

Social capital in community response after Cyclone Winston: Case study of three different communities in Fiji

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ABSTRACT

This paper examines the roles of communities' response to Tropical Cyclone (TC) Winston in 2016. The paper will aim to understand how communities responded to TC Winston and to analyze social capital in their response activities. The study investigates three community case studies in Fiji where community prioritization of activities and community responses used both bonding and bridging social capital. The data was collected by using household interviews, focus group discussions and key informant interview. This study highlights that communities in Fiji have potential to coordinate response activities internally before external sources of assistance or aid is given. Strong family networks, community cooperation (*solesolevaki*), existing governance structure for good leadership and the interactions with religious organizations in the communities are several factors that contribute to effective community response. Strengthening social capital in communities in Fiji has the potential to form a safety net for all communities whilst waiting for government assistance and other relief organization to arrive. Findings from this research highlights the community's capacity in relation to social capital and contributions towards strengthening linkage between government and community in Fiji.

Keywords: *Cyclone Winston, Fiji, community response, traditional villages, social capital*

INTRODUCTION

Fiji is an island state in the South Pacific consisting of 300 islands with a population of approximately 884,887 of which 44% resides in rural areas, and are agriculture dependent (GOF, 2016). The country has suffered from recurrent cyclones and rural communities have been greatly affected. On the 19-20th of February (2016), TC Winston, a Category 5 cyclone with wind gusts of 200 mph and average wind speeds of 143 mph tore its way through Fiji. Post-cyclone damages were estimated to be 1.4 billion USD, killing 44 people and impacted housing and agriculture sectors (GOF, 2016). 30,369 houses were estimated to be damaged or destroyed (22% of the total households) (ADB, 2016; Gard and Veitayaki, 2017).

Communities are usually the first to respond after a disaster (Wood et al, 2013), therefore it is important that there is a link between the local communities and the local government. The National Disaster Management Act (NDMA, 1998), is the only legislated act in Fiji focused on disaster response and it however does not reflect the link between government to the community. However, the need to strengthen community-government link is stipulated in the National Disaster Reduction Policy for Fiji, stating that the unclear approach in the NDMA led to confusion of roles between local government in leading response and recovery in the communities (GOF, 2018). Communities capacities are significant elements in preparing a community for a disaster, this study is to provide case study evidence demonstrating the role of communities in self- organized response actions which hopes to fill the gap in Fiji's disaster legislation and policy. Strengthening the countries policy's is also a direct contribution to the 11th Sustainable Development Goal, targeted towards making human settlements inclusive, safe, resilient and sustainable through the development of holistic disaster management in all levels. This is specifically for target 11. B.1 for countries to adopt and implement the Sendai Framework in its disaster management strategies. Additionally, the study will address SDG goal 13, target 13.1 towards strengthening resilience and adaptative capacity to climate related disasters.

Community response for the purposes of this study is defined as the community driven response to the cyclone impacts, particularly in a traditional Fijian village setting. This study focusses on both the household level and the community level. Social capital, amongst other factors plays a key role in in disaster response and recovery in communities. Local level social capital has been highlighted as essential for disaster response and recovery as was observed in Gujarat, India and in Kobe, Japan (Nakagawa and Shaw, 2004). Recent research in the Pacific and Fiji have also highlighted the importance of social capital in disaster relief and response (Campbell, 2006; Takasaki, 2011; Yila, 2014; Warrick et. al, 2017; and Nakamura and Kanemasu, 2020).

This study aims to understand how communities responded to TC Winston and to analyze social capital in their response activities. Findings from this study highlights community capacity in relation to social capital and contribute towards the creation of a policy that bridges the gap between local government and community.

RESEARCH METHOD

Research framework

Social capital has been studied extensively in the past and can be defined as the collective asset in the form of shared norms, trust, networks, social relations, and institution that facilitate cooperation and collective action for mutual benefits (Chamlee-Wright and Storr 2011; Zahnow et al. 2019). Aldrich (2012) mentions that beyond these different forms of shared norms and factors by researchers, scholarship traces social capital in three dimensions bonding, bridging and linkage (Figure 1).

