

NETWORK WEAVING FOR REGIONAL DEVELOPMENT:

An Evaluation of the Caucasus' Agricultural Alliances in Armenia and Georgia Using Social Network Analysis

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Abstract: This report presents the findings of an evaluation of the agricultural alliances in Armenia and Georgian established by Oxfam in 2011 in Armenia and 2013 in Georgia using a framework that posits three stages of alliance development (Connecting, Cementing, and Scaling) coupled with the social network analysis technique. Using network mapping and metrics, the structure and characteristics of sharing information and collaborating in advocacy in these alliances were assessed to determine which stage of development the FSN networks most closely match at this time. Knowing the current characteristics and structure of these networks will help Oxfam and network members weave more effective and sustainable networks for food security and nutrition in the Caucasus region.



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TERMINOLOGY

Alliance – a formal agreement between two or more organizations to cooperate to achieve specific objectives.

Member centrality – the size of a network members' out-degree, which in this study is the number of other alliance members a specific alliance member shares information or advocacy activities with.

Average reach – it is based network metric of “average path length” which is the average number of steps along all shortest paths to all any alliance member can reach other alliance members.

Betweenness centrality – the number of shortest paths from alliance members to all other alliance members that pass through one alliance member. Or, in other words, how likely is an alliance member to be the most direct route between two other alliance members in the network?

Brokerage – An alliance member who connects two similar or different alliance members.

Community (clusters) – Based on the modularity class algorithm, which measures the modules (communities or clusters) in a network. Communities, or clusters, are alliance members who have dense connections among themselves but sparse connections with other alliance members in another community that has dense connections.

Consultant role – Gould and Fernandez (1989) introduced the concept of brokerage typology. This typology divides brokerage into five types based on the direction information/resources flow in the network. The Consultant role is when two unconnected alliance members, who belong the same group (e.g., local NGO), are connected by an alliance member that belongs to a different group.

Agricultural Alliance - two alliances supported within the Oxfam project in Armenia and Georgia

FSN network – Food Security & Nutrition network, which includes not only Agricultural Alliance organizations, but larger network of organizations.

Inclusiveness – the proportion of alliance members who have at least one connection to another alliance member.

Liaison role – Gould and Fernandez (1989) introduced the concept of brokerage typology. This typology divides brokerage into five types based on the direction information/resources flow in the network. The Liaison role is when an alliance member connects alliance members from two different groups both of which it does not belong to.

Network centralization – the degree to which network cohesion is centralized around one or a few organizations.

NGO – non-governmental organization

Out-degree – the number of interactions an organization directs toward other organizations.

Reciprocity – organizations mutually linked in some type of interaction or exchange.

SNA – social network analysis

Sustainability – based on Borgatti's Key Player algorithm, fragmentation delta, this is a measure of the extent of fragmentation that will occur in a network after a set of nodes (network members) is removed from the network.

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Six alliance members requested confidentiality and, thus, were given the pseudonyms of NGO1 to NGO6. Three of these alliance members are local NGOs (NGO2, NGO3, and NGO6); one is an international NGO (NGO1); and two are multi-national organizations (NGO4 and NGO5).

The authors would like to acknowledge the following software packages for network analysis mapping and metrics used in this report:

Gephi: Bastian M., Heymann S., Jacomy M. (2009). Gephi: an open source software for exploring and manipulating networks. International AAAI Conference on Weblogs and Social Media. For graphic illustrations and some network metrics.

Key Player: Borgatti SP: Identifying sets of key players in a social network. Computational Math and Organization Theory. 2006, 12: 21-10.1007/s10588-006-7084-x..

Netminer. <http://www.netminer.com/>. For brokerage roles.

UCINET: Borgatti, S.P., Everett, M.G. and Freeman, L.C. 2002. Ucinet for Windows: Software for Social Network Analysis. Harvard, MA: Analytic Technologies. For data conversions and Fragmentation measure.

EXECUTIVE SUMMARY

This report presents the findings of an evaluation of the agricultural alliances in Armenia and Georgia established by Oxfam in 2011 in Armenia and 2013 in Georgia using a theoretical framework that posits three stages of development: 1) “Connecting,” which is the formation stage, 2) “Cementing,” which is the operational stage, and 3) “Scaling,” which is the sustainability stage.¹ Coupled with this theoretical framework, social network analysis (SNA)² was used to map and obtain metrics of the structure and characteristics of sharing information and collaborating in advocacy efforts within these alliances. SNA was used because visualization is an important feature to explore and understand complex relational data of numerous organizations and measure, using standardized metrics, the structural characteristics of these relations.

The findings show that when it comes to sharing information, the Armenian and Georgian agricultural alliances display characteristics more closely matching the middle stage of development, Cementing relations, in that almost all alliance members are sharing information with each other. However, most information sharing is one-way and not mutually reciprocated, especially in the Armenian agricultural alliance. For most other network characteristics, such as number of clusters (cliques), network centralization, brokerage roles dominated by a few members, and fragile sustainability, these alliances represent the formation stage, in that they are still Connecting. More specifically, there are many community groups that essentially only share information with each other and not others, most central member in sharing information and seeking collaboration for advocacy is Oxfam and rarely local organizations, and sustainability is low due to the potential for large fragmentation of unconnected alliance members if the two central organizations of alliance leave. Both alliances have begun reaching out to a large number of partners that represent many different communities of interest also in food security and nutrition, as well as those focusing on gender issues, in order to build toward a larger social movement to effect food security and nutrition policies in the Caucasus region. However, Oxfam, and one or two other international organizations, still play an “anchoring” role in binding the different organizations in the broader social movement network.

