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# Social Capital's Role in Humanitarian Crises

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The growing scale and persistence of humanitarian crises constitute a critical problem for nation-states, aid organizations and crisis-affected people. Many humanitarian responders continue to focus on material aid, providing essential supplies and services during these crises, while other actors restore physical infrastructures. We believe aid efforts are overlooking the pivotal nature of horizontal and vertical ties within and between communities. Using qualitative and quantitative data from Uganda and Nigeria, we show how social capital matters even during the most severe crises. Our interviews and regression analyses of survey data show that deeper reservoirs of bridging social capital associate significantly with the preparedness of individuals displaced by violence in Nigeria, and that bonding and linking social capital correlates with greater resilience for people stressed by food insecurity in Uganda's Karamoja region. Some concrete policy recommendations emerge for aid agencies and decision-makers that can invest in rebuilding social infrastructure in affected populations.

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Keywords: Social capital, displacement, humanitarian aid, disaster response, crisis, Africa, NGO

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## Introduction

Humanitarian organizations, governments and residents around the world constantly deal with a stream of shocks and crises that require financial, administrative and logistical attention. A wide scope of phenomena fall within the rubric of humanitarian crises, with causes ranging from slow-developing, broad-area events

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such as drought in the Sahel and civil war in South Sudan to rapidly developing disasters such as large-scale seismic events and extreme weather. In 2018 alone, some 13.6 million people were newly displaced from their homes within or across borders by conflict or natural hazards, joining tens of millions already displaced, for a worldwide total of 70.8 million forcibly displaced people (IDMC 2019; UNHCR 2019). 5

The mounting scale and severity of humanitarian crises are straining national and international systems: the global number of people who need humanitarian aid rose from 81 million in 2014 to 131.7 million people in 2019, and the gap between the funding response of international donors and the necessary amount estimated by the UN and partners to meet most humanitarian needs ballooned from USD 2.6 billion in 2009 to USD 11 billion in 2018 (UN-OCHA 2019). As armed conflicts in areas such as Syria drag on, they increase regional instability and add welfare and relief burdens to already strained infrastructure, housing, services and job markets in nearby nations. Such challenges add to those posed regularly by extreme weather events, such as flooding, drought and cyclones, which have been increasing in number and impact due to anthropogenic climate change (EM-DAT 2016). Humanitarian crises tend to be protracted, and several have become seemingly indefinite: among the major crises in 2018, the crises had persisted for an average of over 9 years, with some stretching back as far as 20 years (UN-OCHA 2019). 10 15 20

Much of the work by practitioners in the fields of humanitarian aid and disaster assistance has focused on material aid such as supplying temporary shelter and delivering food, water and medical supplies to those in need. These are indeed critical factors post crisis. Yet insufficient attention has focused on the importance of social infrastructure—that is, the connections between displaced individuals, other survivors and their broader horizontal and vertical social networks. In this article, we use qualitative and quantitative evidence from two cases—one focused on individuals impacted by the terror group Boko Haram in Nigeria and another on those affected by shocks and stresses that contribute to food insecurity in the Karamoja region of Uganda—to illuminate the role of social networks in coping with and recovering from humanitarian disasters. While the dominant paradigm for humanitarian action has long been short-term solutions revolving around material aid and physical infrastructure, the protracted nature of humanitarian crises puts a premium on engineering long-term resilience, which may stem more from the local social infrastructure. 25 30 35

Review of practice and guidance for short- and long-term management of large-scale displacement situations confirms that social capital (whether by that name or a synonym) is not a conscious factor in the design of most humanitarian aid interventions, nor is its restoration or strengthening an explicit objective thereof, although some of its elements are mentioned. The United Nations High Commission for Refugees (UNHCR) obligatorily conducts extensive annual consultations with refugee communities and its guidance mandates ‘responsibilizing’ refugees (i.e. enabling them to exercise more responsibility for themselves) as early as possible. The necessity in most cases of immediate physical aid, plus the 40 45

tendency of some host-country governments to want to segregate incoming refugees, limits the opportunities to reconstruct communities. Host-country governments may also hesitate to encourage the formation of refugee civic organizations. Basic community communication measures—for example, convening refugee communities to explain an effort to obtain host-country work permits for them—can do a lot to stimulate social capital (E. MacLeod 2017, personal communication, 5 January). 5

The Global Cluster for Camp Management and Camp Coordination (CCCM)—a network of organizations that operate in this sector—is building experience in setting up community structures and management among displaced people. In standard CCCM practice, profiling of newly internally displaced people, whether at the household or community level, mainly focuses on current conditions and does not routinely capture information on pre-existing social-capital elements (though it may *ad hoc* and as needed, for example if imminent return is expected after a relatively brief displacement). The current CCCM Global Cluster Strategy does not mention social capital or explicitly recommend measures to boost or capitalize on it or its elements, though 10 15

The GC [Global Cluster] puts displaced communities at the centre of its activities. Building ongoing, permanent relationships with and within the communities and their members leads to the application of collective vision and brings a sustainable change (UNHCR/IOM 2017: 6). 20

In-house research on the subject by leading aid organizations is suggestive but sparse (UN High Commission for Refugees 2005; Calhoun 2010).