Bonding social capital refers to bonds within and between community members (Putnam 2000) and Woolcock (2002) who are alike and may live within walking distance from each other. Bridging social capital connects the individuals and family group to form a "link to external assets" (Putman 2000,23).

Bonding and bridging social capital are said to be horizontal ties whereas linkage is a vertical relationship with those in formal or institutional gradient in society or those in the position of power (Szreter and Woolcock 2004). Bonding and bridging social capital are relevant to this study. Bonding social capital in this research refers to; family bonding, community bonding, and within the village network. Bridging social capital, is related to the family network outside the village, church in the

village, and other groups outside of the village network. This research will analyze community led responses based on bonding and bringing social capital.

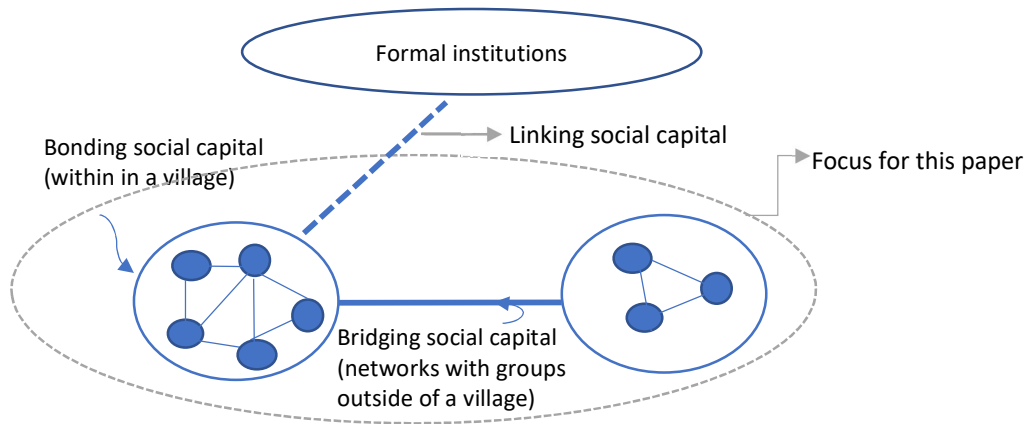


Figure 1: Social capital framework used in the research adapted from Aldrich (2012)

Research sites

Three rural traditional villages in Fiji were selected for this study; (1) Nabuna village on Koro island; (2) Navala village in the highlands of Ba in the western side of Viti Levu and (3) Navuavua in Rakiraki on the northern side of Viti Levu (Figure 1). All three of the study sites were selected based on the extent of the damage by the cyclone and were all in the 'red' zone. This red zone are the areas that were directly hit by the cyclone path. Other factors included geographical features; (1) a community on an island- isolated from the main island (Nabuna), (2) a village in the highland (Navala) and (3) a village that is near a town (Navuavua). These three provinces were badly affected by the devastating TC Winston and 12 of the 44 casualties in Fiji, were from the island of Koro

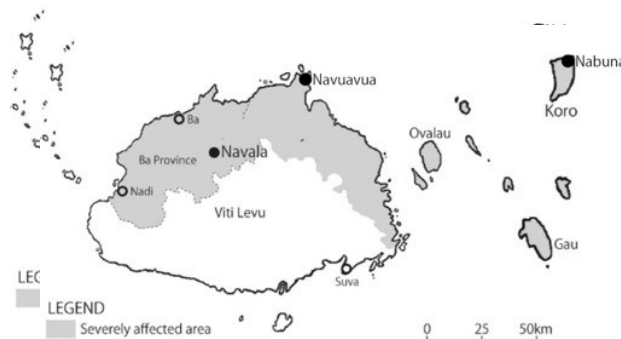


Figure 2: Map of Fiji showing the case study areas



Figure 3: Case study community sites; (left) Nabuna village, (middle) Navala village and (right) Navuavua village

Data collection

Research was carried out in the three communities from March 2017- March 2019. For each village visited, a traditional *sevusevu*¹ was presented to seek permission from the elders and the *Turaga ni koro* (village headman that is the key person and administrator in any traditional village) to carry out research in the villages. The interviewees (semi-structured interviews) were selected purposively based on their experiences regarding TC Winston and the roles they played during the disaster response process. Data was collected through household interviews to understand household damages and individual family's responses to the disaster (Table 1). Five focus group discussions were carried out in total, Nabuna village (1), Navuavua village (2) and in Navala village (3). The gender distributions in the focus group discussions in Navala were mostly (80%) female whereas in Nabuna and Navuavua, men were mostly present, as shown in Table 1. All the interviews were translated in the Fijian language for ease of understanding.