Based on the results of the evaluation, recommendations for weaving these alliances into tighter and more effective networks include:

In General:

1. An open and transparent dialogue on these evaluation on how best to facilitate a more active engagement of network members in sharing information and collaborating in advocacy efforts.
2. Developing relations among agricultural alliance members through forums that encourage members to learn about each other (mission, culture, and reliability), how a member, although different, can complement another member, and through this process build trust.
3. Identifying complementarity through mapping capacities in food security and nutrition among FSN alliance members.
4. Improving a gender focus in regional food security and nutrition by encouraging current members with a gender focus to be more active in information sharing and advocacy efforts (Armenia) and the inclusion of more gender-focused organizations in the agricultural alliance (Georgia).

More specifically:

5. Both of the Alliances are currently missing the representation of one or more organizations that focus and work on nutrition related aspects of food security; therefore, the project should identify, as well as develop a strategy and implementation plan, to fill this gap within the project’s lifetime.
6. Georgia’s agricultural alliance needs to facilitate the inclusion of NGOs that are gender-focused, such as WECF and UN Women.
7. The Armenian FSN alliance needs to incorporate members that have constituencies comprised of small holder farmers, such as GFA and Elkana in the Georgian FSN Alliance.
8. A concerted effort needs to be put forth in linking brokers of separate communities in the broader network, such as ProMedia (gender focus) and ICARE (social-economic development / education and research) and in the

¹ Six alliance members requested confidentiality and, thus, were given the pseudonyms of NGO1 to NGO6. Three of these alliance members are local NGOs (NGO2, NGO3, and NGO6); one is an international NGO (NGO1); and two are multi-national organizations (NGO4 and NGO5).

² Since this study involves organizations, this study represents inter-organizational network analysis. However, the donor and FSN network members requested that the term they are more familiar with, social network analysis, be used in this report.

- case of Georgia, multi-lateral organizations (FAO and NGO5), international organizations (Oxfam, NGO1, and Mercy Corps), and local NGOs (Elkana, SEMA, EPF, PIN, GEA1, and WECF).
9. To connect with local grass-root organizations, such as community-based organizations (CBOs) that represent a substantial constituency, such as small-holder famers or women's rights, in order for their voices to be heard and that policies reflect the concerns of these constituencies.

INTRODUCTION

Oxfam launched the 4-year EC funded Project, *Improving Regional Food Security in the South Caucasus through National Strategies and Smallholder Production*, September 2013 in Armenia, Azerbaijan and Georgia and aims to improve food security and nutrition through its advocacy efforts and inclusion of small-holder farmers' interests in the governance processes. The overall objective of this project is to contribute to the improvement of food security and nutrition in the South Caucasus through small holder farmers' representation in the governance processes.

One of the main strategies to improve food security and nutrition is the advocacy through the existing agricultural alliances in Armenia and Georgia as an alliance of a core group of organizations. In September 2013, Oxfam initiated the development of **Georgian Alliance for Agricultural and Rural Development** and facilitated the on-going support to the already formed **Agricultural Alliance of Armenia**. In order to guarantee the process of policy making from a "bottom up" approach, Oxfam developed these alliances with the goal that they could effectively contribute to the advocacy and policy formation process with the national governments in Armenia and Georgia. These two alliances are the main basis for project's policy advocacy actions, as well as the sustainability mechanisms after the finalization of the project; thus, the importance of assessing their development.

The figure below illustrates the building blocks (Pastor et al., 2010) needed to bring about large-scale social change, such as food security and nutrition, nation-wide in Armenia and Georgia. Organizations are important, but alliances in the form of networks, are the structures that connect organizations and their capacities – whether their capacity or capacities are the ability to mobilize people, devote particular expertise, build on a set of relationships, provide leadership, or access to different donors and financial resources, which is needed for a larger social movement and to bring about large scale change in food security and nutrition.

Figure 1: Building Blocks to Social Change

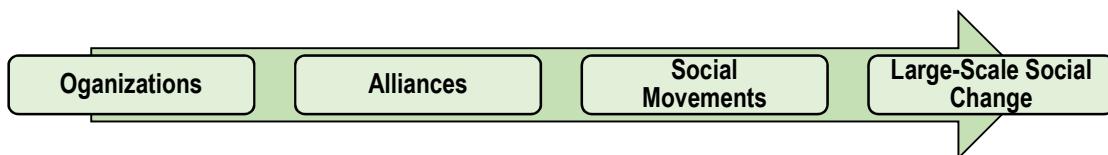


Figure from: Pastor et al., 2010.

EVALUATION OBJECTIVES & QUESTIONS

Slightly more than two years have passed since these agricultural alliances were mobilized to address regional food security and nutrition issues and policies, and as part of Oxfam's mid-term project evaluation, this study was conducted to assess the status of these alliances. This evaluation study had three objectives: 1) understand the status of the alliances in Armenia and Georgia, 2) recommend how these alliances could be improved, and 3) use an evaluation approach that could be replicated to monitor the progress of these alliances in the future.

