ICT Enabled Peace Network: Case Study of Conflict Early Warning System in Kenya

Arunima Mukherjee, Festus Mukoya

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Arunima Mukherjee [1][0000-0002-4374-9551] Festus Mukoya [2]

[1]University of Oslo, Norway and HISP India, India {arunimam}@ifi.uio.no, [2]University of Oslo, Norway {festusmukoya}@gmail.com

Abstract. Building peace in post-conflict societies is a contemporary and urgent humanitarian challenge facing the world. ICTs can potentially play a role in this process, but how and why this can be done has not attracted adequate research attention, especially in the ICT4D domain which should naturally be at the forefront of such efforts. Drawing upon Castells' notion of counter-networks, this paper based on an empirical analysis of peace-building efforts in North-West Kenya, examines the role of ICTs in enabling effectively information flows to strengthen the efforts in building a "peace network." Important lessons are discerned on how such counter networks can be cultivated, and some reflections are presented on how these lessons may or not be applied to other conflict-ridden areas.

Key words: Peace, Post-conflict, Early Warning, Kenya

1 Introduction

Most countries that gained independence in 20th century have had difficult road to democracy and peace. Some of the reasons identified by various authors for this slow and difficult pace have been contradictions of colonialism and national oppression, undermining the indigenous groups and class [1]. This has later manifested into class, ethnic and social struggles, which people have used for peculation of democracy and their inclusion into political process. In Kenya, the road to democracy has been a long one. For example, it took 30 years after independence to drop ban on multi-party politics and make space for more people and indigenous groups to participate in state elections. And even today, the process of strengthening democracy is ongoing through constitutional amendments to address the ethnic nature of Kenyan society. The ethnic identity, like in many African countries, influences political and social behaviour, including who one trusts, does business with, gets married to and whom to vote for, [2]. Although it is argued that open elections can help mediate disputes among groups by installing broadly legitimate and accountable governments [2], when citizens vote primarily on the basis of identity (ethnicity, religion, class, etc) other issues such as performance and accountability are put aside diminishing the value of democracy. Analysis of voting behaviour of 2007 Kenyan elections, which witnessed unprecedented levels of violence, based on aggregate data suggests that, since the introduction of multiparty democracy, opposition parties quickly splintered according to ethnic groupings, and ethnicity became a dominant factor in explaining voting patterns and violent clashes [11, 8, 14, 12]. For instance, Oyugi [14] showed that ethnicity was the most defining factor of voting behaviour.

In this backdrop, there have also been community led initiatives to resolve conflict and build peace locally. Indigenous community process of peace have played pivot roles in resolving local conflicts and arresting any escalation of conflicts. Conflict early warning and early response has been a key strategy applied by community led initiatives to prevent violence [15]. Early warning consists of data collection, risk analysis, and providing information with recommendations to targeted stakeholders. Early response systems refer to timely and appropriate prevention interventions. Early warning and early response systems have been adopted by international organisations, bi-lateral agencies, research institutions and NGOs. Much of the literature available on examples of conflict early warning and early response systems comes from grey literature published by the organisations involved. Academic literature tends to focus on overviews and theoretical approaches to conflict early warning and early response systems rather than specific examples [4]. One such specific example is the CEWERS that is run by Free Pentecostal Fellowship in Kenya (FPFK). The CEWERS peace network has been running since 2012 and was introduced to help prevent electoral re-

lated violence for 2013 and continued to 2017. Though it might not be completely correct to attribute the peaceful elections of 2013 and 2017 to such a 'peace network', but role of these networks in long term conflict early warning and early response must be acknowledged. Understanding their role can create potential learning which can be taken to diffuse violence in other conflict-ridden areas. .

Further, many of these peace building initiative are attempting to leverage upon the potential of ICTs to strengthen the peace building networks to help identify before the fact, indicators of violence, and initiate some form of response to diffuse the situation. A challenge in this process has been how to include community members who have been prior victims of violence into these peace building processes. Their prior experiences tends to leave them scarred, which inhibits their participation. Castells [3] has argued that to include such excluded groups into these "information networks" is crucial, as their exclusion will lead to their further and systematic marginalization. However, this process of inclusion is a non-trivial task for many reasons, not least their prior experiences. Drawing from Mosse and Sahay [10], we term this effort of building this inclusion as the creation of "counter networks", the aim of this paper is to thus examine "the challenges and strategies of building peace (counter) networks and the role of ICTs in the process of conflict early warning and early response".