Community	Estimated Population	Gender		Age group								Total
		Male	Female	20s	30s	40s	50s	60s	70s	80s	Unknown	
Nabuna	200	20	9	4	7	6	6	3	2	0	1	29
Navala	800	35	86	10	27	29	26	16	12	1	0	121
Navuavua	500	13	8	1	0	3	7	6	0	1	3	21

Table 1: Interviewees by gender and age

RESULTS AND DISCUSSION

Community needs immediate after TC Winston

This section describes the needs identified by the villagers after an assessment by the village headman. The needs will help in the coordination of activities immediately after the cyclone. Assessing the damages, the day after the cyclone was the first activity done, this also included taking an inventory of injuries and fatalities. This was followed by the village clean-up which was mostly carried out by men and youths whereas the women focused on cleaning their individual homes. Apart from the initial disaster assessment and the clean-up (village and individual homes), other village immediate priorities included; house repairs and construction, food for evacuation centers, drinking water, sanitation and the care of the elderly, disabled and children. All activities are illustrated in the timeline in Table 2.

¹ *Sevusevu* is the presentation of *yaqona* root (*Pipers methysticum*) in a ceremony to introduce and seek permission to visit the village by any visitor

Name of the villages and Need		Activities	YEAR 1 (months)					
			F	M	A	M	J	J
All the villages	Cleaning	Village youth and men clean the village and women at home						
	Water and sanitation	Temporary fix water pipes and toilets from debris materials						
	Food	Salvage food from the gardens to share with families						
	Shelter	repair and construct temporary houses from materials saved from the cyclone (eg, corrugated iron sheets, timber, beams and poles)						
Nabuna	Protection of the elderly	Villagers transferred sick and injured by boat to hospital						
	Food	Village canteen/shop were distributing food to those that needed						
Navala	Shelter	Patching roofs of traditional houses from collected grass and reeds						
	Shelter	Collection of timber from the river (floated downstream)						
Navuavua	Cleaning	Villagers clean up individual homes						
	Food	Village canteen/shop were distributing food to those that needed						

Table 2: Timeline of identified needs and relevant activities in the villages

Cleaning was continuously carried out for about three months with the fixing of water pipes and toilets carried out simultaneously. Despite the complete destruction of farms (100%) and households gardens in the villages, root crops and vegetables could still be salvaged through a quick harvest during the first two months post-cyclone. These were used for consumption in evacuation centers and individual homes. The destruction of farms included food and fruit trees that the villagers also relied on for their livelihood. Shelter and the need to move back to stranded family homes were a need observed in all three villages. Home repairs and reconstruction allowed for the repurposing of materials collected from the cyclone debris collected from the village clean ups. Materials included corrugated iron sheets, timber, and fallen trees for poles and beams.

In addition, there were specific needs in some villages. In Nabuna village, the priority also included the transfer of elderly, disabled and the children to Suva (capital city of Fiji), to be in the care of their families (the week after the cyclone). This was because of the extent of the damage in the village was about 92% of the houses were destroyed (28 of the 29 households interviewed). In Navala village, there are 94 of the 119 households living in traditional houses and 60% of which were minimally damaged (where only the thatch was blown away by the strong wind). Grasses and reeds collected from the cyclone debris were used to thatch and patch the areas of the houses damaged. Beams and poles collected from the river were also used to either 'straighten' the houses or to build temporary shelters for the families. In Navuavua village, most of the houses were made of concrete and 85% of the interviewed houses were destroyed, either completely or partially. The community's ability to prioritize immediate needs and to work together to address them is crucial in community response after a disaster is vital. Despite the difference in communities' characteristics, the activities they prioritized were the same.