To achieve the first research objective, the main research questions are:

- 1) Are these agricultural alliance members regularly connecting and communicating with each other?
- 2) What is Oxfam's role in these agricultural alliances?
- 3) Which members are more central in the alliances?

- 4) How sustainable are these agricultural alliances?
- 5) Are these agricultural alliances connecting and communicating with civil society organizations and actors to build a larger social movement?

To achieve the second evaluation objective of improving these alliances, the findings from the questions above will be compared to Pastor (et al., 2010) stages of development for networks, which begins at the formation stage of a) “Connecting,” then progressing to the b) “Cementing”, stage of operationalization, and then to the c) “Scaling” stage of sustainability.

Stage 1. Connecting (Formational) – At the Connecting stage, alliance members are just beginning to come together to connect with each other to discuss issues, capacities, skills and ideas as well as to share information. Basically, the Connecting stage is to connect organizations and groups that have been operating alone or in isolation of each other. In addition, at this stage, there is the need to ensure the “right” organizations and people are brought into the alliance rather than simply getting the largest number. That said, there are many challenges, of course, such as differing opinions on how to tackle an issue or set of issues, that can divide an alliance. Different organizational cultures, capacities, and interests can create tensions and lead to disconnecting rather than connecting. Making connections between organizations within a new alliance, and maintaining these connections, takes a lot of effort, but is necessary for the alliance to move to the next stage of development, Cementing.

Stage 2. Cementing (Operational) – At the Cementing stage, frequent and mutually reciprocated connections between organizations have been established, which help to build trust, a shared vision, and more egalitarian roles by organizations within the alliance. In other words, becoming more cohesive. Cementing relations between alliance members is needed for long-term sustainability as well as for achieving success in advocacy, awareness raising and policy development and enactment. At the Cementing stage more diverse organizations are brought in to enhance the alliance and as a result the roles and importance of founding organizations may change. But, to achieve efforts that are “at-scale” requires a diverse and multi-organizational alliance, especially those with grass-root constituencies.

Stage 3. Scaling (Sustainable) – At the Scaling stage, alliances have a large reach, power and can achieve impact at a larger scale than in previous stages, such as regional, state and national level. This is possible because many different and diverse organizations have joined, alliance members are mutually connected, leadership is decentralized, members play many different roles rather than one dominant role, and all of which shows a greater degree of cohesion. Again, challenges are present in this stage just as they are in other stages, such as too much time being spent on maintaining the alliance and too little time doing advocacy and organizational maintenance (constituent building, fund-raising, etc.).

Comparing the characteristics of these alliances to the stages of network formation, recommendations will be made on how to improve these alliances or in other words, “weave” more sustainable food security and nutrition networks in Armenia and Georgia.

METHODS

In order to answer the evaluation questions about the characteristics and structure of these agricultural alliances, social network (SNA) is used. SNA is an approach that uses both qualitative and quantitative techniques to understand the characteristics and structure of relationships between individuals, groups, organizations, or any set of entities by measuring the connections, which can range from sharing information, exchanging resources, or having mutual members on their boards³. The qualitative technique involves the use of visual analytics, or mapping, of the network in order to graphically illustrate the set of relations and structure. The quantitative technique involves the use of mathematical metrics based on graph theory.

³ Making the Invisible Work Visible: Using Social Network Analysis to Support Strategic Collaboration, Rob Cross, Stephan P. Borgatti, and Andrew Parker, California Management Review, Vol.44, No.2, 2002; The Network Approach to Evaluation: uncovering patterns, possibilities and pitfalls, Robyn Keast and Kerry Brown, 2005, Australian Evaluation Society International Conference

Short Review of Social Network Analysis

As stated above, a network is a set of relationships between individuals, groups, organizations or institutions. In network terminology, and in this evaluation study, the organizations that are members of the food security and nutrition alliances represent “nodes” and the relationship linking them represent “ties.” In this evaluation study, the relationships, or ties, were sharing information and collaboration in advocacy efforts.

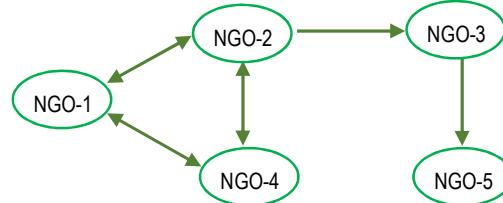
To illustrate social network analysis, Table 1 provides an example using 5 NGOs, or nodes, represented by circles. The 5 NGOs were asked to report which of the other NGOs they shared information with in the last year. The “✓” in the cells of the table represents that the two NGOs have cooperated with each other in the last year. For example, NGO-1 reported sharing information with NGO-2 and NGO-4. And, NGO-2 reported sharing information with NGO-1, NGO-3, and NGO-4 and so forth with the remaining NGOs.

Table 1: Social Network Data Collection – Directed ties

	NGO-1	NGO-2	NGO-3	NGO-4	NGO-5	Out-degree
NGO-1		✓		✓		2
NGO-2	✓		✓	✓		3
NGO-3					✓	1
NGO-4	✓	✓				2
NGO-5						0
In-degree	2	3	1	2	1	

This table, or matrix, can be converted into a network map, which shows the flow of information between these NGOs over the past year. Also, the illustration shows certain characteristics and structures for information sharing. For example, NGO-1, NGO-2 and NGO-3 form a cluster or community and that NGO-3 is a “bridge / broker” between the cluster of NGOs and NGO-5. Though it is difficult to “see” these characteristics and structures from the table, they become quite obvious from this illustration which NGOs cooperated in sharing information over the past year.