The paper is organised as follows. In the next section, inspired by Manuel Castells we outline our conceptual approach to the study of communication and information flows, and analyse its role in the creation of "counter networks". Following this, we provide some details of the context of the ethnic violence and conflict in Kenya; and discuss the process of formation of indigenous peace network, we describe the communication practices that surround the peace network. In the section that follows, we analyse the case study based on key concepts from counter networks and informational capabilities. This analysis helps to develop some implications for the implementation of 'peace networks' in post-conflict societies of developing countries. Finally, we draw some concluding remarks arising from the study.

2   Relevant literature and conceptual perspective

This paper draws upon some of the ideas of Manuel Castells [3] in the analysis of this case. Castells is a contemporary sociologist who has written on a range of different topics ranging from globalization, identity, network society and the Internet. He has made an important analysis of the role of ICTs in current social dynamics leading to the articulation of the concept of information networks and related processes on how these are developed and maintained and their consequences. Another important point of difference in his writings is his focus on development problems situated both in developed and countries, and not treating it as an issue only relevant for the poor in developing countries.

Castells [3] has sought to understand some of the dialectical processes inherent in globalization. Some of these forces he has identified include inclusion and exclusion, and the net and the self where we both feel connected to the world while at the same time have questions about our identities. Castells ideas are optimistic, providing indicators on how to combat the exclusion and systematic marginalization many groups and regions experience in the contemporary world in conditions of globalization. He argues that while in the past, colonization took place by countries going into capturing other lands, in the contemporary world colonization takes place by countries not going to other places and excluding them. This in essence is his thesis of the network society that marginalized groups will only continue to get more and systematically marginalized if they don't become part of the network society and becoming an active part of it will help them to come out of this systematic marginalization trap. These social networks are a ubiquitous feature of developing countries. The 'role' of these social networks range between shaping social identity, to enhancing livelihoods, to strengthening social security and more.

Castells [3] argues that the presence of networks is a dynamic and powerful entity, and in our case we seek to understand its relevance in strengthening peace building efforts.

The network society in short, represents a structural configuration of a decentralized group of entities (rather than a hierarchy) who are linked through informational flows, like the stock markets globally connected through information flows on financial data. In Castells' writings, there is an implicit capacity of groups to join and participate in the network society. Mosse and Sahay [10] however argue against this assumption about participation, pointing out that Castells does not give adequate attention to how can groups which are marginalized, such as slum dwellers in cities or illiterate populations in rural areas, join the network society? To operationalize how these marginalized groups or organizations can join the network society, despite their constraining conditions, they coin the term of "counter networks". However, forming such networks is a non-trivial task requiring special efforts and capacities, which are counter to the general belief that we can plug and play in the network society.

Our conceptual framework thus seeks to understand the structure, processes and motivations of participating in the peace network, which we conceptualize as a counter network. We call it counter because it seeks to include marginalized groups in the peace building efforts who have inherent constraints in committing to their participation. Next, we try to understand the role of ICTs and information in enabling their active participation. In our analysis, we are inspired by Castells argument that ICTs and information can be a key enabler in actively engaging in these networks, which can potentially be a vehicle for them to exit from their historical trap of systematic marginalization.

3 Research Approach

A case study design was applied in understanding the role of Conflict Early Warning and Early Response System (CEWERS) in strengthening the peace network in Mt. Elgon conflict in Kenya since 2017. The network of peace building initiatives and dialogue (peace network) brings various stakeholders including local communities, civil society organisations, police, security agencies and Humanitarian organizations together to respond to signs of violent indicators. The Peace Network was initiated by a local Faith Based NGO referred to as Free Pentecostal Fellowship in Kenya (FPFK). The CEWERS is being hosted and coordinated by FPFK. It has been successfully running since 2012 and it is still active and being expanded to other areas. The selection of this case study is based on its achievements as indicated in the unpublished evaluation report by Steve Otieno [13]. Furthermore, one of the authors, a graduate in peace studies, and a staff at FPFK has been deeply engaged on the ground in the Mt Elgon region in Kenya and in the peacebuilding efforts for the last 9 years. He is an "insider" in this research process. The other author, with a background in ICT4D, is relatively an "outsider" in this research who since the last one year has been working with the other author, including making one field trip, to help make sense of the peace building efforts over time and in the design of the CEWERS. Together, these authors bring in a multi-disciplinary perspective that combines domain knowledge of peace building and ICT4D, and applies it in the analysis of this case.

