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# Collective Protection Networks for Remote Rural Communities: A Case Study of the Role of Social Networks in Protecting Rural Communities in Latin America

Protection International

May 2021


Image by Sally Pilkington, Morph Creative

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# Executive summary

The dominant paradigm for the protection of human rights defenders at risk is the protection of individuals. Emergency grants, relocation programmes, urgent alerts, and awards, for example, tend to focus on protecting individuals at risk. This paradigm does not take into account the complexity of the defence of human rights as a lively process within social systems, linked to our human nature as social and relational beings.

In this paper we present the research undertaken with several rural communities in opposition to extractive projects in, or near to, their land and territories, in two Latin American countries. We apply the tools of social network analysis to describe and interpret how the community members of several *ad hoc* "early warning action committees" (EWACs) communicate among themselves and with external actors during several "emergency events" (e.g. aggressions carried out by perpetrators – i.e. external actors who carry out actions affecting the community).

After describing the different layers of communication and interaction within, and from, the EWACs, we discuss the results from a network analysis point of view and draw conclusions from them. We go on to propose several other avenues of future research needed to fully understand the dynamics and effectiveness of these community networks.

In sum, we posit that a relational approach, which includes networks and systems thinking, can become a useful tool that allows the incorporation of a number of crucial elements in the analysis of "protection", including the complex interactions between community human rights defenders and other socio-political actors.

## Implications for practice

A number of implications for practice follow:

- Social network analysis (SNA) can be applied to describe and understand the work and protection structures of relationships that human rights defenders establish among themselves and with other actors. This analysis might offer a number of entry points to reinforce the structure and power of the network, even though more research is needed to fully understand which could be the best ways to do this.
- When the SNA is undertaken in close collaboration with the communities, the results of the research can be discussed with selected community members so that they can reflect on eventual steps that might be taken for reinforcing the community network and its resilience.
- Community members must trust researchers before sharing key information for analysing their networks. The information obtained to describe and understand the community networks is highly sensitive and it might be used to undermine community structures if it falls in the wrong hands.

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# Introduction

Research with grassroots human rights defenders (HRDs) shows that the actions that they undertake are often done together with other community members, family members and allies. This is more visible in the case of HRDs defending their right to land, as perpetrators threaten and attack communities. Using social network analysis (SNA) to understand the community structures involved in actions stemming from an emergency event can provide us with a different perspective and a more nuanced understanding of the way communities organise themselves. Research shows that networks play a key role in explaining the potential resistance of communities to environmental concerns and their ability to defend their right to land and territory. Thus, in order to accurately understand collective action, we must consider these networking aspects.

However, to the best of our knowledge, examples of this kind of approach to the protection of HRDs do not exist. In this study, we explore the networks of a number of collective actions in rural communities in Latin America that engage in resistance struggles to protect local natural resources against the action of local governments, powerful companies, land-owners and private security companies.

This study is composed of two parts. In the first part, we present some key terms and discuss what SNA is and how it can help us to understand the collective action and protection of these communities engaged in resistance. In the second part, we apply a SNA to describe and compare some characteristics identified in three case studies of protection networks. We collected data about the actors involved as well as the relationships between the actors. Through both qualitative analysis and quantitative measures, we outlined the makeup of these networks – the actors and their relationships, as well as the structural characteristics of the networks. Through the use of a number of network measures, we were able to determine the connectedness of the relationships among the nodes within each network as well as the role of the nodes in these networks, as central and bridging actors.

These findings contribute to our understanding of the role of networks in protection, by defining some relational characteristics in these networks. For example, while the makeup and structure of these networks vary between communities, findings suggest that the most central actors are not organisations, but individuals belonging to the communities: this brings to the fore the potential exposure of these individuals to threats and aggressions.

Building on these findings, we were able to develop a set of propositions that allow us to explore the usefulness of these networks for the enhancement of defenders' agency and the security and resistance of these communities. Moreover, we suggest network interventions (e.g. improved strategies and tactics) to mitigate existing gaps and, thus, better protect communities. Finally, we also suggest further research needs.

# Part One: Resistance and Community Action: A networked approach

Networks are part of everyday metaphors in our conversations and hence they are known, in this basic form, to all of us. This is at the same time an advantage, because we are familiar with the concept, and a barrier, because it may be difficult to understand networks as the analysis of social structures, i.e., the "presence of regular patterns in relations among interacting units" (Wasserman and Faust 1994, 3). It is the relationships between the individuals and organisations (in our case) of a system, as well as the individual attributes of those individuals and organisations that are the key components for understanding the network. In order to define a network, it is necessary to identify and define which social actors will be represented by nodes, which type of relationships among them will be analysed, and what the limits of the network will be.[1]

A network can be represented by means of a sociogram, that is to say, a graphic representation of the nodes (the members of the network) and the relations among them (represented by lines connecting the nodes). But a network can also be represented by a graph, namely a set of vertices and edges, as the result of the analysis of a social network by applying (mathematical) graph theory. In this case, those vertices and edges reflect the mathematical calculations of such analysis.

## Communities and networks: some key concepts for our research

When we refer to the social networks of collective actions we refer to sets of social actors linked by some form of relationship. These social actors "are involved in action in some way, often with motivations and strategies … and that action may be socially directed" (Robins 2015, 18). In our case studies, these social actors are community members or human rights defenders (HRDs) that speak out and engage with other different actors to protect their community's land and territory from unbridled extractive activities or megaprojects carried out by private companies and with the support of governments. In order to challenge these corporate actors, community members and HRDs organise resistance actions or activities against a particular intervention by the perpetrators. These interventions often lead to physical confrontation, the individual community members involved receive threats to their lives and livelihoods because of these actions, and even physical attacks, including the killing of a number of them. These HRDs call upon other – allied – actors to support them in various ways in order to raise the visibility of their struggle, harness support, and even ensure security for themselves and for other community members.