Figure 2: Network map of matrix table.

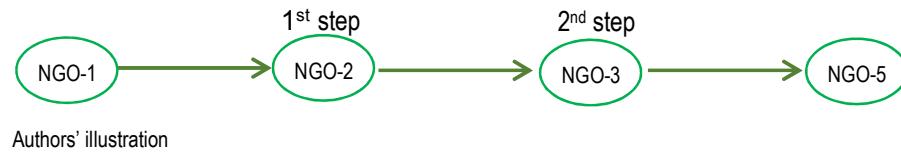


Authors' illustration

Table 1 also allows us to understand some mathematical characteristics of this network, such as in-degree and out-degree centrality. NGO-5 has an in-degree centrality of “1” because one other NGOs reported sharing information with NGO-1 (NGO-3) and it has an out-degree of “0” because it did not share information with any other NGO. The NGO with the highest in-degree (receiving) and the highest out-degree (sending) is NGO-2, which has an in-degree and out-degree of “3”. Thus, in network analysis, NGO-2 would represent the most prominent NGO in the network because it receives information from the most members of all other NGOs and the most influential because it sends information to more NGOs than all others.

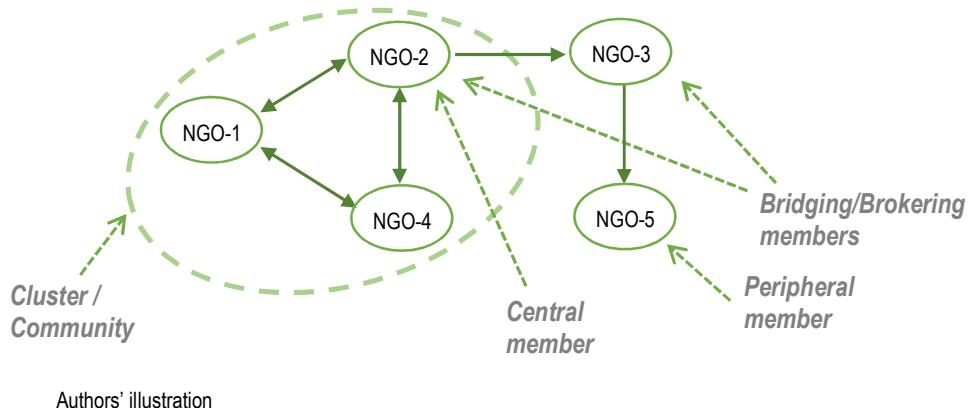
Another network metric is inclusiveness, which ranges from 100% if all NGOs have at least 1 tie or in other words there are no isolated network members. In this example, inclusiveness is 100% because all NGOs have either received or shared information with another NGO. Another network metric is geodesic distance. Since networks are composed of ties, which can represent paths, geodesic distance is the shortest number of paths or steps between any two nodes in a network. For example, NGO-1 is “2” steps away from NGO-5 when sharing information. It is the most “distant” NGO because it is “2-steps” away from other members in the network map because in order for NGO-5 to reach NGO-1 it must go through NGO-3 (1st step) and then NGO-2 (2nd step). And, when the sum of all geodesic distances are divided by the number of NGOs in the network, the average path/steps length in the network can be calculated, which in this example is 1.6 steps. Thus, on average, each NGO is slightly more than 1-step away from other NGOs in sharing information. Another, related network measure is betweenness centrality. NGO-2 has the highest betweenness centrality in this network because most of the shortest paths in the network pass through it.

Figure 3: Reach – number of steps from one NGO to another.



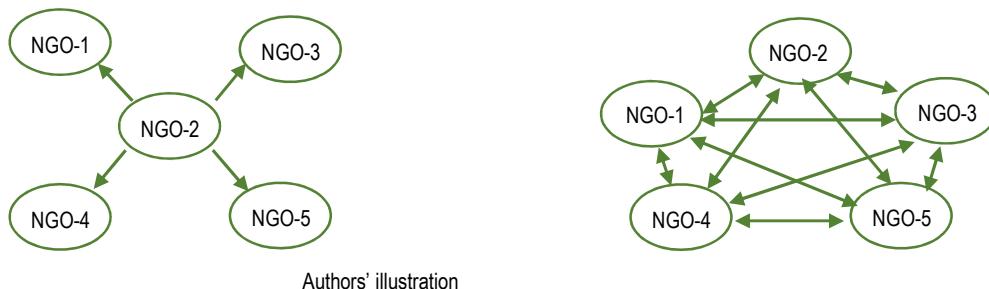
Also, as shown in the illustration below, it is possible to understand the roles of individual NGOs in this network. For example, NGO-3 who is a “bridge / broker” between NGO-5 and all other NGOs; NGO-2 is the most central; and NGO-5 is the least central and is peripheral to the network.

Figure 4: Selected characteristics of NGOs in a network.



The last network measure used in the evaluation study of the food security network is network centralization. A highly centralized network would be one in which all NGOs are linked to only one NGOs. A centralized network means one or two NGOs have most influence or power, or in other words, there is little decentralization of influence and power within the network.

Figure 5: Maximum centralized (left) and maximum decentralized networks (right).