The methods guiding this research can be classified as action research where both researchers are studying and trying to reflect and make sense of the implementation process of the peace building processes and the role of the ICTs in this. The insider researcher, as argued above, in enrolling community members in the peace network and mobilizing them to act in various activities such as early detection of indicators of violence and responding to this information. Together, they are working to understand the role of other project members who engaged in strengthening the peace network. We broadly subscribe to the action research approach of "networks of action" [21] which seeks to direct action efforts in creat-

ing linkages between different units engaged in similar development efforts, in our case related to peace building. As researchers, we reflect and draw upon the primary empirical work and also related literature to learn from other similar experiences to understand how it can help here. Understanding these peace building processes over time helps to discern both the mistakes and successes, on what works and what does not, and slowly try to make more general our principles and learnings of how to carry out such tasks in other settings, and also reflect on how we could do the same task better—with the advantage of hindsight.

Sources of data collection are varied, and mostly of informal nature such as meetings, training sessions, community dialogue sessions, and discussions with other non-state actors. There have also been the use of formal methods of data collection such as participatory conflict analysis, indicator mapping, and project documentation, which are fundamental requirements in the design and development of the requirements for the early warning system. There have been formal presentations made to both the community and to our research colleagues in the university. Data analysis has been broadly interpretive in nature and can be seen as an ongoing process which is inextricably intertwined with data collection. For example, when presentations are made to the community, the feedback obtained helps us to reflect on our own understanding of the situation and make revisions as may be required. There have been various discussions, meetings and presentations to our colleagues in the university which has to develop in an iterative manner the theoretical learning from the case study.

Since the study was introduced in an on-going case, the researchers observed all ethical guidelines especially by informing them about the research and their participation. They obtained informed consent from all participants, protected participants from harm, and ensured privacy.

4 Case Context

This section analyses the case context, which is Mt. Elgon sub county, Bungoma County in Kenya. The presentation provides an overview of the conflict situation in Kenya and going down to the specific contextual conditions in the study area.

4.1. Situation of conflict in Kenya

Kenya experiences violent conflicts very often and increases during the electioneering periods. The violence manifests in the form of communal violence, militia activities and terrorism. According to the Armed Conflict report of 2015 (ACLED, 2015), Kenya is counted among most violent countries on the continent with over 3,500 recorded violent events between 1997 and 2015. Levels of violent events peaked in the three-month period of January to March 2008, (International Crisis Group, 2013) the quarter which also experienced the highest level of reported conflict fatalities [Figure 1]. Kenya experiences multiple, overlapping conflicts, which shape the nature of conflict and vulnerability of civilian populations in particular to violence.
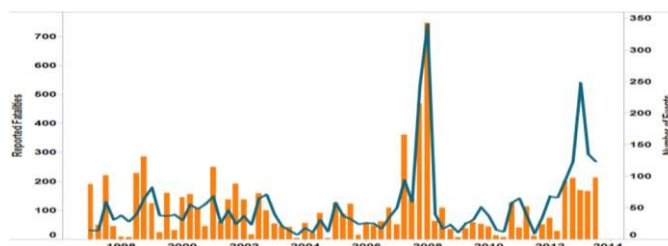

Figure 1 reported fatalities associated with violent incidents in Kenya (Source: ACLED data 2015)

According to Fig.1, the post-election violence that took place in January and February, 2008 was the highest recorded incidence of violence between the period of 1998 to 2014. The fighting resulted in 1,133 casualties, at least 350,000 internally displaced persons (IDPs), approximately 2,000 refugees, unknown numbers of sexual violence victims, and the destruction of 117,216 private properties and 491 government-owned properties including offices, vehicles, health centers and schools.