SNA provides an interesting lens to describe and understand community structures because it takes into account the relations among the individuals and groups who make up those networks. These relations are at the heart of the action taken by communities. By analysing these network structures, we hope to gain a greater understanding of how communities become organised and how their structures function, what challenges their members face, and how a shared sense of struggle is created by the interaction between actors.

[1] Because nodes in networks can be connected to several other nodes, or be part of other networks, it is necessary to define a meaningful and manageable universe of information.

SNA can also be effective in the design, implementation and evaluation of community interventions: "Social networks have been successfully used to initiate processes of social influence, segment groups and communities, promote the exchange of social support, coordinate community organisations, and facilitate collaboration among participants or professionals during program application" (Maya-Jariego and Holgado Ramos 2017, 145). Other authors propose analysis of network structures and the attributes of its members (Robins 2015, 132–43) and using SNA for assessing and monitoring programme implementation (Valente et al. 2015, 2).

The individuals and organisations in networks have been referred to as civil society actors that are "self-organised, self-governing, non-state, non-profit, non-private institutions that employ non-violent means to achieve a public interest or good through collective action" (Alagappa 2004, 34, cited in Nah 2016, 227). Thus a network is normally situated across levels as it may include social actors placed at local, national, regional and international levels, with action shifting at different levels (Tarrow 2005). For example, in our case, the networked social actors are individuals (belonging to communities and other social entities) and organisations related to social struggles against the action by corporate actors seeking to extract resources from what those communities consider their territories. They "engage together with different specific goals to activate a certain end goal or action. This makes them distinct from formal organisations working on similar issues in regards to how they operate and how they are structured, governed and resourced" (Nah 2016, 227). The network is a new actor itself in this struggle, and often it is referred to as "community", but this is a concept that needs further discussion.

Community can be defined broadly, operationalised in a manner that reflects geographic-, locality-based or relational ties. The term community can also be used to refer to both formal settings and structures (e.g., community organisations, schools, faith-based organisations) and informal contexts (e.g., neighbourhood, grassroots, and support groups) (Sampson, Raudenbush, and Earls 1997, 291). In our study, we will refer to local communities within territories. This includes groups that identify with each other on the basis of shared characteristics (e.g. ethnicity), a shared sense of membership and belonging by reason of their inclusion in the group. Social psychology has emphasised the importance of the relational aspects of community, that is, the ways in which one's perception of similarity to others or belongingness can provide a psychological sense of community (McMillan & Chavis, 1986).

In addition, the participation in these community networks is flexible, as "[f]or networks-as-actors, network nodes choose whether to participate – and their level of participation - in networks. This gives networks their informal nature and means that you can't 'lock-in' either members or commitments. Thus networks should create benefits for network members, what many authors refer to as network externalities, in order for networks to continue to exist. These benefits may be of a very diverse sort – but because networks are voluntary, nodes will exit if they do not perceive benefits, and seek out other kinds of arrangements" (Sikkink 2015, cited in Nah 2016, 235).

The networks activated in collective action have influences on the performance, resilience, survival, leadership or production of social capital (Diani, 1997). In the networks we analysed, the externalities are associated with raising the visibility of their resistance struggle (collective action) and with the support and solidarity received from external actors. For example, international solidarity has been used to increase the visibility of HRDs at risk in order to increase the political cost of aggression against them. Interventions include the use of urgent appeals, public statements, demarches, trial monitoring, and raising cases of HRDs at risk through formal dialogue, as well as quiet diplomacy (Barcia, 2011). Such networks help local actors to gain momentum on issues with their own governments through building international pressure from 'outside' – what they call the 'boomerang' effect (Nah, 2016).

These struggles are spatially situated and take place within (and from) territories, i.e. "places as areas with boundaries around [...] imagined as articulated moments in networks of social relations and understandings, but where a large proportion of those relations, experiences and understandings are constructed on a far larger scale than what we happen to define for that moment as the place itself" (Massey 1994, 154).

## Part Two: Case studies of protection networks

We have investigated the coordination bodies of three Latin American rural communities that have resisted unbridled natural resource extraction and megaprojects in their territories as our case studies. In all three communities "collective action events" have occurred where community-based organisations, leaders and HRDs have stood up and confronted the negative impacts of economic activities on the environment and livelihoods of the communities. It is in these situations that a protection network did become apparent, and that is the focus of this study.

This project was carried out by Protection International (PI). The PI field research team was composed of PI staff doing field work in two countries (under the direction of Xabier Zabala and Betty Pedraza respectively), together with a Headquarters research team including Luis E. Eguren and Mauricio Angel. The research employed a mixed methods approach, where qualitative and quantitative data were collected to determine the structure of coordination bodies in the communities called Early Warning and Action Committees – EWACs.[2]

An EWAC is set up to deal with security and protection issues related to activities of resistance of a given community. It includes a group of individuals, representing different settlements in the community. The EWAC members have no formal roles – e.g. a secretary or treasurer – and there is no formal hierarchy among them. These individuals were selected by other community members because they were perceived as some of the most knowledgeable individuals within the community, and because they had some experience in dealing with security-related issues and decision-making.

The first case (Case A) focuses on the EWAC of a community struggling

[2] Their actual name is concealed for security reasons.

against the construction of a dam for electric power generation in their territory. The second EWAC (Case P1) is a community that struggles against commercial logging activities in their territory. The third case (Case P2) is centred around a community resisting gold mining activities in their territory.

## Limitations

It is important to highlight the limitations and the challenges linked to this research project. The first challenge relates to access to communities, due not only to their geographical isolation but also to the cultural and language barriers (some of these communities are indigenous peoples). The second challenge concerns access to resources, mainly field researchers with expertise in the local contexts or able to communicate in indigenous languages. The third challenge manifested in the trust that needs to be built over time – i.e. there are communities with low levels of trust in outsiders, including the researchers, fostered by continuing harassment and stigmatisation campaigns. Finally, we faced ethical and security concerns, especially because the research data and results were vulnerable to being used against the communities themselves. For instance, the project was started initially in two Latin America countries. However, part of the research in one of them was halted after armed conflict resumed in the region where the research team had started to work. Strict data collection, information storage, processing and communication protocols were developed to ensure the protection of the names of community members or support organisations. Despite all these precautionary security measures, security concerns remain about the final results of the research, as it will be explained below.