Community response bonding social capital

a. Family bonding

Families are an important unit of a traditional Fijian village and are usually the first unit of interaction within the village, before the clan and village level. The extended families (same family unit

in different houses) in the three villages were the first point of assistance within the village. They evacuated at neighboring family' houses particularly in Nabuna and Navuavua as the family commonly live close to each other in traditional villages.

Food acquired from quick harvest and from those with small village shops, was shared with families in the village and those in the evacuation center. The sharing of food is reflective of the traditional practice of *takitaki* whereby food is given to another family because of mutual care (*veilomani*) or kinship/relationship (*veiwekani*) or as a thank you for a task one has assisted with. The act of *takitaki* is also done to families with elderlies and those in need as they would not be able to go to their own farms to salvage their farm crops. All three communities shared experiences of sharing food and eating communally during the first weeks after the cyclone.

The Fijian culture is centered around family and communal living, these inbuilt bonds form a safety net for any family that may need help during or after disasters. The concept of *veilomani* (love, kindness or mutual care) and *veiwekani* (kinship) are seen to be amplified in community response amongst families.

b. Community bonding

Fijian traditional communities share human resources. Many interviews referred to the traditional practice of *solesolevaki* as the primary means of labor sharing. *Solesolevaki* mainly refers to the collective efforts which “manifests in the communal nature of Fijian society, where everyone is related and is obligated to work together” (Movono and Becken, 2018). This traditional practice mirrors social capital in the Fijian context. Communal work was evident in the cleaning and the fixing of necessities after the cyclone. Navala with traditional houses, particularly heavily relied on bonding social capital for the maintenances of these house (Figure 3). Repairs of temporary houses immediately after the disaster was possible through *solesolevaki* in the three villages, the trust and mutual understanding within the villagers encouraged this bond.



Figure 4. Men of Navala participating in *solesolevaki* for the constructing a *bure* in the village

The existing governance structure within traditional villages in Fiji allow for an organized coordination of activities and the distribution of relief supplies. There is a strong trust and mutual understanding placed on the leaders within the village and coupled with the traditional practice of *solesolevaki*, there are strong bonds with families and clans that is in existence in daily life and is utilized well during and after disasters.

The chief and the clan leaders are the leaders in any traditional Fijian village and are often the decision-making body together with chairman of any village committee (Figure 5). This structure is important in the implementation and the maintenance of the practice of *solesolevaki*. The traditional

leaders choose the village headman who plays an important role in managing the village administration. The village head man (*Turaga ni Koro*) takes on the leadership and coordination role in the community bonding process. Chiefs and traditional leaders cooperate and follow the directives given by the village headman during the response period and this ensures the respect of the villagers.

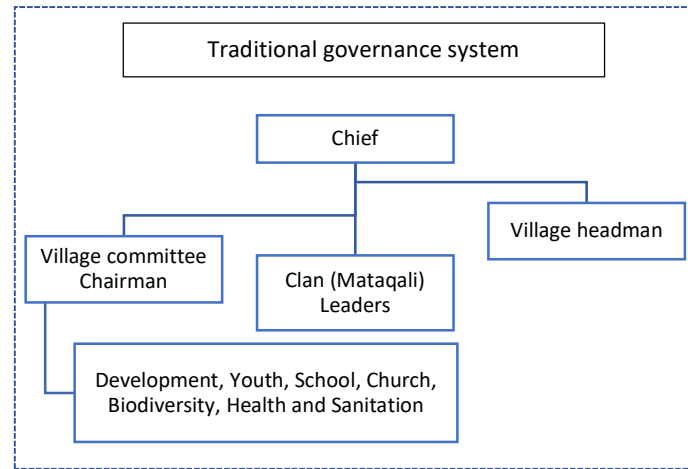


Figure 5. Established village governance system

Community response bridging social capital

a. Family network

Family networks are in those living beyond the boundaries of the villages and this mostly refers to family either extended unit or in the nuclear family unit. These networks are important in assisting families in the villages immediately after the cyclone. In Nabuna village an emergency committee was formed by family members on the main island of Viti Levu. The goal of this committee was to collect relief supplies from donations and gifts and its immediate transport to the village. The early intervention of this family link enabled the distribution of water pipes, construction materials to fix drinking water systems, toilets and supply beddings and food to the village. The committee also organized the transfer of elderly, disabled and children to families on Viti Levu. In Navala and Navuvua, families' outside of the village assisted in the supply of relief items and building materials. This was carried out more at the individual family level and not at the communal level.