Initially, the violence was spontaneous and a reaction to the perceived rigging of the elections by the government. In areas like the Rift Valley and the Coast, members of the Kikuyu and Kisii communities (perceived to be associated with the PNU party and with President Kibaki) were targeted. In Nyanza and Western Kenya, the violence was mostly directed towards government facilities and gradually took the form of looting and destruction, and while it also targeted Kikuyus and Kisiis, the intention appeared to be not to kill them but rather to expel them and destroy their property. According to Human Rights Watch, the pattern of violence subsequently showed planning and organization by politicians, businessmen, village leaders and local leaders, who enlisted criminal gangs to execute the violence. This was particularly the case in Rift Valley and Nairobi.

The situation in Kenya began to stabilize towards the end of March 2008. As of July 2009, an estimated 61,000 IDPs remain in camps, transit sites and relocation sites. In addition, there were reports that ethnic gangs were rearming themselves with guns across the country in preparation for the next round of the 2013 elections.

People were displaced as a result of violence and threats of violence. They moved from their places of residence and business to places considered safe. Many lost means of livelihood, schools and their social support mechanisms. As always, violence too heavy toll on women and girls. According to the report by the Commission of Inquiry into the Post-Election Violence (CIPEV,2008), sexual violence against women and girls took the form of individual and gang rapes, many of which were ethnically driven, as well as female and male genital mutilation. This official investigation into the violence documented cases of gruesome sexual violence, including genital cutting among women and forced circumcision among men and boys. There were instances in which families, including children were forced to watch their parents, brothers and sisters being sexually violated. Perpetrators of sexual violence were cited as ordinary citizens, gang members, and members of security forces. These already marginalised groups, were pushed further away.

4.2. Conflict situation in Mt. Elgon Region

Historically, there have been various violent conflicts in Mt Elgon region including in 1963, 1975, 1983, 1987, 1992, 1997, 2006 and post-election violence of 2007 and 2008. Violence had been ongoing from December 2006 following a dispute between the Soy and Mosop clans of Sabaot community over a government resettlement program being implemented in Mt. Elgon [20]. The crisis was fuelled by politicians and eventually a well-organized quasi-military outfit the Sabaot Land Defense Forces (SLDF) entered the scene. This well organized group which had good supply of arms and training has been blamed for majority of deaths in the area and for committing atrocities against the residents. Incidents of violence intensified during the closely contested and disputed December 2007 elections,
which have been described as the worst ever experienced. According to the Human Rights Report, the violence left about 600 people dead, over 84,000people displaced and many human rights abuses inflicted on the local people. SLDF kidnapped, tortured, and raped men and women who opposed them or their political supporters, and kidnapped and tortured people who owned land that members of the militia coveted, forcing the owners to choose between mutilations or surrendering their property. They collected "taxes" from the population

and they effectively ran a parallel administration, punishing civilians by cutting off their ears and sewing up their mouths if they defied the militia (Human Rights Watch, 2011)

4.3. Initiation of Peacebuilding Interventions in the region

During 2007/2008 violence, members of Peace and Rights NGO (referred here as FPFK) visited the IDP camps to offer psychosocial counselling and provide food and non-food items to families. During the counselling sessions, the victims were categorized based on age and sex. The women and other affected youths got the chance to narrate their ordeals during the violence. The affected children were categorized according to ages and classes and were taken through therapy using word games, drawing and storytelling. Members drew several things that communicated the nature of violence and their experiences. Many children played burning games where they demonstrated lighting bon fires and shouting the way militia gangs behaved. Others drew men carrying guns, houses burning, people running, others drew images of soldiers. The women, especially the widows narrated experiential stories during the violence. They were given the chance to share what they saw and witnessed. Some women told how their husbands disappeared long before the violence broke out. They mentioned that their husbands left homes three months or even earlier, and had never been seen again. This was confirmed by the Human Rights Watch Report [6]. For example one of the women narrated,

The children remember him. They ask, *"Where is our dad?" ... Sometimes, I don't know what to tell them. I say, "Dad was taken by certain people … and he wasn't returned." Until this moment, even I don't know where he is. As I haven't buried him, my thoughts trouble me.... I haven't returned to our home. If I stay at home, I find myself wanting to call out to him*

A lot of information was gathered concerning the experiences of the victims, some of whom had their ears chopped off as stated by one of them,

I was coming from the market. They [the SLDF] stopped me and asked, *"Do you want us to cut off your head or your ear?" ... Then they talked amongst themselves. I was silent while they cut off my ear*

Some of the youths that escaped from the militia camps and were found in the camps also narrated their experiences during the operation. They told how they were abducted and used mutilate people and kill others.