## Methods

Each EWAC was asked to select a specific security event faced by the community (see table 1 for a brief description of the events). Members of each committee and other community members were interviewed using semi structured questionnaires for each one of the three community case studies. The interviewees provided relevant information about both internal and external interactions during the event. Researchers asked EWAC members to identify those individuals or organisations that they first contacted during the event. This allowed us identify whom they contacted both in the EWAC and other external organisations and/or individuals. Due to security concerns, only a few attributes were collected about the individual EWAC members. Thus, due to an incomplete characterisation of all the actors involved, we opted for a qualitative description of the protection networks without delving into a quantitative comparative analysis of the attributes collected.

*Table 1. The recorded violent security incidents*

| | Description of the security event |
|---|---|
| **Case A**<br>**Struggle against the construction of a dam for electric power generation** | State officials linked to energy company arrive in the territory of the rural community to start preparations for a locally rejected electricity utility. |
| **Case P1:**<br>**Struggle against commercial logging** | A group of people backed by an enterprise attempt to cut a number of trees within a communal forest (as part of wider logging operations). |
| **Case P2**<br>**Struggle against gold mining** | Police forces attempt to dismantle the long-term, pacific blockade of a small road/path leading to a planned mining site. |

We assumed for research purposes that these community structures are networks made up of individuals, non-governmental organisations, governmental bodies and other actors outside the community. It is not our goal to map all the potential relationships and interactions but rather to characterise the protection networks at the community level.

Hence, the nodes of these networks are individuals, organisations and institutions, and the ties are connections linked to the security concerns of each node. Networks can be either ego networks (i.e. individual networks, or the links that an individual has with others) or closed complete networks (networks of relations of a determined set of actors with a boundary – for e.g. a school, an organisation, or each of the EWAC committees in our case).

The use of SNA allows us to consider and investigate relational phenomena through the use of quantitative measures that can be represented by graphs to describe the characteristics of these networks. We considered several network characteristics, such as the network composition as identified by basic demographics, the network size, the structural properties of connectedness at the network level, and the individual position of nodes.[3]

By identifying the structure of the network, we are able to analyse and compare its connectivity. For the complete network, we considered its density and average geodesic distances. Density is one of the factors of cohesion and characterises the connectivity between the nodes in the network considering the total proportion of present ties with all possible ties. Average geodesic distances between the nodes describe the reachability[4] of the nodes with each other by measuring the steps between each node (Wasserman and Faust, 1994).

The position of the nodes describes the role of the different actors within the protection networks. the measure of centrality allows us to identify some of these roles. For each node, we considered their degree centrality to describe the connectedness and, thus, potential influence or "power" of

[3] For a detailed description of these measures see Table 2, Network Measures.

[4] An actor is "reachable" by another if there is a set set of connections by which actor A can connect with actor B, regardless of how many other actors fall between them. In some networks it is possible that actor A can reach actor B, but that actor B cannot reach actor A.

individual nodes within the network. Degree centrality measures the total number of ties or relationships a node receives (Bonacich, 1987). Thus, a central node is often seen of as having power. In addition, we considered betweenness centrality to address the degree to which nodes are situated in relation to each other (Freeman, 1977), where an actor serves as a connector between other parts of the network. This dual description allows us to say something about the connectedness of the networks. Finally, we measured the average degree centrality of the nodes for each network so as to compare the three case studies. An actor may serve as a bridge for other actors, so that if the bridging actor disappears, those other actors will become disconnected from the network.

*Table 2. Network Measures*

| Measure | Variable |
|---|---|
| **Network composition** | The makeup is a count of the nodal attributes and relationships – e.g. the number of males and females, the number of organisations and their type. |
| **Network Size** | The network size is a count variable that considers the total number of nodes in the network. |
| **Connectedness of the complete network** | Density – this is the proportion of actual ties (relationships) in relation to all possible ties if the network was completely connected.<br>Average (geodesic) distance – this is a count variable that considers the average number of steps between nodes. |
| **Connectedness of nodal positions** | **Degree centrality** – this is a count variable of the total number of ties that a node has.<br>**Betweenness centrality** – it quantifies the number of times a node acts as a bridge along the shortest path between two other nodes. It is a measure for quantifying the control of an actor on the communication between other actors in a network, and shows the amount of influence an actor has over the flow of information in a network. |

## Data collection

In this paper we present the investigation about only one aspect of the data collected, namely the relationships employed in the security event (see Table 1 above).

Data of the connections concerning security and protection during a period of data collection (2013 – 2015) were collected: a) by semi-structured qualitative interviews with EWAC members; b) during participant observation in the community and notes of meetings. A single survey was implemented to collect uniform data on the three communities and their relationships. The instrument was divided into four main categories: i) personal data, ii) regular relations among members of the EWAC, iii) emergency calls done during the selected security incidents, and iv) relations with other organisations.

The researchers combined this information on the ego networks of each interviewee, with field notes to compile a protection network – i.e. who the community goes to in case of a security threat. In all cases, the nodes are individuals of the EWAC and identified external entities (entities such as organisations and institutions) that the nodes (individual EWC members) called up during the emergency events. The ties, as explained above, are the identified communication contacts between the nodes right at the beginning of a security threat. Repeated mentions of individuals or organisations involved were considered only once, and graphs were also symmetrised. This means that if Actor A stated that they communicated with Actor B we assumed that Actor B also communicated with Actor A, i.e., that there was an exchange resulting in a binary graph. This allows us to get an all-encompassing overview of the relations at play as accounted by these individuals to identify the structure and positions of the nodes.