Given that accumulated research shows that social capital strengthens collective action (Dahal and Adhikari 2008), and collective action is likely to be pivotal to disaster mitigation and recovery, it is worth investigating whether effective humanitarian interventions need to be designed around the mobilization of existing social-capital endowment, the reconstruction of disrupted social capital or mitigation of its negative forms, and the up-scaling of all positive forms of social capital. This may be especially important in emergencies associated with violent conflicts, where—in order to achieve long-term outcomes—technological solutions and financial inputs may need to be combined with sufficient and sustainable resource of social capital as is necessary to endure the effects of conflict and build peace. 25 30

This article, focused on the importance of social ties during humanitarian disasters, makes several contributions to the scholarly and practitioner communities. First, while past studies of humanitarian disasters and social capital have looked at a single case or method for verification of theory (e.g. Sawyer 2005), we bring in multiple cases to be able to establish broader findings. By drawing on evidence from unconnected sites, we seek to establish more generalizable associations among our variables of interest. Next, we bring hard cases—situations involving very challenging socio-economic and environmental conditions—to test our hypothesis: rather than showing that social ties are important during minor-scale problems, we examine original data from protracted and severe violence and 35 40

upheaval. A number of scholars have argued that individuals and communities are able to draw on social capital to cope with disasters and rebuild their lives in the wake of humanitarian crises (Minamoto 2010; Bhandari 2014). However, much of the existing research has focused on how communities cope following natural hazards (Yamamura 2010; James and Paton 2015; Paul et al. 2016), with little empirical evidence on the role of social capital in violent conflicts and other man-made disasters. 5

Finally, we contribute to these communities through building on our findings to provide concrete policy recommendations to government-aid departments and humanitarian agencies alike for increasing social capital in vulnerable communities. In effect, this approach complements the article's theoretical contributions by offering empirical insights and practical recommendations that may help develop the resilience of vulnerable populations in various settings. Moreover, this knowledge is likely to pertain to the most severe, large-scale, intractable humanitarian problems in the world today, namely conflict-based protracted crises, which preoccupy the humanitarian aid profession and, increasingly, high political circles (United Nations Secretariat 2016). The time is ripe for new approaches. 10 15

### Theoretical Framework

Observers of societies around the world have long recognized the power of connections between individuals—a resource that social scientists have labelled *social capital*, in solving problems, creating trust and building resilient societies (Aldrich 2012). Formally, social capital is 'networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit' (Putnam 1995: 67). Whether in Switzerland, Kenya, the Philippines or Japan, communities rely on informal institutions and shared norms—also known as social infrastructure—to overcome collective-action challenges and successfully manage common pool resources (Ostrom 1990). Farmers, fishermen and the users of other publicly accessible resources coordinate and cooperate not because of pressure from government agencies, but rather because of their social ties to the community and the ability of their neighbours and colleagues to monitor and sanction them. 20 25 30

More broadly, societies and communities that have shared values, work together and hold similar expectations about behaviour display stronger governance outcomes and better economic cooperation (Putnam 1993). That is, where people engage each other socially and their leaders civically, elected leaders show more responsiveness and public policies match local interests. This may be especially important for displaced people who need to influence unfamiliar local authorities and communities in their place of refuge in order to better their conditions. Scholars have already underscored the role played by social networks in helping displaced people overcome their economic challenges in new countries, often in urban settings (Jacobsen 2012). 35 40

One common categorization of social capital (though there are others, outlined below, and each has its merits) distinguishes between three main types: bonding, bridging and linking (Szreter and Woolcock 2004). Bonding social capital refers to

the connections between people who are similar in terms of race, ethnicity, religion or class (Adler and Kwon 2002). People with these ties to each other are often family, kin, friends and close neighbours (Hawkins and Maurer 2009).

When people make connections beyond their own circles to people who are different from them and may share only a single characteristic, we call this bridging social capital. Bridging connections are those between people with less in common and can arise through an institution such as a school, workplace, church, synagogue or mosque. In the past, social scientists have referred to these types of ties as thin or weak ties because they involve relationships with less direct contact and perhaps fewer common characteristics. Nevertheless, bridging connections have been critical when people search for a livelihood (Granovetter 1983) or when communities in potential conflict wish to reduce tensions (Varshney 2001). For example, peace committees between Hindu and Muslim communities during the 2002 Gujarat riots in India helped people to reduce the likelihood of violence (Ahmed 2004).

The final type of connection is that between ordinary people and those with power or authority, called linking social capital. Such linking ties may connect a Pattinavar fishing-caste resident of Tamil Nadu with the collector for that Indian state. So too, some potential recruits to violent extremist organizations in Timbuktu, Mali may have access to government-run vocational training that can divert them from membership in al-Qaeda of the Maghreb (Aldrich 2014).

The classification of social capital into bonding, bridging and linking social capital draws from a network perspective and has been adopted by many scholars. However, experts have recognized that this approach to categorization—like all other models in social science—has limitations (Grootaert 1998; Portes 2000). Social capital is a complex and dynamic concept that cannot easily fit into neat or rigid operational categories. For example, a number of scholars have noted that categories of social capital may overlap rather than being completely distinct (Ferlander 2007).

Others have proposed an alternative categorization of social capital into structural, cognitive and relational dimensions. Structural social capital refers to the pattern of networks and associations, while cognitive-social-capital frameworks highlight more subjective and intangible components such as trust and norms of reciprocity (Baum and Ziersch 2003). Relational social capital refers to the kinds of personal relationships actors have and how these influence their behaviour within the system (Nahapiet and Ghoshal 1998). Some scholars have distinguished between social capital as an individual asset gained from network ties and social capital as a community resource in and of itself (Portes 2000; Ferlander 2007). Note that these categorizations are not necessarily in opposition: each approach describes a different aspect of the ties that tie people together. While acknowledging the limitations of the bonding, bridging and linking categorizations, we have adopted these operational definitions because of their analytical utility in our study.