Learning from these experiences, FPFK initiated a peace and human rights project in Mt. Elgon in January 2009. The project aimed at restoring trust, human dignity and peaceful co-existence among communities for enhanced development in the area. Their primary work focused on promoting peace through dialogue and mediations, rehabilitation and empowerment of militia groups and women, and promotion of indigenous peoples' rights. This also included psychosocial rehabilitation of victims of violence including women, children and displaced persons. FPFK was also engaged with rehabilitation and reintegration of members of militia groups with their spouses and contribute to the restoration of mental health and economic status of widows associated with violent conflicts. They formed social support and peace groups to champion for peace and social justice in the area.

Another key activity was to build capacity of various members of the community to engage in peace processes. As a result, various peace structures were established like religious networks, councils of elders, professional bodies and various lobby and advocacy groups.

4.4. Peace Network and CEWERS

Noting the need for a strong civil society, FPFK, facilitated the formation of groups for women, youths, elders and mobilized the victims and perpetrators of violence into groups between 2009 and 2011. They were trained in lobbying and conducting advocacy for peace, conflict management with strong components of indicator mapping and monitoring, good governance in the context of devolution and the role of various security agencies including their leadership structures and sexual and gender-based violence. These members were reg-

istered with the government as legal entities and members provided with badges to identify them as community advocates and champions for peace.

The FPFK approached other NGOs and CBOs working in the region to join the 'peace network' and help expand it. Other new 'non-state members joined the peace network including the Kenya Red Cross, Handicap International, Mercy Corpse, Human Rights Watch, Catholic Peace and Justice Commission and various others. There was also the involvement of various 'state actors' such as the departments of health, child and women welfare, and internal security agencies including the police, the military and the government leaders at the county levels to strengthen coordination mechanisms. A combination of these various state, not state and citizen groups, together with the formation of mechanisms for coordination and engagement contributed to the establishment of the peace network. The FPFK was the de-facto coordinating agency of the peace network.

Another important reason for inclusion of both state and non-state actors into the peace network was to better integrate components of 'response' and 'action'. Given that community members were now discussing and bringing upfront the cases of violations, it was important to link these to response mechanisms, so that the community member could associate 'value' by being part of the network. In 2012, the network expanded to cover other areas like Trans Nzoia, Bungoma North, parts of West Pokot and Turkana South. The expansion was motivated by the success of the Mt. Elgon network and the 2013 general elections that had largely been predicted to be likely more violent than the 2007/2008 elections.

In one of the meetings of the Peace Network, members raised the concern of victimization of the community members who reported the potential perpetrators of crimes and violence by the security agencies and the reported victims. It was agreed that in order to prevent violence, effective participation

of the community members and other stakeholders and communication among them was essential. The members emphasized the challenges related to communication among themselves, with the community, the security agencies and the government. Members were confronted with questions such as how can the community members be motivated to share information with the network and authorities without fear of being victimized? How can the relationship between the security agencies and the community members be improved? What is the role of the network and other non-state actors in preventing violence? How can information communication technology be used in prevention of violence?