## Results

In this section we present the characteristics of the networks. As a first step, we analyse each case individually by describing the makeup and characteristics of the network both qualitatively and quantitatively through network measures. We then present two visualisations of the networks for each case, one showing the different types of nodes and the structure of the network, the other showing the degree centrality of the nodes. It should be noted that for this study we only compare those attributes where we had both complete and similar data for all the case on the EWAC members. Thus, we provide information regarding the gender of EWAC members and their relative experience in the collective struggle. EWAC members were described in reference to their experience as novice, familiar or experienced. The gender makeup is included in the text with the qualitative description (not represented in the graphs). Experience is represented in the visualisations by nodal shape as follows: those with greater experience are represented by a triangle; those with some experience are represented by a circle; novices or external partners are represented by a squared box. Finally, we compare the protection networks to identify recurring patterns.

### Cases

#### Case A.

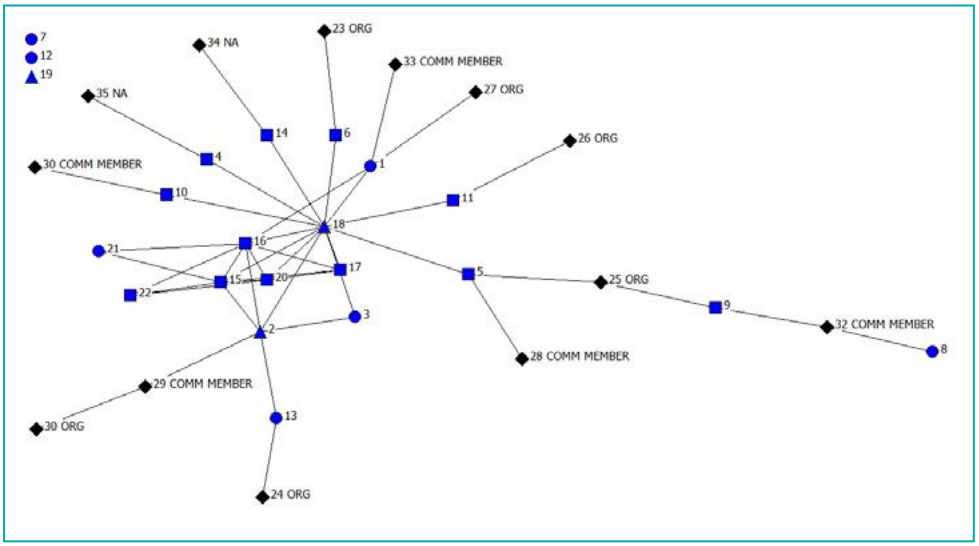
This network (see Figures 1 and 2) is made up of a majority of male members. On average, the individuals are experienced activists. The network size is 35 nodes.[5] The density is 0.074, implying that existing ties represent only around the 7% of all possible ties, which means that it is rather sparse. The average geodesic distance that nodes need to reach other nodes is 3.27 nodes, which means that there are at least 3 nodes between all others: this suggests that information may take time to reach everyone. The average centrality degree of all of the nodes is 2.514; meaning on average a node is connected to 2 others. When looking at ties, the most central nodes are those that have the most experience in the EWAC – node 18 and node 16. We also consider the nodes that serve as a bridge

[5] For tables and the list scores, see Appendix: Table 3, Case A Centrality Scores; and Table 6, (Protection Network Measures).

in the network, which are not necessarily the most central nodes. In this protection network, node 18 is both the most central and serves as a bridge. Two other nodes hold high betweenness – node 5 and node 25 (an external organisation): this is remarkable as this implies that there are different roles that are employed in these networks. Node 18 does have some assumed power in this network as the majority of actors in the network go through him. Altogether, this is a sparse network suggesting some fragility due to the fact that it is connected by a key central actor (node 18). If this node were removed the network would break in two. It should be also noted that different actors serve to connect the community with other organisations; for example, node 18 has more centralised power within the network and a better overview of the activities carried out by other members of the network, given that people and organisations have direct connections to him and he also serves as a bridge.

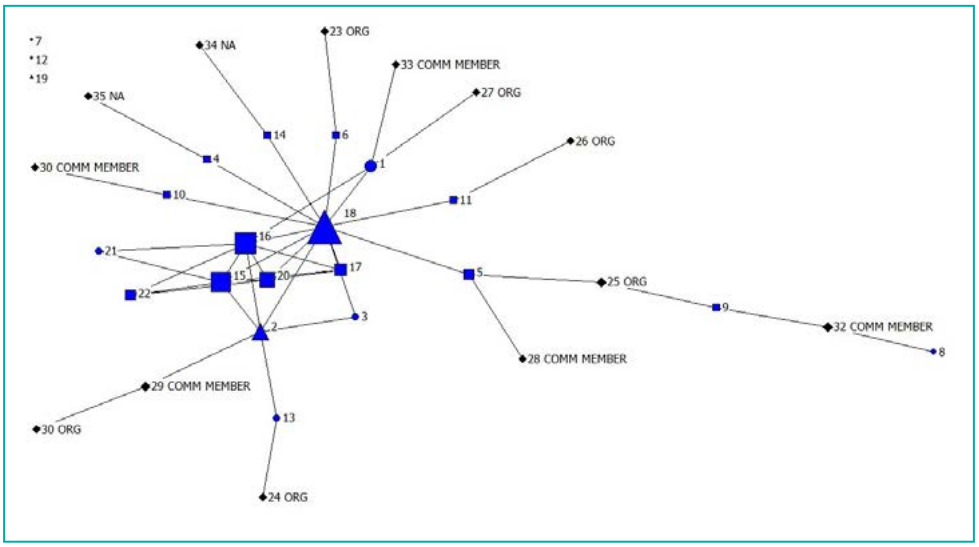
Considering the visualisations of the attributes (see Figure 1), the nodes in the protection network are represented by colour: EWAC members are in blue and external actors in black. The labels describe the specific individual by a unique number and external actors by their type, if signified, and a unique number. In this network external actors include: five community members, six organisations, and two unknown external actors. The shape of the nodes relates to the relative experience of EWAC members: triangles represent experienced individuals, squares represent not so experienced members, circles denote novices and diamonds denote external actors, where data was not collected about their experience. Three of the EWAC members (7, 12 and 19) were interviewed but were not involved in this specific collective action Figure 2 denotes centrality of the nodes: the most central nodes are EWAC members.