Social capital constitutes a key component of the sustainable-livelihood framework (Lautze and Raven-Roberts 2006) and several recent studies have examined how to enhance and harness social capital for better execution and performance of

development projects. Previously, many of the discussions on pre-disaster preparedness and post-disaster response have focused on material solutions and funding but, in recent years, scholars and practitioners have increasingly emphasized the need to combine physical aid with social solutions, and bring people and communities to the forefront of mitigation and recovery initiatives (Nakagawa and Shaw 2004). This is even more necessary in light of the fact that material and financial resources of both donor and affected-country governments are increasingly stretched and struggling to cope with humanitarian crises (Aldrich 2012).

While discussions about social capital tend to highlight its positive attributes and roles, social capital can lend itself to perversions and negative transformations (Colletta and Michelle 2000) and these complex dynamics are especially relevant to the context of humanitarian crises arising from violent conflicts. For example, bonding social capital can be manipulated by leaders of sectarian groups to isolate group members and instigate or aggravate hostility towards members of the out-group, thereby making conflicts intractable and peace difficult. Conversely, bridging social capital can help not only in mobilizing external resources, but also in enhancing positive bonding social capital within communities (Dahal and Adhikari 2008). We now turn to empirical evidence that illuminates the role and importance of social capital even in dire humanitarian circumstances.

## Case Studies

### *Social Capital at the Epicentre of the Boko Haram Insurgency*

*Background:* In 2002, radical cleric Mohammed Yusuf formed the terrorist group Boko Haram in Maiduguri. Maiduguri is the capital city of Borno State and the largest city in north-eastern Nigeria, covering an area of 543 km<sup>2</sup> (209 square miles), with an estimated population of 1 million (Mayomi and Mohammed 2014). The group's full name is Jamaatu Ahlus-Sunnah Lidda Awati Wal Jihad, Arabic for 'People Committed to The Prophet's Teachings for Propagation and Jihad'. Its popular name, Boko Haram, derives from its core teaching that Western education is forbidden (Adesoji 2010). The abduction in April 2014 of more than 250 schoolgirls in Chibok, a small town near Maiduguri, drew international attention to the scale of terror unleashed by the group. While some of the girls have escaped or been rescued by security forces, the whereabouts of many are still unknown.

At its peak in 2014, it was reported that up to 3.3 million people were internally displaced due to violence perpetrated by Boko Haram, the largest displacement in Africa and the third largest in the world, next only to Syria and Colombia (IDMC 2019). As of 2019, the number of displaced persons was some 2.1 million people (UNHCR 2019). To bridge the gap in knowledge on the role of social capital in violent conflicts and other man-made and protracted disasters, this case study employs regression analysis of data obtained from 160 respondents who had been displaced from their homes in Borno State to the vicinity of Maiduguri to examine the association of social capital with resilience and response to emergency situations precipitated by terrorist violence.

*Data and methods:* Data collection was undertaken in 2016 by three trained, locally based research assistants under the direct supervision of one of the authors. We made use of the networks in the refugee camps for internally displaced people (IDPs) to gain access to some of the respondents. The survey instrument was subjected to standard ethical checks at London South Bank University and De Montfort University, and respondents were provided with respondent information sheets and informed-consent forms, rendered in the local *lingua franca*, Hausa. Respondents were assured of anonymity and confidentiality of data, and the right to pull out of participation at any time without giving any reasons. The questions in the questionnaire were read to the participants in Hausa and the responses entered directly by the research assistants. The study population comprised displaced households who had recently moved from villages and towns in Borno State to camps and households within and around Maiduguri. The study sample (160 households) was randomly drawn from the list of households obtained from the local officials in the camps and a few outside the camps using our local network of non-governmental organizations (NGOs).

Our survey explored bonding and bridging social capital with Likert-scale items adapted from the work of Krishna and Shrader (1999). For example, to measure bonding social capital, we asked respondents to rate the level of solidarity, trust and cooperation in their network from 1 to 5 (strongly disagree to strongly agree). Items included 'If I have a problem, there is always someone to help me' and 'In this village/town, people generally trust each other in matters of lending and borrowing' (see [Supplementary Appendix S2](#)). Similarly, for bridging social capital, we used items from Krishna and Shader (1999) to measure the diversity of respondents' networks using their participation across different groups to which they belonged. We compute an index score based not just on the number of groups in which a respondent is active, but also their intensity of involvement. These items were revalidated for the purpose of this study. In order to resolve the issues around missing data, we carried out a missing-values analysis using the expectation-maximization (EM) method available on SPSS Vs23.

To measure preparedness for humanitarian emergency, we adapted items from [Reininger et al. \(2009\)](#) to quantify the dimensions of preparedness and response associated with mobility, information and communication, and income to facilitate relocation. The items for this (see [Supplementary Appendix S2](#)) were computed to obtain the aggregate value for the main dependent variable: preparedness. We computed the Likert-scale scores as a sum of the responses for the individual items, following [Maurer and Pierce \(1998\)](#). (An index for preparedness that includes some items reflecting the degree of wealth may risk becoming a mere proxy for wealth—which indeed facilitates emergency preparedness, but this study aimed more to explore ways in which the non-wealthy endure crises. However, as shown in [Supplementary Appendix S2](#), only two or perhaps three of the eight components of the preparedness index directly reflect the degree of wealth; the rest measure access to useful assets or information without reference to wealth. Also, the study population—people in various kinds of emergency accommodation following flight from conflict—probably excludes the wealthier

segments of the pre-conflict population, who would have used their means to secure better refuge. Nonetheless, caution is due in discussing the findings because of this minor wealth component of the dependent variable.)