The best illustration of a completely centralized network is a star configuration, as shown above on the left side. This network represents 100% centralization since all NGOs are linked to NGO-2 and not each other. Often, this position represents influence and power in being able to control information and resources within the network. A decentralized network is one in which all members are mutually connected to all other members, as shown by the network on the right side.

In summary, SNA provides an analytical framework and approach to help address many issues related to alliance development, for example, in understanding a) individual members, or group of members roles, influence, and power dynamics within an alliance, b) the extent of network sustainability based on scenarios of central members leaving the alliance, c) gaps in alliance membership of theme-focused organizations (e.g., women's rights organizations) and how to incorporate them within the network, and d) possible overlap of service provision by organization in an emergency or relief context in order to improve efficiency and effectiveness through coordination. Other applications of SNA, in international development, include emergency response coordination (Kapucu, 2005; Moore & Daniel, 2003), conflict prevention (Ivanov, 1997), and community collaboration (Richardson & Graf, 2004) to mention a few.

Mapping the agricultural alliances

Visual representation of the agricultural alliances is important in order to better understand the set of relations and structure as well as to convey the result of the quantitative analysis. As mentioned above, the maps of the alliances involve the use of “nodes” that represent the network members and “ties” or links” that represent the connections between the nodes or members. The different colors used in the maps represent different “communities of organizations” based on their set of relations or the lack of (e.g., all blue colored nodes represent a cluster or community within the network as illustrated earlier). The size of the nodes represents the magnitude of its centrality in the network, which in this evaluation study uses out-degree centrality and betweenness centrality.

Two network “boundaries” were studied in this evaluation. The first network boundary was strictly closed to only core agricultural alliance members, which will be described in more details below. The second network boundary was open in that agricultural alliance members were asked to identify organizations that are not part of the alliance but they share information or partner with in advocacy activities.

Metrics Used to Measure Agricultural Alliance Characteristics and Structure

The following metrics were used to understand the structure and characteristics of sharing information and collaborating in advocacy in the agricultural alliances in Armenia and Georgia. These metrics will be compared with the expected structure and characteristics of Pastor’s three stages of alliance development.

Network Composition (Number and diversity of members) – The number and diversity of core organizations represent the networks’ composition. The *number* is merely a count of the number of core organizations. The *diversity* of members is the number of different types of organizations, such as local non-profit, local associations, international organizations, private-for-profit, and government department or agencies.

Connectedness (Inclusiveness, Reach and Reciprocity) – *Inclusiveness* is the % of network members who are connected or linked to each other. *Reach* is the average number of steps, or path length, in the network; the larger the distance between alliance members (more steps) the longer it takes to diffuse information and the information that is diffused can more easily get distorted. *Reciprocity (% of interactions reciprocated)* is the proportion of interactions which are mutual. For example, if an alliance member “A” shares information with alliance member “B” does the alliance member “B” also share information with alliance member “A”? If so, the interaction is reciprocal. Reciprocity will be based on the “reciprocated vertex pair ratio” (Lieberman, 2014) which is the proportion of alliance members who have a connection returned to them.

Communities (# of clusters) – Within a network there may be groups, clusters or communities, which represent members who have many connections with each other and sparse or no connections with other alliance members. One measure to identify clusters, within a network, is modularity class (Newman 2006). Based on the modularity coefficient, each cluster will be colored differently in the network maps.

Centralization (Network and Alliance Members) – Centralization within a network is the degree to which all relations or connections within the overall network are dominated by one organization. This will be measured by network centralization coefficient which will range from 0% (no centralization, perfect decentralization) to 100% (complete centralization). Centrality is a measure to detect which organizations are the most prominent or influential among all the interactions and connections within the network. In this evaluation, centrality is based on the metric, out-degree, which is the number of out-going interactions from an organization to other organizations in the network. The larger the out-degree centrality of an NGO the higher its level of influence⁴ within the network.

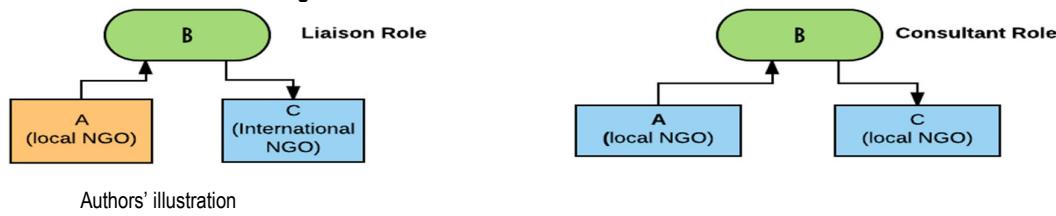
Brokerage (between similar and dissimilar organizations) – Brokerage refers to a role an organization can play by connecting two or more different types of organizations. For example, in the agricultural alliance there are local NGOs, international NGO, associations and so forth. The degree to which a network member plays a brokering role is measured using Gould & Fernandez (2015) brokerage coefficient. There are five types of brokerage roles possible: 1) liaison, 2) consultant, 3) coordinator, 4) representative and 5) gatekeeper. The vast majority of brokerage roles that occurred in these agricultural alliances were the first two: liaison and consultant.