*Figure 1. Case A: Protection Network.*[6]




[6] In Figure 1 there is a repetition of node number 30, one being an external organisation and the other being a community member (as reflected in their names); they are also listed separately in the matrix in Table 3, Case A, Centrality Measures (see Appendix I). This is due to a mistake when initially naming the two nodes, but it affects neither the data of the network nor the graph.

*Figure 2. Case A: Protection Network Degree Centrality.*




## Case P1.

In Case P1 (Figures 3 and 4), the network is made up of both men and women, with a balance of both genders. This EWAC is made up of individuals with a lot of experience within the community. Organisations do not play a central role in this network (See Appendix: Table 6, for Protection Network Measures; and Table 4, Case P1 Centrality for the complete list of measures). The protection network has 19 nodes, of which 11 are EWAC members. The network is relatively sparse with a density of 0.135, although the entities are connected in one distinct cluster. The average distance between nodes is 2.579, with nodes having similar numbers of neighbours. The average degree is 2.41. EWAC members are the most central and serve as the key bridges in this network, with node 10 being the most central and also serving as a bridge in the protection network. A number of individuals share a central position in the network, with a degree centrality above 3 (the average). Notably these individuals are not necessarily bridges, suggesting that the communication circulates in clusters where multiple individuals share common contacts. This provides for a more resilient network as there is not just a single individual who receives all communication. To put it differently, there are multiple and rather short paths for the information to flow to central actors (it should be noted that this distribution reflects a plan devised by the community to distribute and share among members the calls to external contacts).

Considering the visualisations of attributes (see Figure 3) the nodes in the protection network are represented by colour: EWAC members are in blue and non-EWAC members in black. The labels describe the specific individuals by unique numbers and external actors by their type, if signified, and a unique number. In this network this includes: 11 EWAC members and 7 non-EWAC members (three community members, one organisation, and three family members).

*Figure 3. Case P1. The Protection Network.*

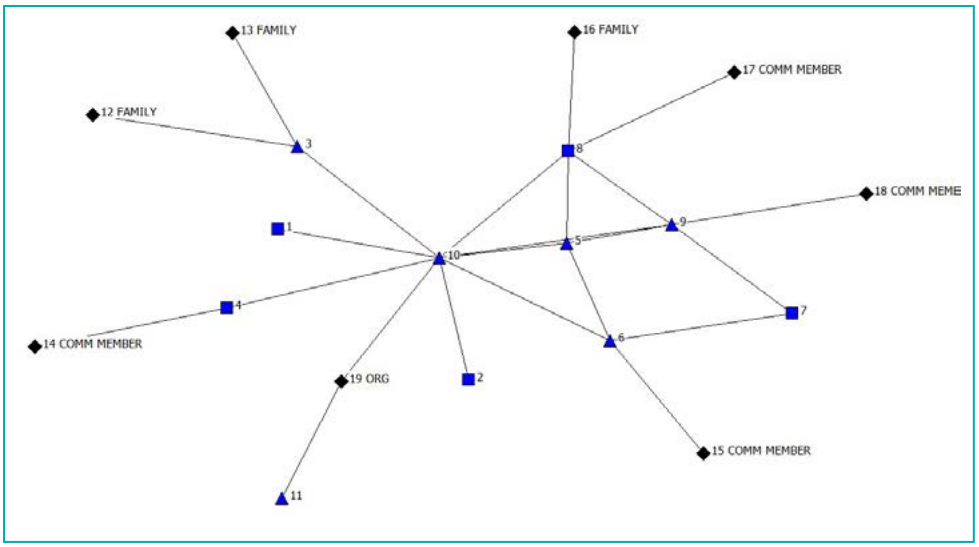
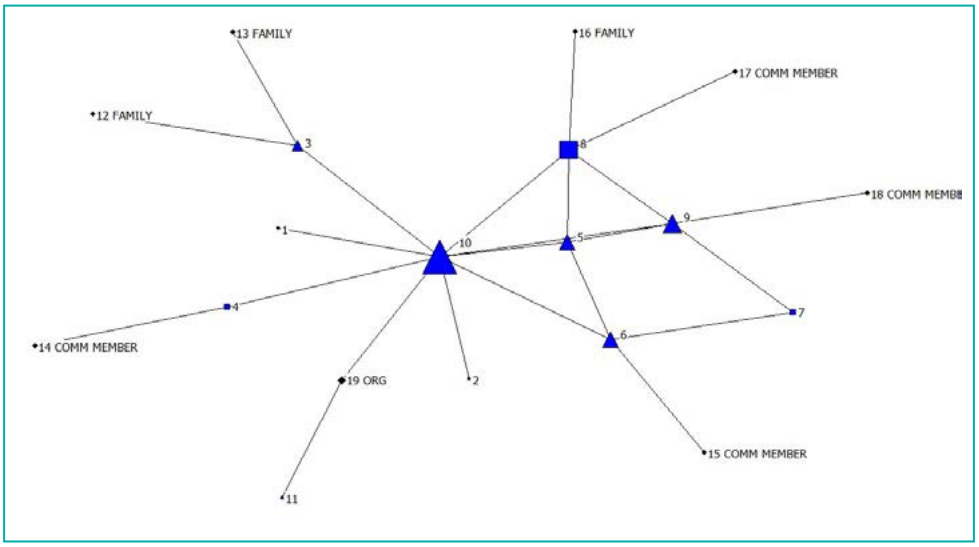



*Figure 4. Case P1. Protection Network Degree Centrality.*




## Case P2.

The P2 network (see Figures 5 and 6) is largely made up of women. The individuals are relatively experienced. The network size is large, with 53 nodes, out of which 11 are EWAC members. The network is sparse (density 0.122), suggesting contacts employed in emergencies are dispersed. This is confirmed by the average distance between nodes of 2.632. The average degree (average numbers of ties in the network) is 4.278. Nodes 10 and 7 share degree centrality and betweenness compared to the other nodes. Thus, communication is highly centralised, among the same actors (See figure 6 and Appendix: Table 6, for Protection Network Measures; and Table 5, for Case P2 Centrality for the complete list of measures). The network is visibly organised in distinct clusters, with key individuals connecting different parts of the network. The 11 EWAC members have the most central positions in the networks, in addition to 14 community members, 4 organisations, two witnesses, and five unknown actors.

