In the Philippines, the work of Porio (2011) on "Vulnerability, Adaptation, and Resilience to Floods and Climate Change-Related Risks among Marginal, Riverine Communities in Metro Manila" is a comprehensive way of presenting how the urban poor households adapt to

flood hazards and the role of the local government unit to ensure that these communities become resilient to the threat.   She captured the strong interaction of environmental-ecological vulnerability of communities along the river systems (Marikina-Pasig, Malabon-Tullahan and Napindan) and the social vulnerability of urban poor households living in these areas (Porio, 2011).

What are the implications of social capital in disaster response and in promoting resilience?   One implication is that social capital is deemed important since previous mitigation efforts have been deemed lacking. Two perspectives have been dominant in mitigation efforts. First, people are assumed to be lacking information about threats that is why they lack preparedness. Increasing awareness and knowledge about risks will thus ensure appropriate mitigating behavior. Second, if people are not aware or are not knowledgeable about the risks, it is the role of the local leaders to decide on appropriate mitigation measures for the community.

For example, on the first perspective, Bracamonte and colleagues (2015) show that disaster awareness is linked to disaster preparedness. Given the low disaster awareness of the respondents, they were caught flat-footed when typhoon Sendong hit their areas. The thousands of families affected, along with their effects on people, properties and environment, are a clear testament to the magnitude of destruction that this has brought on them. With the painful experience that they went through during Sendong, the respondents' awareness of typhoon and its accompanying risks has both heightened and widened during the typhoon Pablo which hit their localities in only about one year after the occurrence of typhoon Sendong, in which they have succeeded in achieving their goal of "zero casualty", although they had some properties damaged by typhoon Pablo.

Furthermore, statistical tests have confirmed that disaster awareness has significantly increased after respondents have suffered from the adverse effects of typhoon Sendong, the worst typhoon that ever struck their communities and several other barangay of Iligan City. The trend in heightened disaster awareness was further reflected in disaster preparedness which significantly increased both at the household and barangay levels after the respondents went through their miserable post Sendong conditions. Indeed, experience is a very powerful tool that can positively change one's awareness, perspective and attitude towards hazards, and eventually reduce their vulnerabilities to such events through improved mitigation measures and preparedness.

Lastly, Drabek (in Quareantelli & Dynes, 1977) also claimed that generally, victim families fare better with respect to solidarity and

relationships when compared with non-victim families of the same community. Thus, the disaster strengthened the solidarity of impacted families. Other studies also showed that at the organizational and community level, there were sectors that gained from disasters as well. These sectors of the society fared well in the economic and power status before the disaster. Their improved positions could be traced to the activities related during the disaster. Examples of these organizations may be nongovernmental organizations which enhanced or formed new relationships with international funding agencies. Since some local NGOs were local partners of international NGOs (INGO) during the response and rehabilitation period following the disaster, they were able to maintain and renew relationships with the INGO even after the projects were completed. Politicians and some government personnel also tended to have reaped gains from disaster situations if they performed well. Effective decision-making made by politicians and government personnel during a disaster has become a test of their electability.

Social Capital: Downsides

The inherent capacity of social capital to facilitate beneficial, productive benefits has the potential to cause negative externalities. According to Woolcock and Narayan (2000), social capital refers to the "norms and networks that enable people to act collectively". Social capital does not exist in a vacuum; it rather leads changes in the power relations between the civil society and the state. Consequently, two key issues need to be considered: whether social capital exists outside the state and whether social capital is a symptom of a progressive society. The state is an important aspect in facilitating social capital in relation to the importance of strategic environmental planning for climate change. If the state could create regulatory or physical infrastructure to manage the potential impact of floods, will this infrastructure work if it does not resonate with social norms?

From this viewpoint, social capital can be seen as a bond for adaptive capacity, particularly when dealing with disastrous events. This can be articulated in the different views regarding social capital and its relation to the state. At the individual level, an individual in a social group may benefit from the sharing of financial risk, market information, or reciprocity during a crisis. A bonding social capital is seen in ties defined within a socioeconomic group and may be based on family and locality or neighborhood. In contrast, networking social capital is when an individual has economic and other ties that are external to the group. Networking

social capital is primarily based on weaker bonds of trust and reciprocity, thus relying on legal and formal institutions (Woolcock & Narayan, 2000).