In addition to the above, we included a number of socio-economic and context-specific variables as controls: level of educational qualification, gender, age, household size, number of years in the community and information about whether the respondents have suffered minor or major injury as a result of the insurgency. The regression analysis used SPSS version 23. The results of the regression are presented in [Table 1](#).

In addition to the cross-sectional survey, we also carried out qualitative interviews with 21 respondents. This is in line with recommendations of previous scholars that between 12 and 24 interviews are adequate to reach meaningful saturation ([Guest et al. 2006](#); [Hennink et al. 2017](#)). The interviews enabled us to mitigate the limitations of quantitative data as we further explored the nuances of social-capital operationalization among the forcibly displaced in north-east Nigeria.

*Results:* Our model accounts for controls such as education, age and gender, as well as physical injuries. The regression results indicate that bridging social capital is significantly correlated with respondents' mobility capability in the wake of the conflict-induced emergency, at a 99 per cent confidence interval or 1 per cent level of significance. Bonding social capital—solidarity, trust and cooperation—in contrast did not have significant association with emergency preparedness. In addition, respondents' level of education is positively associated with emergency preparedness at a 10 per cent level of significance. The number of years lived in the community was found to be negatively associated with preparedness at a 1 per cent level of significance, as was major injury, at a 10 per cent level of significance. All the other control variables—age, gender and household size—were found to be insignificant in our model.

*Discussion:* The positive and significant association between bridging social capital and preparedness means that respondents who interacted more actively outside their immediate family or in-group are more able to mobilize resources, perhaps including vehicles, for example, to relocate their families to safer locations if necessary. These resources are typically difficult for poorer households to access but, as observed in previous studies ([Mathbor 2007](#); [Reininger et al. 2013](#)), those with strong networks are able to draw on them to overcome resource constraints. (Such corroborative findings mitigate somewhat the caution imposed by the wealth component of our dependent variable, as discussed above.) This has humanitarian implications, considering previous studies that found that people with low mobility capabilities—usually on account of physical disability, but also lack of access to vehicles, etc.—are disproportionately affected by disasters ([Fox et al. 2007](#); [Shelle 2013](#)).

This is also reinforced by the negative association of major injury with preparedness, given that major injury usually entails physical and mobility impairments. Mobility capability is important because the context of the study is insecurity and internal displacement, and so the respondents are still within the

Table 1

**Social Capital and Emergency Preparedness among the Displaced in Northeast Nigeria**

	(1) Preparedness
	–
Level of education	0.134* (0.002)
Age	–0.015 (–0.004)
Gender	0.04 (0.224)
Number of persons in household	–0.048 (–0.017)
Years lived in the community	–0.245*** (–0.052)
Suffered major injury from the insurgency	–0.140*** (–0.704)
Suffered minor injury from the insurgency	0.088 (0.44)
Solidarity	0.032 (0.008)
Trust and cooperation	0.089 (0.033)
Bridging social capital	0.484*** (0.324)
Constant	0.239 (1.324)
Observations	160
R-squared	0.241

Standard errors in parentheses. \*\*\* $p < 0.01$ ; \* $p < 0.1$ .

radius of a live crisis: the insurgents often attack IDP camps and displaced households often have to move from camp to camp. In a more recent interview, one woman recounted how she had to run on foot for 2 days from a camp that insurgents attacked. The journey was made harder by the fact that she had with her a child with physical and special needs.

The lack of significant correlation between bonding social capital—solidarity, trust and cooperation within a community—and emergency preparedness contrasts with other studies that reported higher levels of general preparedness among people in conflict situations with high levels of trust (Reininger *et al.* 2013). This study's finding of a lack of statistically significant relationship between bonding capital and mobility can be explained in terms of the study context of forced displacement. In other words, when people are forced to leave their homes and move farther away from communities they have known for a long time, they are

likely to rely more on new friendships and connections, rather than their existing networks of family and friends. This does not imply that family networks and bonding social capital are no longer relevant, but bridging social capital may play increasing and more significant roles. This is borne out by one of the respondents who stated in a follow-up interview that she was unable to get much help from her extended family members because most of them have also been displaced by the insurgency. Instead, she received more support from his external networks and new friends: 5

'None of my extended family members helped me, because some of them too have nothing to offer. Most of my family members are displaced too' (FM, Female, 32 years old, Gwoza, June 2019). 10

These findings suggest, plausibly, that displacement (usually involving some separation from extended family, neighbours and community) particularly impairs the exercise of bonding social capital and obliges displaced people to rely more on bridging social capital. 15

In addition, as the respondent above hinted, the extreme poverty context in north-east Nigeria also plays a role in limiting the potential impact of bonding social capital. In a region where most households, prior to the insurgency, live under the poverty line, there are fewer available resources to share between families and friends in the event of an emergency. The significant and positive correlation between bridging social capital and preparedness could mean that, given the extreme poverty situations of most households, those who have more interactions and relationships with outside groups are more likely to improve their resources and capabilities and therefore be better prepared. 20

Bridging social capital's positive association with preparedness aligns with several studies on social capital—especially those using qualitative approaches—that tend to affirm that individuals with high levels of bridging social capital are able to mobilize their linkages and connections outside their town or village to solve problems (Dahal and Adhikari 2008). More recent interviews we carried out corroborate the positive impact of external networks on survival and recovery strategies of displaced persons. Some respondents highlighted the material and non-material support they were receiving from out-of-town friends: 25 30

My friends from out of town and other parts of the country have been of great help to me because some of them call me, some give me words of encouragement, some help me with cash, some with material things (FM, Female, 32 years old, Gwoza, June 2019). 35

I am a retired civil servant and I have colleagues whom we served together with and also people whom I recruited into the service, they are the ones that have been helpful. They have been my support since I came here and have assisted me in earning a living and having a livelihood (JG, 62 years old, Wulari, June 2019). 40

Displacement is, by its very nature, disruptive, but it can also present opportunities for new networks to emerge and grow, underpinned by the shared goal of displaced

persons to survive the conflict and rebuild their lives. One respondent highlighted the surprising element he experienced in terms of new networking opportunities: ‘  
’Really, when I left home, I made new friends and my neighbours of which I don’t [sic] expect, but very good friends I made’ (MBY, Male, 28 years old, Gwoza, June 2019).