*Figure 5. Case P2 Protection Network*

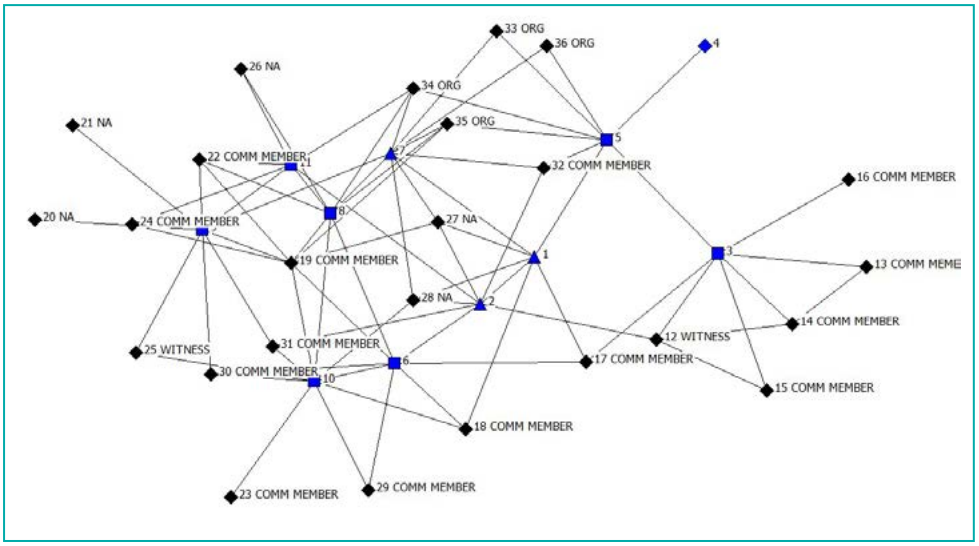
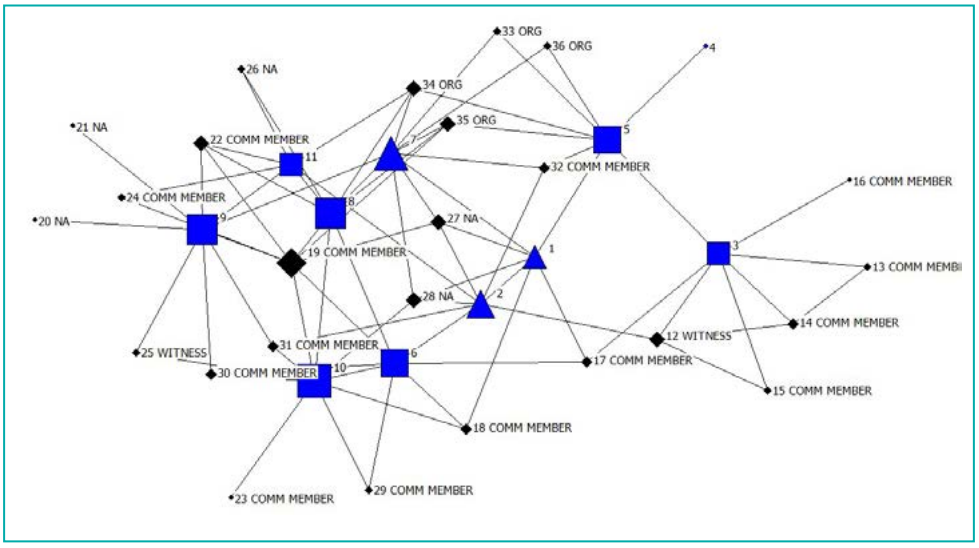



Figure 6. Case P2 Protection Network Centrality.




## Discussion

By comparing the protection networks in the three cases, we can detect a number of similarities. First, male members make up the largest share of individuals involved in these actions, with the exception of Case P2 (with more women). Second, the networks are small compared to, say, hundreds of possible contacts and involved entities that communities could employ (the network size -number of nodes- ranges from 11 to 22 individuals and 13 to 54 external contacts -organisations, other community members, etc.-). Third, with the exception of Case A, external actors are involved and fairly central in moments of collective action. The majority of the networks are connected except a few isolated individuals—that is, those that are not connected to the rest of the network.

In all three case studies, a few experienced individuals play a central role in the networks, meaning that if these individuals were not present, the network would effectively be vulnerable and perhaps also unable to establish contact with external organisations. Individuals that have the highest centrality in the networks also serve as unique brokers to other organisations. These individuals also have greater experience than less central individuals in emergency situations. The most central individuals also have relative experience in the community in the protection network.

These findings demonstrate a diversity of roles of actors in times of collective action. There are differences in how the actors are connected, as we may consider some as very central while others more disconnected. Notably, there are also a number of individuals in all networks that serve as bridges to specific organisations. The most central individuals in the network (signified by size, as denoted by centrality) are also those with the longest experience in the community.

By identifying the centrality and betweenness of the nodes, we were able to describe the role of actors in the network. This positioning suggests that certain individuals play key and important roles in these protection networks due to both their central position and the fact that they act as bridges to other entities.