Family networks outside of the village are formed due to marriages, urbanization and the search for employment and better education in the cities and towns. These family members residing outside the village often contribute to ceremonies and obligations such as deaths, birthdays, weddings and catering for *solesolevaki* activities within the villages.

b. Church network

Religion is important in traditional villages in Fiji, where the Christian faith is dominant. Christian rituals are imbedded into Fijian traditional culture, prayers before every meal, daily devotions and several church services within a week is considered a norm and can be observed in all villages in Fiji. All villages have a church building and Sundays are considered *tabu* (forbidden or holy) where attending church and resting is mandatory.

The churches in the three villages also played an important role in community response activities in the three villages. In Navala, because of its location the Catholic catechist from Ba town was the first to reach the village, having to walk 20km to deliver toiletries and food items the day after

the cyclone. In Navuavua village, a family who is a member of the Salvation Army church was assisted by the church with food supplies and the reconstruction of their damaged homes. The church was also able to assist the family in setting up a small shop in their house to help with their livelihood. The Indian division of the Methodist church in Navuavua also assisted families who were members of their congregation with clothes and food relief supplies, which was shared with families within the village. The Methodist church provided psychosocial support to the affected in Nabuna village, via the provision of counselling and spiritual support for families.

The church network in the villagers are forged by the community. It is built by those that attend the same church within the village and extends to the church network of congregations and divisions outside of the village. The church is also utilized by the government and NGO's in Fiji to share about climate change, and disaster management.

d. Other groups of people

In Navuavua village people from all walks of life were delivering food and relief items to the village. Businesses from the western side of Fiji supplied and delivered cook food within the first week after the cyclone. This also included supplies of clothes, toiletries from people that wanted to help those affected. These businesses and donors were mostly from towns unaffected by TC Winston. The proximity of Navuavua village to the main highway allowed for the ease of dropping off relief supplies by different groups of people. These groups were connected to the village through businesses that employed the villagers. These businesses have a network in the village as seen in Navuavua and are bringing social capital in that sense that these existing networks assist with the communities' response activities.

The family outside the village, the churches, and other pre-existing networks were the bridge to the community in providing food supplies, providing the much-needed evacuation shelter spaces, transportation of the elderlies and providing materials for rebuilding houses and temporarily fixing water pipes and toilets. The networks formed through the bonding and the bridging social capital in the three villages shows an insight into the community capacities in Fiji. They highlighted the preexisting non- governmental networks available that are in play in villages. To bridge the gap highlighted in the National Disaster Risk Reduction policy, it is important for government to recognize these networks and to utilize and enhance them to build community resilience and to manage relief and response in future disasters.

CONCLUSION

To conclude, communities from the rural areas in Fiji will draw upon social capital when responding and recovering from any disasters when relief supplies and distribution are delayed. As stated in the paper, communities were able to meet their immediate needs such as food, temporary shelter, cleaning and basic sanitation within the villages whilst waiting for the relevant authorities to reach them. This was possible through their family, community and existing networks. Communities ability to prioritize needs and utilize both bonding and bridging social capital is important in creating resilient communities with a bottom-up approach in linking the existing gap in Fiji's disaster management act and policy. Whilst governance in Fijian traditional communities are observed and trusted upon, they can also become a factor to influence social capital is maintained in the villages. The current leadership should maintain the organization of the village to allow for traditional bonding and bridging social capital to be encouraged.

Disaster management in Fiji should be focused on risk reduction in its management approach to strengthen the links between local government and local communities which are not realized in the current policy yet. Community leaders should be provided capacity building trainings to allow for an effective participatory approach in the community. such as the initial damage assessments.

Although this research did not directly focus on the COVID-19 pandemic, however, the pandemic is seen as a disaster to employment especially for countries that rely on tourism such as Fiji. The multiple disasters of cyclone and pandemic will damage more seriously to ordinary people. Networks that are included in community social capital can also be utilized for those affected by the pandemic. This research can be applied to broader issues within any community, looking at the importance of social capital in post disaster context.

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