In general, we observe that conflict situations like the Boko Haram insurgency in Nigeria present different sets of challenges from natural hazards like hurricanes or earthquakes (Kolade, 2018). First, it is more difficult for humanitarian organizations and workers to gain access to conflict zones due to security and other challenges. Second, it is more challenging to rebuild trust between affected communities and groups who are often connected to parties to conflicts and between communities and humanitarian organizations. In light of the foregoing, it is especially important that, rather than metaphorically reinventing the wheel, humanitarian interventions in conflict situations should build on existing social-capital resources and capabilities amongst communities and groups affected by conflicts.

### *Conflict Management and Social Capital in Northern Karamoja, Uganda*

*Background:* The Karamoja region of north-eastern Uganda has experienced violent interethnic conflict for decades, epitomized until very recently by large and often deadly cattle raids reciprocated between ethnic groups. Fortunately, these large-scale cattle raids have abated in the last few years (mainly by virtue of disarmament enforced by government), yet tensions between the groups remain high. In addition to low-intensity conflict, Karamoja also experiences erratic climate and weather, with significant variability in rainfall, which makes crop production difficult and pastureland patchy. Mobility of pastoralist herds is a key resilience capacity under these environmental conditions. Strict pastoralism, however, has decreased in recent years due to settlement programmes instituted by the Ugandan government. This shift toward more agricultural production may be reducing the resilience of local livelihoods, while also changing conflict dynamics in the region (Howe *et al.* 2015).

In late 2012, an NGO began implementing a multi-year programme in northern Karamoja to strengthen livelihoods and improve nutrition and health. A major component of the programme is aimed at strengthening local governance and conflict-management capacities. A key component of the programme’s theory is that, if conflict-management capacities and systems were improved, then social capital within and across ethnic groups (bonding and bridging social capital), as well as social capital with governmental institutions (linking social capital), would also increase. Ultimately, drawing on these types of social capital during times of crises would improve resilience, since households with better relationships with neighbours, other communities and government institutions would be better able to access livelihood resources (Aldrich and Meyer 2014).

The programme in northern Karamoja aimed to reduce conflict and deepen social capital in a number of ways: by facilitating youth groups within and across communities to spread awareness of the cost of conflict, by enabling collaboration

and sharing between formal and informal conflict-management actors within and across communities, and by organizing youth and women's groups to lobby for better government-service delivery. The study below was conducted within this context, though it was not a study of the efficacy or impact of the programme itself.

*Data and methods:* For this case study, we define resilience as the capacity of a household or community to manage a shock or stress without compromising their long-term wellbeing or development prospects (Constas et al. 2014). To test the programme theory around resilience, we used three sets of measures: resilience capacities, shocks and stressors, and development outcomes. Our model hypothesizes that social capital serves as a resilience capacity. Resilience capacities include characteristics, abilities and environmental assets that households and communities can draw upon; we summarize them as absorptive, adaptive or transformative. Absorptive capacities help people and communities cope to with the effects of shocks and stresses and support a quick recovery. Adaptive capacity is the ability to proactively adjust livelihoods and circumstances based on projected changes to minimize exposure to the effects of shocks. Transformative capacity relates to institutions, structures and norms (governance mechanisms, policies and infrastructure) that can help prevent and mitigate shocks (Béné et al. 2012). Our team examined how different forms of social capital contribute to food and livelihood security outcomes among households exposed to conflict and economic and environmental shocks.

Some variables were continuous (such as climatic shocks faced) and others were index-based (trust or cohesion indices). There was minimal data processing required for the first category of variables, as these were used in the analysis just as they had been posed in the survey. The indices are linked to specific modules in the survey. For example, the trust index was based on the survey module that asked a variety of questions about how much individuals trusted, worked with and relied upon other members in the community. Principal Component Analysis was carried out in order to allow differential weights of the underlying variables—a significant advantage over computing a raw average.

The independent variables (representing, in the model's terms, resilience capacities and shocks or stressors) were trust, cohesion, disputes resolved, bonding, bridging, linking, extent of government working with leaders to resolve conflicts and numbers of environmental, economic and conflict shocks. These are detailed below.

*Bonding/bridging/linking indices:* These indices were developed from a series of questions that asked whether the respondents were able to go to their neighbours (bonding), other communities (bridging) or government (linking) for financial or in-kind assistance after they experienced a shock. This question was asked for each environmental, economic and conflict/crime shock to which the interviewee had responded positively. It is important to note that this indicator is not standardized and is one of the first attempts to measure these levels of social capital in direct response to shocks. The depths and nuances of these types of social capital are not fully captured, however, in these indicators. The trust and cohesion indices described below differ from the bonding, bridging and linking indices in that

they do not refer to respondent actions after a shock, but more general attitudes and behaviours.