External contacts are present in all of these protection networks, although they rarely play a central role. In addition, connections with external partners, non-EWAC members, are largely made via a single individual. This results in sparse networks.

In all the three networks, there is a difference between those who have the largest share of relationships and those who are connected to this largest share. These describe two different aspects of position. Often centrality degree is correlated to theoretical power in the network, as the individual has the greatest potential control of who gets particular information. It should be noted that in this study we do assert that this relates to power, as data was not collected on formal and informal roles of the individuals. For example, it could be that communication goes by way of a secretary to a head of an organisation, where a secretary would be more central, but has little formal power. Future research would need to assess and compare these informal, formal and network positions and how they play a role in the protection networks.

The fragility/stability of the network depends on the individuals that are members of EWAC, both as central actors and as actors that serve as potential brokers to others (betweenness). If these actors were not part of the network any longer, the network would be broken into pieces (smaller, unconnected and looser networks).

## The devolution of the results of the research to the communities

The field research teams devolved the results of this research to the different communities in the two countries between late 2013 and early 2016. The graphs with the main findings were presented, along with detailed explanations. The EWAC members present received positively the

information and stated that they felt their situation was well reflected in the findings, and recognised both the essential characteristics of their network and the behaviour of their members regarding protection, and they committed to engaging in internal discussions about how to deal with the posited challenges. But we were not able to actually determine if and how those discussions led to specific actions.

## Conclusions and suggestions for further research

The findings of this research contribute to the understanding of the role of protection networks in collective actions (i.e. collective response to security events), by defining the precise relational characteristics of these networks. Right from the outset, two major limitations have been the lack of theoretical conceptualisation of how to define and measure protection, and the lack of previous research on the link between networks and protection.

Ultimately, the use of network analysis provides us with a systematic tool for describing the structure and positions of actors in the protection networks. Given that, to our knowledge, this is the first study of the application of SNA for this purpose, we opted for the use of basic network measures. Many questions remain unanswered though.

This study confirms that individuals, not organisations, are the most central actors in protection networks. In addition, in instances of collective action, many actors become involved, ranging from community members to organisations. This highlights the exposure of these individuals, but also the possible instability of the networks (also vulnerability). For example, if an individual who is a bridge among other nodes is not present in the network activation, relevant information to the security event may not be communicated to others.

In any case the work of the EWACs gives their members the opportunity to break their geographical isolation, by exchanging information and concerns and possible action directly related to the struggle they are advancing not only with other members of the community, but also with other external community organisations and actors that support collective action in defence of their territory.

The EWAC members who participated in the research found that the visual representations reflected well their situation and recognised the potential of the methodology to shed light on how they relate to one another in a context of enduring aggressions against the communities. But it is still to be seen whether network theory can contribute to how these ties can be strengthened for the sustainability and resilience of their collective action in defence of their territory.

These studies would require additional data collection that was not part of this initial research project, including the collection of more sensitive data on all the cases of the attributes of these actors (both in the EWAC and external actors), the frequency of their contacts, and/or the development of these relationships. Future research should consider the influence of

gender, physical location, the formal positions and informal roles, expertise in security or other areas relevant to the lives of the communities, and other attributes, on the structure and output of the protection networks.

SNA theory and applications are well established, but it is not easy to apply them in ways that are directly useful and meaningful for communities and HRDs. We agree with Magsino in that more and better data about networks would be required for the development of the tools needed to implement SNA; that "the means to test the validity of social science models resulting from SNA have yet to be developed"; and that there is need for more "awareness of both the positive and negative issues associated with the use of networking technologies to support social networking" (Magsino 2009, 5).

For example, we can look at the cohesion measure, which can be defined as "the degree to which members of a community are actually tied to each other, either directly through personal contact or indirectly through joint group membership" (Giuffre 2013, 32). Following the same author, "cohesive groups are those in which the members are tied to each other in relations that are mutual (that is, the ties go both ways), are frequent, are more frequent to others in the groups than they are to those who are outside of the group" (ibid). From another point of view, we know that a very cohesive group can be resistant to change and adaptation following external stimuli. By using SNA, we can empirically observe and measure these properties in order to better understand the community structures that drive their resistance capacity. Thus, the resulting networks are important, particularly in instances of actions of resistance. It should be noted that these networks are usually connected to other networks outside the communities, posing a question on the limits of the network under study.

In terms of the network effectiveness, many research questions remain unanswered. These may include questions on how the make-up and structure of the network influence possible resistance and support these individual HRDs in different capacities. More research data and accumulation of theory is needed to relate some characteristics of networks (like density and centrality) to the effectiveness of these protection networks. For example, it could be useful to try to increase the density of the networks – so that more connections with actors do not depend on a single individual, but that these are replicated by other actors. On the other hand, can these networks "afford" this redundancy and duplication of structures? How to ensure stability and security for the central nodes/HRDs, which usually are the most outspoken /visible/ powerful nodes, without forgetting to focus on the nodes that play a bridging role?

We have seen how operating as a network allows individuals to convene immediately to agree on the reaction and response in the event of security incidents, as well as to elicit a supportive response from external contacts in emergency situations. Ultimately, this may trigger a response from State authorities, who have the obligation to protect HRDs. But more research is needed to understand how social network theory and analysis can contribute to improve the protection response by authorities. We hope that this study can be a humble contribution to this needed accumulation of theory on the topic of protection.

A longitudinal study of these networks (comparing them over a longer period of time) would be very useful to better understand their resistance and resilience when faced by external stressors, as for example different types of security incidents or events. It is paramount that we understand how to reinforce networks so that repression does not affect them to the point that they stop working or disappear as networks, curtailing the capacity of the community to resist.

In terms of its practical applicability, from a practitioner's perspective, a friendlier interface and more accessible explanations of SNA and its tools need to be made in order to gain acceptance in research practice for HRDs.