The liaison and consultant roles are demonstrated in the illustrations below. Taking a liaison role means that an organization connects two different types of organizations, neither of which it belongs to, such as a local NGO (green

⁴ An organization is “influential” based on the “out-degree,” which means the number of other organizations it shares information with or seeks-out for advocacy collaboration, thus exerting influence. Influence, measured by out-degree does not refer to a political or economic characteristic.

color) with an international NGO (yellow color). Taking a consultant role means that an organization connects two organizations that are similar but it doesn't belong to, such as a one local NGO with another local NGO.

Figure 6: Liaison and Consultant roles in a network.



Sustainability (Potential for fragmentation) – Sustainability refers to the potential for the network to fragment into disconnected smaller networks if one or more members leave or becomes inactive. Sustainability is based on Borgatti's fragmentation measure operationalized by the software program, UCINET; that is, the more a network can be fragmented or disconnected by one or more members leaving the less sustainable the network is. Thus, fragmentation is the proportion of pairs of alliance members that cannot reach each other for either sharing information or collaborating in advocacy.

Outreach (building the broader social movement and alliance members who are “bridges” to achieving this) – Interaction with other actors, to promote food security and nutrition strategies, is a count of the number of non-core agricultural alliance members identified agricultural alliance members with whom they have interacted with in the past year. Bridges to other actors represents those agricultural alliance members who are conduits from alliance members to other actors; that is, they represent “bridge building” or “connectors.” agricultural alliance members who are “bridges” to other actors are identified using betweenness centrality.

The table below presents the metrics, for each of the characteristics mentioned above, that will be used to assess the status of these two agricultural alliances and the expected metric at each stage of development.

Table 2: Expected Characteristics Based On Pastor et al.' Alliance Developmental Stages.

Network Alliance Metrics	Alliance Development Stages		
	Connecting	Cementing	Scaling
Composition (size and diversity)			
Number of members	Few	Moderate	Many
Number of social sectors represented	Few	Moderate	Many
Connectedness			
Inclusiveness	Low	Moderate	High
Average Reach	High	Moderate	Low
Reciprocity	Low	Moderate	High
Communities			
# of clusters	Many	Moderate	Few
Centralization			
Network centralization	High	Moderate	Low
Alliance member centrality	Concentrated in few members	Sparsely concentrated	Dispersed among members
Brokerage			
Brokerage	Many roles concentrated in few members	Sparsely concentrated roles	Few brokerage roles
Sustainability			
Potential for fragmentation	High	Moderate	Low
Building the larger social movement			
Interaction with other actors	None or few	Moderate	Large
Bridges to other actors	Few members as main bridges	Moderate # of members as bridges	Few bridges needed
Communities (clusters)	Few	Moderate	Many

Authors' table.

Network Functions Assessed

Pastor (et al., 2010) identified four basic functions that alliances fill: information and resource sharing, strategic dialogues and relationship building, leadership development, and joint campaigns. Of these four functions, two

functions were measured to assess the structure of the agricultural alliances in Armenia and Georgia: 1) sharing information, and 2) joint advocacy activities.

Function1: Sharing Information – A fundamental way for networks to emerge is by members interacting and exchanging information with each other regarding the important issues, such as food security. By sharing and exchanging information, organizations learn about each other, find complementarities, and begin to build trust for future alliance decisions and collaboration (Gulati & Gargiulo, 1999). To assess the degree of information sharing, each agricultural alliance member was asked, “Please identify which organizations you have shared information with, via emails, telephone, meetings or visits in the past year.” Examples of types of information being shared among alliance members includes exchanging ideas and opinions about the project and its objectives, the alliance’s current operation, future plans, monitoring government policies and interventions, advocacy strategies (e.g., watch-dog vs. advisor vs. service provider), and accomplishments.

Function 2: Advocacy Collaboration– Food security and nutrition policy development and change are one of the main tasks of these two alliances. Food security and nutrition policies are vital to protect food availability, quality, access and utilization by individuals and households. Thus, each agricultural alliance members was asked, “Please identify which organizations you have conducted joint advocacy activities, such as data collection, analysis and support for decision-makers in the past year.” Examples of advocacy activities, in both Armenia and Georgian, are related to national strategies for sustainable agriculture and agricultural production, food safety, healthy eating, rural development, needs of small-holder farmers, and gender specific actions needed in action plans and budgetary allocations. Advocacy activities involved collecting relevant data and statistics and consolidating them into an agricultural alliance advocacy plan.

STUDY IMPLEMENTATION

From December 2015 to February 2016 members of the Armenian and Georgian agricultural alliances were surveyed, using an online questionnaire, in the Armenian and Georgian languages, using Survey Monkey. These alliance members were instructed to name all alliance members 1) they had exchanged information with and 2) collaborated with in joint advocacy efforts in the past year related to food security and nutrition. Exchange of information and collaboration in advocacy efforts could be either through formal or informal means.

Next, alliance members were instructed to name other non-state organization, state organizations, private businesses, and independent consultants they had exchanged information with or collaborated with in joint advocacy in the past year on food security and nutrition, such as agricultural development, agricultural production, food safety, and/or healthy eating. Again the exchange of information and collaboration in advocacy efforts could be either through formal or informal means. These additional organizations were asked to complete the survey.

The online questionnaire asked alliance members to identify for themselves, and other organizations they had identified in the questions above, the following information: 1) registration designation (i.e., local NGO, international NGO, or state institution), geographic coverage, and the main operational sector (i.e., agriculture, livestock, nutrition, gender issues).