*Trust index:* The trust index bundles answers to five separate variables that cover respondents' willingness for members of other ethnic groups to marry a close family member, work in their fields, watch animals, share water points and trade goods. 5

*Cohesion index:* The cohesion index combines answers to four questions that ask respondents whether they have interacted with members of other ethnic groups, including engaging in economic activities, engaging in social activities, sharing markets and sharing water points. 10

*Number of environmental, economic and conflict shocks:* Shocks are distinguished as environmental, economic or security. Each grouping encompasses a number of shocks that fit the category. Each variable is a count of how many of this type of shock each household reported experiencing. Reported types of shocks for each category are listed in **Table 3**. 15

In addition, the model featured a number of control variables: sex of the household head, primary source of household income, ethnic affiliation, educational level of household head and household size. Dependent variables (the 'development outcomes' in the model) were indices for coping strategies, household hunger and dietary diversity, detailed below. 20

*Coping strategies:* This case study used the coping strategies index to examine negative coping strategies, developed from a fairly standard set of coping strategies including:

- relying on less expensive or less preferred foods;
- limiting portion sizes or reducing quantity;
- reducing the number of meals eaten per day;
- reducing adult consumption so children can eat more;
- borrowing food or relying on help from friends or relatives;
- purchasing food on credit from a trader or using a loan;
- gathering unusual types or amounts of wild food/ hunt;
- sending household members to eat at a friend's or relative's house;
- relying on begging for food;
- consuming seed stock.

Weighting analysis was based on past research in the area. Higher coping-strategies-index scores indicate that households are using more negative coping strategies. 25

*Household hunger:* The standard household-hunger-scale indicator, which investigates different levels and frequency of hunger experiences within a household, was used to examine household hunger. Higher household-hunger-scale scores indicate that households are more food-insecure. 30

*Dietary diversity:* Dietary-diversity scores are frequently considered almost as a proxy for wealth and wellbeing. Higher dietary diversity is supposed to indicate a level of economic stability within a household that allows the household to purchase and consume an array of different food items. Food preparers were asked this question in order to enhance the accuracy of the score. 5

In order to test the programme's theory, household surveys were conducted in the Kaabong district of Karamoja at two points: in April 2013 and February 2015. Information was collected on households' exposure to shocks (conflict, climate and economic), the use of the three types of social capital in response to those shocks and a set of food-security indicators (dietary diversity, household hunger and coping strategies). A total of 544 surveys were conducted among households in Kaabong district targeted by the programme. The sampling frame for the household survey was composed of all villages targeted by the programme in Kaabong district. Enumerators were hired from Kaabong district to have a common culture and language. A multistage cluster-sample design was employed, with 34 villages (clusters) being selected; therein, probability proportional to size yielded a random selection of 16 households per village for a total of more than 540 households. 10 15

Multivariate regressions were run to understand relationships among food security, experiences of shocks/stressors, and bonding, bridging and linking social capital. Qualitative research conducted by the Feinstein International Center complemented the surveys; this included both a series of key informant interviews and focus-group discussions that aimed to understand the threats, trends and impacts of conflict on household livelihoods, resources and resilience from a gender perspective (see [Howe et al. \(2015\)](#) for a more in-depth analysis of this data). These amounted to 19 key informant interviews at the village, sub-county, district and regional levels, and focus-group discussions conducted separately with men and women in 13 villages in 11 sub-counties across Kotido and Kaabong districts. As these conversations covered broad conflict-related topics, they yielded only a certain amount of insight into the issues of social capital that became the focus of the quantitative analysis presented in [Table 2](#). 20 25 30

*Results:* In the regression with the dependent variable of household hunger (where a higher score indicates worse food insecurity), significantly correlated variables were the cohesion index (positive, significant at 5 per cent), the bonding index (negative, 5 per cent), the linking index (negative, 5 per cent), the number of economic shocks (positive, 5 per cent) and the number of conflict shocks (positive, 5 per cent). Signs are as expected except for the cohesion index's positive association with food insecurity. 35

In the regression on dietary diversity, significantly correlated variables were the trust index (negative, significant at 10 per cent), the cohesion index (negative, 10 per cent), the bonding index (positive, 1 per cent) and the number of conflict shocks (positive, 1 per cent). Here, all the signs are unexpected, except for the bonding index's positive correlation with dietary diversity: the trust and cohesion indices associated with less dietary diversity and conflict shocks associated with more diversity. 40

Table 2

**Effects of Shocks on Food Security in Northern Karamoja.**

	(1) Household hunger	(2) Dietary diversity	(3) Coping strategies index
Trust index	-0.00831 (0.0249)	0.0770* (0.0427)	0.154 (0.378)
Cohesion index	0.0731** (0.0325)	-0.107* (0.0558)	0.221 (0.495)
Most disputes resolved	0.0119 (0.129)	0.177 (0.221)	-1.699 (1.957)
Bonding index	-0.208** (0.105)	0.713*** (0.181)	2.062 (1.602)
Bridging index	0.0868 (0.135)	0.203 (0.232)	5.224** (2.051)
Linking index	-0.297** (0.117)	-0.294 (0.200)	-5.056*** (1.776)
Government works with leaders to resolve conflicts	0.0247 (0.178)	0.258 (0.305)	-0.700 (2.702)
Number of environmental shocks	-0.0179 (0.0359)	-0.0700 (0.0617)	0.514 (0.547)
Number of economic shocks	0.0923** (0.0430)	-0.100 (0.0738)	2.033*** (0.653)
Number of conflict shocks	0.114** (0.0483)	0.260*** (0.0829)	2.144*** (0.734)
Constant	2.834*** (0.311)	2.083*** (0.533)	38.87*** (4.724)
Observations	542	542	542
R-squared	0.154	0.168	0.258

Standard errors in parentheses. \*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$ .