Major security concerns permeated the whole research, not only in terms of the research process itself (as discussed before), but also in relation to the final results of the research. These may end up being used against the community if they were to fall in the wrong hands. For instance, SNA has been used in counterinsurgency and counterterrorism operations (Knoke 2013). How to deal with a research approach that might be misused or weaponised? According to Koopman (Koopman 2016, 1), "The potential of weaponisation should not scare us off from peace and justice research but rather inspire us to do that work more carefully, which includes having more sophisticated conversations about potential misuse". In our experience, a close look at research ethics and the informed participation of the subjects, together with the long term interaction and multiple conversations with them, as well as strict security measures regarding information management, have been central to tackling this important and thorny issue.

# Appendix I.

## Table 3. Case A. Centrality Measures

| Node | Degree | Betweenness |
|---|---|---|
| 1 | 4.000 | 59.000 |
| 2 | 6.000 | 113.900 |
| 3 | 2.000 | 0.000 |
| 4 | 2.000 | 30.000 |
| 5 | 3.000 | 134.000 |
| 6 | 2.000 | 30.000 |
| 7 | 0.000 | 0.000 |
| 8 | 1.000 | 0.000 |
| 9 | 2.000 | 58.000 |
| 10 | 2.000 | 30.000 |
| 11 | 2.000 | 30.000 |
| 12 | 0.000 | 0.000 |
| 13 | 2.000 | 30.000 |
| 14 | 2.000 | 30.000 |
| 15 | 7.000 | 25.233 |
| 16 | 8.000 | 43.233 |
| 17 | 4.000 | 0.000 |
| 18 | 13.000 | 362.433 |
| 19 | 0.000 | 0.000 |
| 20 | 5.000 | 6.200 |
| 21 | 2.000 | 0.000 |
| 22 | 3.000 | 0.000 |
| 23 Org | 1.000 | 0.000 |
| 24 Org | 1.000 | 0.000 |
| 25 Org | 2.000 | 84.000 |
| 26 Org | 1.000 | 0.000 |
| 27 Org | 1.000 | 0.000 |
| 28 Comm Member | 1.000 | 0.000 |
| 29 Comm Member | 2.000 | 30.000 |
| 30 Org | 1.000 | 0.000 |
| 30 Comm Member | 1.000 | 0.000 |
| 32 Comm Member | 2.000 | 30.000 |
| 33 Comm Member | 1.000 | 0.000 |
| 34 Na | 1.000 | 0.000 |
| 35 Na | 1.000 | 0.000 |

## Table 4. Case P1. Centrality Measures

| Node | Degree | Betweenness |
|---|---|---|
| 1 | 1.000 | 0.000 |
| 2 | 1.000 | 0.000 |
| 3 | 3.000 | 33.000 |
| 4 | 2.000 | 17.000 |
| 5 | 4.000 | 4.333 |
| 6 | 4.000 | 22.500 |
| 7 | 2.000 | 1.333 |
| 8 | 5.000 | 33.000 |
| 9 | 5.000 | 25.500 |
| 10 | 9.000 | 116.333 |
| 11 | 1.000 | 0.000 |
| 12 Family | 1.000 | 0.000 |
| 13 Family | 1.000 | 0.000 |
| 14 Comm Member | 1.000 | 0.000 |
| 15 Comm Member | 1.000 | 0.000 |
| 16 Family | 1.000 | 0.000 |
| 17 Comm Member | 1.000 | 0.000 |
| 18 Comm Member | 1.000 | 0.000 |
| 19 Org | 2.000 | 17.000 |

## Table 5. Case P2. Centrality Measures

| Nodes | Degree | Betweenness |
|---|---|---|
| 1 | 7.000 | 41.790 |
| 2 | 8.000 | 94.287 |
| 3 | 7.000 | 97.930 |
| 4 | 1.000 | 0.000 |
| 5 | 8.000 | 100.551 |
| 6 | 8.000 | 75.854 |
| 7 | 10.000 | 89.314 |
| 8 | 9.000 | 57.726 |
| 9 | 9.000 | 101.582 |
| 10 | 10.000 | 81.762 |
| 11 | 7.000 | 50.953 |
| 12 Witness | 4.000 | 49.053 |
| 13 Comm Member | 2.000 | 0.000 |

| Nodes | Degree | Betweenness |
|---|---|---|
| 14 Comm Member | 3.000 | 3.225 |
| 15 Comm Member | 2.000 | 0.000 |
| 16 Comm Member | 1.000 | 0.000 |
| 17 Comm Member | 3.000 | 38.915 |
| 18 Comm Member | 3.000 | 4.102 |
| 19 Comm Member | 8.000 | 47.402 |
| 20 Na | 1.000 | 0.000 |
| 21 Na | 1.000 | 0.000 |
| 22 Comm Member | 4.000 | 1.000 |
| 23 Comm Member | 1.000 | 0.000 |
| 24 Comm Member | 2.000 | 0.250 |
| 25 Witness | 2.000 | 2.429 |
| 26 Na | 2.000 | 0.000 |
| 27 Na | 4.000 | 5.766 |
| 28 Na | 4.000 | 11.885 |
| 29 Comm Member | 2.000 | 0.000 |
| 30 Comm Member | 3.000 | 6.519 |
| 31 Comm Member | 3.000 | 13.490 |
| 32 Comm Member | 3.000 | 6.652 |
| 33 Org | 2.000 | 2.604 |
| 34 Org | 4.000 | 19.609 |
| 35 Org | 4.000 | 20.747 |
| 36 Org | 2.000 | 2.604 |

### Table 6. Protection Network Measures

| Protection Networks | Case A | Case P1 | Case P2 |
|---|---|---|---|
| **Network Size** | 35, 22 EWAC | 19, 11 EWAC | 36, 11 EWAC |
| **Density** | 0.074 | 0.135 | 0.122 |
| **Average Distance (SD)** | 3.27 (1.42) | 2.579 (0.917) | 2.632 (1.039) |
| **Average Degree** | 2.514 | 2.421 | 4.278 |

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