In responding to these questions, the idea of application of ICT in violence prevention was born. Three locally based ICT specialists were incorporated in the brainstorming session around design. The project team presented to the ICT team the indicators and how they escalated towards violence. They were asked to conceptualize how a computer-based system could be used to share information in an anonymous way to the stakeholders by the community members. A technical working group was formed comprising of the conflict management practitioners and the ICT specialists to analyse the dialogue reports and extract all indicators. Participants in intra and inter community dialogues had pointed out that they were always aware whenever there were going to be attacks but when they reported these incidents to relevant authorities, they themselves became victims and the perceived victims became witnesses. This inculcated fear of reporting by the community members hindering the taking of interventions prior to the escalation of violence. It was also established from the participants that most community members were never aware of conflicts and even the indicators. They were caught unaware. The group made use of literature to refine the indicators that were validated during the training of surveillors. The indicators were coded by the system experts into Levels 0, 1, 2 and 3 respectively. At Level 0 and 1, these indicators were to signify peace and calmness. Level 2 was a bit serious and needed action while any Level 3 was treated as a serious indicator likely to trigger tribal clashes or chaos or any indicator that could cause serious security problems in an area. Response procedures were designed and responders identified.

4.5. CEWERS operations

The early warning system enables sending and receiving simple SMS. The CEWERS has three main components:

1. Community volunteers – This comprises a team of trained community volunteers, who will send SMS whenever they notice any activity which could escalate into further violence. Their primary role is send data on the hot spot areas according to the identified indicators and relay the same to the analysis unit or the control room.
2. Communication unit – all SMSs are received in the computer/ server installed here. Once the SMS are received, the messages are then manually forwarded to the stakeholders in the peace network to take action – these include both state and non-state actors.
3. Response team – comprise of all state and non-state actors. Once the analyzed reports are generated from the early warning section, they are forwarded to the response coordination unit.
4. The ICT enabled peace network has been working effectively in the region since 2012, and has gained immense credibility of all stakeholders – community, community volunteers and state/non-state actors.

5 Analysis and Discussion

After presenting a brief overview of a complex and ongoing peace building effort, in this section we draw upon Castells' notions of networks, information and counter networks to present out analysis. We do so by discussing the following questions.

5.1 Who are the marginalised groups and why are they marginalised?

In our case, the marginalised groups are victims of armed conflict and violence and are also first-hand affected by the consequences of violence. Members of the community, across ethnic groups, who have lost loved ones, livelihoods, and opportunities for wellbeing and safety. For example, a family who has not lost lives in the violence, but are starving because there is no food available, or the schools were damaged during the violence due to which the children lost precious schooling period. Though there have been state initiatives for mainstreaming the marginalised, by forming various village councils and committees etc, but given the deep rooted ethnic divide, the process of 'trusting' the state has been very slow and weak.

5.2 Why is it difficult for these marginalized groups to join the information networks?

Insecurity and uncertainty of 'peace' further aggravates their marginalisation, as it pushes their capability to 'gain' means for inclusion into the peace network. For example, unemployment is very high amongst the affected population as there are limited opportunities for work locally. There is the ongoing fear of violence and losing loved ones which stops families to send their menfolk outside the village to take up work. Also to add to this, lack of means and resources to travel out also limits the opportunities to participate in 'newer' networks.

However, there are also many strengths, most so the resilience of the members to withstand these violence incidents. This strength is also reinforced by the availability of a mobile phone in a household/ family. Even though most of the phones are old feature phones, they serve as an important means to enable communication across members. It is also relevant to mention 'feature phone' as mostly members the 'big screen smart phone' is somehow understood as the default for 'mobile phone'. This availability of the phone has opened up windows of opportunity for them to connect to outside networks, which otherwise might have been tough. The individual agency of the community members to participate in the 'peace network' coupled with availability of the mobile phone, has given them the opportunity to

leverage into the larger network of peace building extending beyond their immediate families and neighbours.

5.3 How have the marginalised groups become part of the information network?

The peace network has helped to build a community of 'volunteers' and 'community peace representatives' in most villages effected by violence. They have become the primary source of information on the 'peace situation' in their respective areas, and have slowly become responsible to share information if they found anything contradicting their understandings or perceptions of a 'peaceful situation'. This pivotal position have made them 'primary' in the peace network, even though they are part of the marginalised groups. In this case, small and simple ICT means enabled through the mobile phones, has given these people the tools to fight against their own marginalisation, and become members of the larger peace network. They have in this process also been able to ward off some of the threats of conflict and violence, which has been the source for their marginalisation. Hence, people have an 'intrinsic' value in becoming part of the network.