Also, not shown in this table: control variables for sex of the household head, primary source of household income, ethnic affiliation, education level of household head and household size.

In the regression model focused on the coping strategies index (in which a higher score indicates more harmful coping strategies), significantly correlated variables were the bridging index (positive, significant at 5 per cent), the linking index (negative, 1 per cent), economic shocks (positive, 1 per cent) and conflict shocks (positive, 1 per cent). Signs are as expected except that of the bridging index, which indicates greater bridging social capital associating with more negative coping strategies.  $R$ -squared values for the three regressions are relatively low, indicating that these models have not captured all the main determinants of the dependent variables.

*Discussion:* The regression results generally indicate that households possessing bonding and linking social capital were more resilient to food-security shocks.

Table 3 Reported types of shocks per category.

Environmental shocks	Economic shocks	Conflict shocks
Excessive rains	Unavailability of food or livelihood inputs	Theft of money
Too little rain; drought	Increase in price of food or livelihood inputs	Theft of crops
Crop disease	No demand for livelihood products in markets	Theft of assets
Livestock disease	Drop in price of livelihood products in markets	Violence against household members
Foot and mouth disease	Death of household member	Destruction or damage to house due to conflict
Very bad harvest	Migration of household member	Loss of land due to conflict
Landslides/erosion	Separation or divorce	

*Bonding social capital:* Consistently with the hypothesis regarding bonding social capital, households in northern Karamoja that are able to seek assistance from members of their own communities after experiencing shocks are less hungry and consume a more diverse diet than those that do not. In other words, households that use bonding social capital are more resilient to food-security shocks, such as drought or the death of a family member. In practice, this may be as simple as a mother asking a neighbour to help feed her children when poor rains lowered crop yield. 5

This result is similar to other studies conducted in acute, high-impact crises. For example, a study in Nepal following the 2015 Gorkha earthquakes also found that households with higher levels of bonding social capital (those who accessed support from neighbours or family members after the earthquake) were able to more quickly recover than those who did not (Petryniak et al. 2015). Another study from the Philippines 6 months after Typhoon Haiyan found that households with access to informal support from others in their community were among the worst off in the immediate aftermath of the disaster but, after a year, they were ultimately more food-secure than those that did not access informal support within their community (Hudner and Kurtz 2014; Hudner et al. 2015). 10 15

*Bridging social capital:* The analysis from northern Karamoja showed mixed results, indicating that bridging social capital does not consistently support resilience to food-security shocks in that context. Given the nature of inter-communal conflict, bridging social capital and interactions across groups are thought to be important to resilience in conflict contexts because it increases access to markets and other resources necessary for survival, which are strained when communities are at odds with each other. Some of the qualitative findings support this by describing a connection between increased interactions and better livelihoods: 20 25

Inter-ethnic relationships in northern Karamoja have improved, particularly between the Jie and Dodoth groups. Both groups reported increased social, economic and resource interactions with the other, including inter-marriage, trade and hiring

labour for agricultural work. More contact with other groups tends to strengthen inter-ethnic relations by increasing trust and decreasing stigma. Livelihoods improve due to better resource-sharing and improved security (Howe *et al.* 2015: 5).

This study revealed, however, that households that seek assistance from individuals outside of their communities after they experience a shock (a manifestation of bridging social capital) actually used more stressful coping strategies to meet household food needs. Likewise, households with higher scores in the cohesion index—that is, greater market and social interactions with other ethnic groups, another form of bridging social capital—are more likely to experience greater hunger and consume a less diverse diet. However, the correlation between increased trust of other ethnic groups and increase in dietary diversity is positive, as expected (though only at a 10 per cent level of confidence). The direction of causality in these relationships is uncertain: it may be, for example, that households with worse food insecurity are those that ultimately connect with other communities for support, out of necessity. The difficulty of charting the effects of bridging social capital in the study area may owe in part to the fluctuating nature of interethnic relations: ‘

‘The Turkana come as friends when their cattle need grass or water. But when they leave, they leave as enemies’ (Female focus-group discussant, Loyoro Sub-County, quoted in Howe *et al.* 2015: 17).

Evidence from other studies helps to unpack the relevance of bridging social capital to resilience to food-security shocks. In the Gorkha-earthquake-affected areas of Nepal, when households relied on communities for support outside of their caste after the earthquake, they were also more likely to suffer worse food insecurity (Petryniak *et al.* 2015). In contrast, a study from Somalia found that households that had social or economic interactions with individuals outside of their communities or families towards the end of the 2011 drought were more resilient in terms of food-security outcomes (Kurtz 2013). The contrast between those two cases may indicate that bridging social capital plays a stronger role in supporting resilience to food-security shocks in more conflict-affected contexts. This may be because overcoming conflict between groups may have a greater potential to support access to food and other resources, as opposed to contexts in which relationships across communities are more stable.