In the majority of the cases, the questionnaire was completed by the organization’s Director or Deputy Director and the questionnaire took 40 – 50 minutes to complete. A total of 10 of the 15 (or 66%) of the Armenian agricultural alliance members and 16 of the 21 (or 76%) Georgian agricultural alliance members completed the questionnaire. The questionnaire was sent to an additional 50 organizations in Armenia and 59 in Georgia, with the final response rate of 43% from these organizations in both countries.

Study limitations

There are two major limitations to this study. First, not all alliance members completed the survey, which can substantially effect network metrics. Second, the non-alliance members were not fully included in the survey, which would have helped in understand the structure of the entire alliance outreach, however, there was not the resources (time and funds) to do this. Third, a number of organizations and government ministries and agencies requested

anonymity and, therefore, pseudonyms are used which limits being able to identify certain alliance members in the maps and the structural roles they play in these networks.

FINDINGS

Composition of the Agricultural Alliances

The agricultural alliance in Armenia is composed of 3 international NGOs, 2 associations, and 10 local NGOs, which is a total of 15 Alliance members as of December 2015. From January to February, 2016, the alliance was surveyed on the topics of sharing information and joint advocacy activities, using an online survey platform, and follow-up interviews were conducted. A total of 10 (or 67%) of the 15 alliance members participated in the survey. Two-thirds (67%) of these 15 alliance members have organizational missions that primarily focus on agriculture and livestock development, with an equal proportion focusing on food security (14%) and gender issues. One of the alliance members focuses on education.

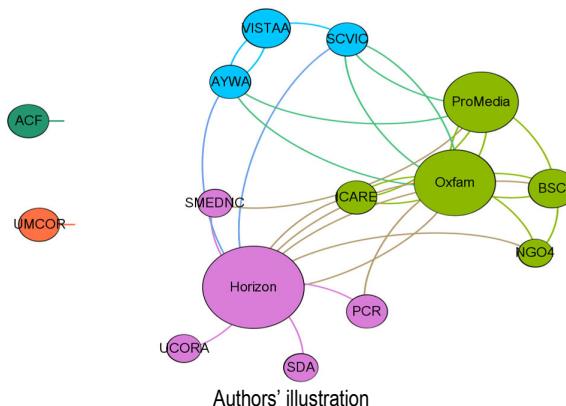
The alliance in Georgia is composed of 3 international NGOs, 8 associations, and 10 local NGOs, which is a total of 21 members as of December 2015. A total of 16 (or 76%) of the 21 alliance members participated in this study. Eleven (or 52%) of these 21 alliance members' organizational mission focuses primarily on agriculture and livestock development, with equal proportion of members focusing on environment and ecology (10%) and legislative and legal issues (10%). A smaller proportion of members focus on education (5%), food security (5%), and religion (5%). Another 10% of these alliance members have individually specific focuses.

When considering the stages of alliance development, both alliances have an adequate number of organizations and a reasonably broad array of different types of organizations, which indicates a close match to the Cementing stage of development. However, organizations that primarily focus on nutrition and gender issues are only slightly represented in Armenia, whereas in the Georgia alliance organizations primarily focusing on gender issues are absent.

Alliance Function 1: Information Sharing

Information Sharing in the Armenia Alliance – The majority (87%) of the alliance members reported sharing information with each other in the past year, which means that two network members (one international and one local NGO) were inactive or, in network terminology, isolates. In order for alliance members to share information with all members, network members had to go through, on average, an intermediary, as indicated by the average reach being 2.1 steps (away from each other), which reduces efficiency in the dissemination of information than direct connections (1 step from each other). Reciprocity in sharing information among alliance members is 24%, or in other words, less than one-quarter of network members mutually shared information in the past year.

Map 1: Information Sharing in the Armenian FSN Alliance.
(Size of node indicates influence (out-degree centrality) & color represents community cluster)

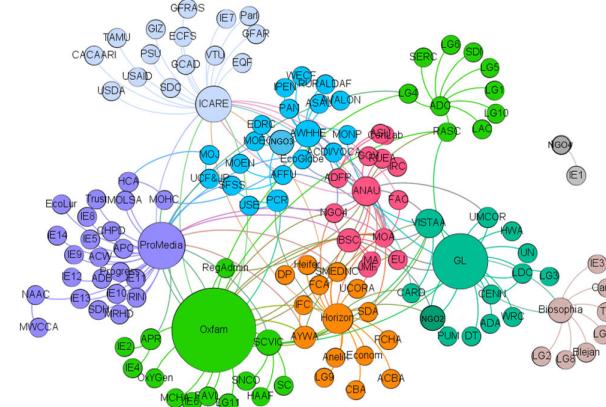


As shown in the map, there are 5 clusters or communities, which is due to sharing of information in the past year occurring mostly between smaller groups of network members. The disconnected or isolated network members represent their own group. Network centrality is 61%, which means that sharing information tends to be more centralized among a few members than decentralized among many of the members. The largest size nodes have the largest out-degree centrality, which is sharing information with the most alliance members. Brokering for information sharing is dominated by one alliance member; that is, Oxfam fills 73% of brokerage roles in information sharing and the main role is as a Consultant.

This means that Oxfam, when sharing information, links two similar types of organizations (e.g., one local NGO member with another local NGO member). Cohesion is rather fragile since with the absence of Oxfam 88% of all alliance members would not be able to reach each other to share information (see Appendix for map of fragmentation).