5.4 What have been the determinants and processes in building the counter network?

Our case demonstrates that an active counter network in the form of the "peace network" has been formed and is being strengthened over time. This network has been successful in mitigating violence in the region, as seen by the far fewer incidents of violence reported in the region post 2010. While there may be various contributing factors to this, we argue that the peace network has played an important and enabling role in this process. It thus becomes important to understand what have been some of the enabling conditions in terms of the structure and processes in creating this network.

Structure: In terms of the structure, a key feature of this peace network has been the membership of all relevant groups, including state, non-state and community. While top down state driven efforts often leads to the failure of such initiatives, the interesting point to note this network is coordinated by a local grass-roots NGO (FPFK) who is well-trusted in the community. The inclusion of relevant groups has been strengthened immensely by the engagement of groups that have historically been marginalized and who themselves are the victims of violence. Including them has been important as they are typically closest to the scene of violence, and are best placed to identify indicators of violence and send this information to actors like FPFK who are equipped to deal with the situation, either through direct intervention or by enrolling other members of the network, such as the security agencies, in engaging with the problem situation. The network is thus structured without a centre and a hierarchy, which has been conductive to enable rapid multi-faceted action.

Processes: The role of different processes can be seen as being vital in the creation and cultivation of this counter network. This includes; i) identity formation – community members have been able to transform their identities from being "victims of violence" to "protectors of peace." This transformation has been motivated by people's intrinsic motivation to engage in this peace building process, as they have a direct stake in it – their livelihoods and the security of their families and loved ones is at stake; cultivating multi-faceted action – mitigating conflict and enhancing peace are complex processes, requiring multi-faceted action of creating indicators, collection and transmission of relevant information to the right people, and by acting on this information. Structurally, the network includes different groups that play different roles – early detection, response, advocacy, coordination and capacity building. By ensuring that these different actors play their respective roles effectively, the peace network has become

a relevant site for strengthening collective action which has helped achieve some of its peace building objectives; and, iii) effectively harnessing the power of ICTs and information – no complex technologies have been used, only mobile phones which are anyway domesticated in the lives of people in the region. This phone allows the registration and transmis-

sion of relevant information in a timely manner to enable early detection of violence. Further, the CEWERS system allows for the consolidation of information, and also relays it to those most suited to affect response. The ICTs and information helps to not only bring the network members together, it also helps to execute collective action.

In summary, we can argue that the combination of people's inherent interests and motivation, the structure of the network, and processes which have strengthened the "networks of action" have led to the creation of a robust and effective counter network – the peace building network.

6   Conclusion

Now that this counter network has been formed and is operational, two questions become relevant. One, how are these efforts to be sustained over time? Two, how can these networks be scaled to other regions which are similarly affected by violence and conflict? Both these questions have no simple answers?

With regard to the first question of sustaining, it can be seen that the success of the existing efforts of building peace should serve as a self-reinforcing mechanism for the existing members to continue the efforts. Having seen the benefits of peace on their own and their family lives, they will be motivated to carry on the efforts. However, as the situation of peace becomes stable and institutionalized, there may be the need to diversify their efforts into other domains of relevance – such as improving employment opportunities or strengthening community health. This may require in addition to FPFK other actors like health activists to also play more important and active role in strengthening the networks of action. As activities become diverse, complexity will heighten, This may require the need to reflect on the ICT solution and move towards something more substantial, such as of maintaining databases, activity specific dashboards, and integration with other systems and data sources. Bringing in these enhancements would be essential in continuing to leverage on the power of information.

With respect to the second question of scalability, it must be firstly noted that it is a bad idea to try and replicate the structure and processes as they are in other settings. As context is different, locally specific approaches would need to be designed, while however, continuing to build upon the positive learnings. These could be thought of as general principles, such as trying to build a network with people who have an intrinsic motivation in engaging with the processes. While recognizing that ICTs and information plays a central role in building the network, the particular solutions would need to be designed to cater to the local conditions of infrastructure, capacities and to the particular problems that the systems is trying to support to address.

In conclusion, our paper has tried to make two key contributions. One, to bring the domain of peace building more in the mainstream of ICT4D research. Two, to demonstrate the value of Castells conceptualization of the network society and counter networks to the analysis of a complex socio-technical problem which is adversely affecting development processes in many parts of the world.

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