*Linking social capital:* Development indicators for northern Karamoja suggest that government services and support are low compared to other parts of Uganda, and therefore linking social capital may offer few benefits. Even so, households in this study that indicated they were able to rely on their government, NGOs or other institutions after experiencing a food-security shock (a manifestation of linking social capital) were less hungry and employed less distressful coping strategies than households that were unable to access such services. This suggests, plausibly, that, if households can access their government and other people in power for support after shocks, they are better able to maintain or recover their ability to meet their food needs, even if governmental authorities

(many from outside the Karamoja region) would prefer a conversion of livelihoods in the medium term:

In the next five years I don't want to see *manyattas* [pastoralists' semi-permanent homesteads]. They were constructed out of fear when everyone was armed. All of Karamoja is fertile. Teach them farming (District Police Officer, Kotido, quoted in Howe et al. 2015: 18). 5

As in the Nigeria case study above, in the Karamoja data, none of the social-capital variables correlated significantly with all three dependent variables, implying the need for refinement of models and variables. That is to say, social capital should be treated as a complex construct with multiple components, each of which may play a different role during and after a humanitarian crisis. 10

### Conclusions and Recommendations

We used qualitative and quantitative data to investigate the relationship between social-capital- and humanitarian-crisis outcomes across countries and cultures. First, we found no single type of social capital across time and space that consistently drove resilience. Instead, we found evidence that any of the three types of connections can play a role in developing resilient outcomes during shocks and crises. In northern Karamoja, for example, bonding and linking ties correlated with positive outcomes. (In some cases, the direction of covariance was unexpected.) Data from Nigeria, though, showed that bridging ties were important, suggesting that bonding ties are the first to dissolve in displacement, which characterized the Nigeria study area more than that in Uganda. 15 20

Other studies of disaster outcomes have underscored that bridging social capital saved lives during evacuation periods (Aldrich and Sawada 2015) while long-term reconstruction was more a function of linking social ties (Aldrich 2016). Although resource constraints prevented us from using the same indicators across population studies, future investigations should consider doing so to better ensure validity across metrics. Studies should also include metrics to capture all three types of connections. Other categorizations of social capital should also be considered. The qualitative component should be sufficiently resourced and focused to elucidate the social phenomena whose quantification will always impose a degree of simplification. 25 30

Second, the importance of all types of social capital (albeit with varying, situation-specific weight per type) suggests a potential advantage in field organizations intervening to build social capital among vulnerable populations. At a minimum, agencies should collect information in the programme-design phase about pre-crisis patterns of social capital, how the crisis changed it and what people are already doing to adapt or restore it. Researchers have demonstrated that social capital, like other forms of capital, can be maintained or strengthened through bottom-up, culturally appropriate programmes. Social scientists have carried out randomized field experiments in Nicaragua and South Africa, for 35 40

example, using focus-group and moderated interventions to build social ties among residents with little education and limited access to resources (Pronyk et al., 2008; Brune and Bossert, 2009).

Broadly speaking, social-capital-building programmes can be divided into those that increase civic engagement and volunteerism, and those that focus on creating physical spaces and programmes for increased interaction. For organizations seeking to increase civic engagement and volunteerism, a wide variety of interventions are available, including time-banking and community-currency systems (Lietaer 2004; Richey 2007; Lasker et al. 2011). These programmes provide incentives to participants who spend their time assisting others, creating a positive cycle of volunteerism and deepened ties to local institutions. Agencies working to unify disparate populations must think through ways in which to encourage displaced people and survivors to be able to build connections during and after conflict. This is essential for long-term peacebuilding, as evidence has shown that conflicts are often precipitated, and aggravated, by the destruction of social capital.

The second approach revolves around building deliberate spaces for interaction, in much the same way as earlier scholars emphasized the need for public and private third spaces between work and home where people could interact (Jacobs 1961; Oldenburg 1989). One open-space-based programme in Japan known as *Ibasho* has been able to increase social-capital indicators among disaster survivors, including the breadth of social networks and a sense of efficacy (Kiyota et al. 2015; Aldrich and Kyota 2017). Humanitarian agencies need to think beyond living spaces for displaced individuals and families to create communal areas where people can reconnect and build new ties.

Our findings complement previous findings that refugees' economic security meshes strongly with their reservoirs of social capital, which provides assistance and support from the local community and the diaspora (Jacobsen 2012; Crawford et al. 2015). Humanitarian agencies should invest in programmes that do more than provide food, water, medical care and tents—that have elements that reinforce and/or capitalize on social dimensions. We believe that the current state of humanitarian aid is much like the period in development aid when donors focused on tangible asset creation. Aid organizations have long since abandoned attempts to focus solely on development through physical infrastructure: while ports, roads, bridges and schools constitute critical lifelines and ways to build economic strength, they require deep reserves of social capital to yield real, equitable results in developing nations (Ostrom and Ahn 2003).

Social capital, like all other resources, has a negative side and is not a panacea. Strong in-group ties developed through bonding social capital can exclude those already on the periphery (Szreter, 2002; Aldrich 2012). But we would argue its benefits outweigh potential costs. Investments in building bonding social-capital networks in non-crisis times may be a safe bet for humanitarian and development actors interested in building resilience. However, it should be noted that the more protracted a crisis becomes, the less useful bonding social capital alone may be. This is because, as a community collectively copes with a crisis, the resources of the entire community dwindle over time. Findings from Somalia in 2011 support this

notion that there may be a tipping point at which people's social networks are no longer sustainable (Maxwell et al. 2015).

Further research is needed to untangle under what conditions bonding, bridging and linking social capital contribute to resilience. As with all studies, our results are a function of our categorization of social capital and of the limitations of our qualitative and quantitative data. Nonetheless, investments to enhance bonding, bridging and linking social capital in non-crisis times—such as emergency food safety nets, extra-local civil-society organizations and trusted NGO partners—can support resilience goals. Although linking social capital correlates with better resilience in terms of food-security outcomes in some contexts, over-reliance on weak governments for support during a disaster may not effectively contribute to resilience. This suggests that, beyond building up stocks of social capital, it is critical to invest in local governance systems and institutionalized safety nets in non-crisis times.

## Supplementary Data

Supplementary data are available at *JRS* online.

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