However, it has been written that not all social networks go well together with good governance and societal operations. Woolcock (1998) and Portes (1998) argued that criminal gangs and other forms of groups have strong social capital but threaten the social capital of others in society and are thus eventually end up as sources of "social disorganization" (Arrow, 2000).

At the institutional level, social capital is presented as the capability of social groups to act in order to achieve their common interest depending on the characteristics of the formal institutions within which they exist (Woolcock & Narayan, 2000; Evans, 1996). Building on the ideas by Woolcock and Narayan (2000), four cases could possibly develop. First, a well-functioning state with low levels of networking social capital means that the state takes on a welfare system. The state provides for the marginalized groups but at the same time exclude some other groups. In terms of the environmental scenario, the state invests in environmental protection on behalf of the civil society such as providing insurance for weather related risks to property.

Second, when a well-functioning state has high levels of networking social capital is considered by Evans (1996) as an idealized synergy between the state and civil society, promoting social and policy learning. The third case is when there is a dysfunctional state with low levels of networking social capital where a coercive state practices exclusionary politics undermining social capital. Being at odds with the civil society, conflict occurs and the marginal sectors are more vulnerable. In such situations, conflict arises even if there are no disasters. Lastly, when the state is dysfunctional but there is a high level of networking social capital, the networking social capital is forced to substitute the role of the government. However, sometimes the outcomes are far from achieving the desired goal.

Following Woolcock and Narayan (2000), the four cases presented have implications for disaster and governance issues. Social capital can play an important role in coping with environmental stresses. Networks of reciprocity help in coping with impacts of catastrophic events. However Dasgupta (2003) argued that social capital does not essentially facilitate positive adaptation and enhancement of well-being. As highlighted by Portes (1998), collective action does not necessarily benefit everyone. For instance Putnam (2000) stated that often one person's advantage from social capital is at the opportunity cost of exclusion of another person. This implies that there is a trade-off between community solidarity and

individual freedom and suggesting that increase in social capital could also facilitate opportunities for negative goals. Putnam (2000) suggested that problems on social capital can be due to the imbalance of bonding and bridging social capital. He stated that bridging social capital helps enhance identities and reciprocity while bonding social capital intensifies our selfish tendencies. Inequalities in resources and social hierarchies are rarely overturned in the course of adaptation or resiliency. These are usually reinforced during climate and other hazards (Bracamonte et al., 2015). The two key factors regarding social capital – source of social control and as a source of benefits through related networks - can be seen as hindrances to effective decision making or policy formulations through imposing obligations, implying limitations or exclusion, and thus entailing unintended loss and uncertainty.

Thus, since the state and the community or civil society interacts with each other, the state evolves in the process of policy learning. Adaptation or resiliency in the political system to disturbances in the ideologies and policy paradigms act as external shocks which become channels for learning toward adaptation and resiliency.

Networking social capital is deemed important at the local level for understanding the differentiation in vulnerability. Bonding social capital at the family and household level are important assets for coping with the impacts of disasters. However, the state can enhance resilience through policies that enhance planned adaptation to climate change for instance through infrastructural investments in flood defense, spatial planning as integrated in the Comprehensive Land Use Plan, and management of the watershed.

On the other hand, bonding social capital can bring negative outcomes in disasters such as resistance to various disaster recovery needs. Aldrich and Crook (2008) showed that after Hurricane Katrina, neighbors with higher voter turnout before the disaster were more likely to resist successfully the inclusion of their community as a potential for the placement of temporary trailer housing. During an emergency period, panic and looting are frequent and problematic situations.

Panic is described as a condition of heightened fear coupled with flight. This usually happens when people are aware that there is a threat to them and when they feel entrapped and isolated from other people, although rare, feelings of social isolation also happen (Quarantelli & Dynes, 1977). Victims feel anxiety and usually the appropriate response is flight such as evacuation. During a disaster situation, officials urge people through the media not to panic and that they are doing everything to prevent looting and control the situation. However, the caution not to panic

Ganapati (2013) in a study of the downsides of social capital for women affected by the earthquake in Turkey, also noted in her study that social capital has some negative effects most markedly that it portrayed women as emotional and put them in conflict with government officials. Due to existing gender relations, women found it difficult to enter into male dominated networks that emerged after the disaster, such as search and rescue teams. Furthermore, it was demonstrated that the emergence of civic networks either serves to improve the role of women in society or given the foundation on the society's already existing gender norms further aggravates the disparity between gender (Ganapati, 2013).

In a similar study on the role of social capital in disaster recovery among Haitians in the aftermath of the 2010 earthquake, Rahill and colleagues (2013) showed that social capital facilitated the access to resources in order to rebuild their homes. Conversely, social capital had hindered access to resources for other members of the community especially those who were not part of the formal or informal networks. A consequence of such perceived inequality is perpetuation of acts of violence against people who had acquired better housing materials and facilities through their networks.

Indeed, there is empirical evidence showing that social capital is recognized as having potential negative consequences. This contrasts with the mainstream perspective and literature on social capital, which casts it mainly as a public good.

CONCLUSION

Findings of the review present contradicting roles that social capital can play in climate change and disaster response, depending on its typology. What is presented here shows that social capital contributes both to stability and change, just as it generates conflict. Under disaster conditions, changes in the community and its environment occur to which social capital may be deemed to generate functional or dysfunctional effects.

With the potential for bonding social capital to reinforce discrimination and exclusion, decision makers should invest in programs and projects that would build links across the groups and communities and with people in authority. Building up the connections within and between families and groups can provide communities stability and opportunities for development.

In addition, public policy should ensure that strengthening linkages among social networks of vulnerable groups would be built up to increase their individual and community resilience and adaptation. Balanced networks of bonding and bridging social capital may constitute a determinant of a community's adaptive capacity.

Government organizations can foster social capital by linking mobilized community residents and organizations to public agencies to enhance the efficacy of the government. The combined effort of a strong public institution and organized communities can be powerful tools for development that can be sustained and enhanced in the long run. Synergy between the state, communities and organizations can enhance social capital and thus build up adaptation to climate change toward achieving resiliency.

Social capital is essential in generating the conditions to reduce vulnerability, and consequently, the dependency of communities or countries on external initiatives in helping mitigate disaster impacts. This is because social capital is vital to creating the necessary social, economic and political structures (including cooperation and inclusion in networks) to advance adaptation and resilience. This in turn contributes to a reduction of the level of risk communities are exposed to.

Thus, the associational sphere as the source of social capital cannot by itself sustain a fully functioning society in the face of a disastrous event. A supportive political and social environment is necessary. This environment includes the state which can provide the political and regulatory framework within which civil society can pursue its objectives in a nonviolent manner and a society where associations have access to funding from other social and political organizations that recognize and support them.

At length, it is important that there should be access to government decision-making avenues to manage disasters. A non-representative government usually does not have channels in order to respond to the needs communicated by its citizens. In addition, such types of governments control the formation of civil society organizations which are capable of helping increase resiliency through volunteering and community organizing. Political ideologies sometimes discourage plans for building civil society which does not originate from political systems. Governments believe they "own" the disaster situation. Because of this attitude, nongovernmental organizations are excluded from the planning process. At the same time, this attitude also inhibits individual and household plans which could lessen the impact of disasters. When a

disaster occurs and nongovernmental and civic groups respond effectively, resentment due to the government's ineffectiveness is exposed.

On a final note, it is important for policy makers and researchers to be aware of the downside and benefits of social capital in disaster recovery. Awareness of the possible paradox of the social capital may help in mitigating the negative impact and maximizing the positive features of social capital that will yield long term recovery and strengthen climate adaptation.

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