Examining information sharing outside the core alliance members, or outreach to other actors in order to build a larger social movement, network members reported sharing information with 123 other organizations.

Map 2: Armenia's FSN Alliance's Broader Information Sharing Network.
(Size of node indicates "bridging" (betweenness centrality) & color represents community cluster)

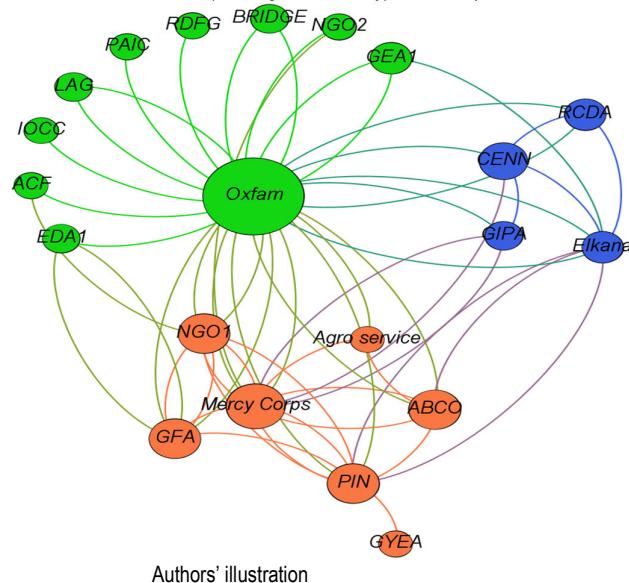


Authors' illustration

These organizations ranged from local and international NGOs, government ministries and departments, think tanks, universities to prominent individuals focusing on many different issues, such as agriculture and livestock, food security, food safety, health, environment and ecology, climate change, disaster risk reduction, education, gender, human rights, legal services and legislation. Overall, 9 different communities of information sharing were identified in this broader food security and nutrition network. And, the organizations that were the most prominent in filling a "bridging" role (connecting different types of organizations) in this larger outreach network, based on betweenness centrality, were Oxfam, Green Lane, and ProMedia. ProMedia is one of only two members that is primarily gender focused, which is a priority cross-cutting theme in food security and nutrition policy development.

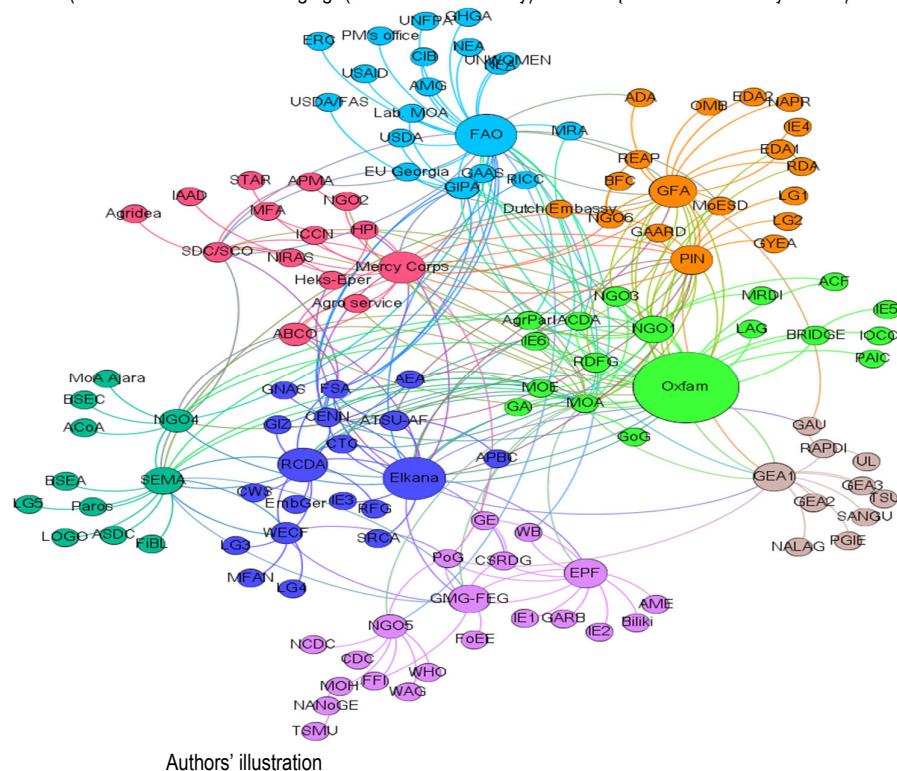
Information Sharing in the Georgia FSN Alliance – Inclusiveness is 100% since all FSN alliance members reported sharing information with at least one other network member in the past year. On average, network members were 1.9 steps away from each other to share information, which means there were more direct connections than indirect but still many alliance members needed an intermediary to receive shared information. Almost one-half (43%) of information sharing in the past year was reciprocated, which is almost two times more than in the Armenia information sharing network.

Map 3: Information Sharing in the Georgian FSN Alliance.
 (Size of node indicates influence (out-degree centrality) & color represents community cluster)



As shown in Map 3, there are 3 clusters or communities, which is due to most sharing of information in the past year occurred between certain groups within the Georgian FSN alliance. Overall network centrality score is 85%, which indicates a high degree of centrality related to sharing information. This high network centrality is due to Oxfam being the primary sharer of information (highest out-degree). In addition, virtually all (93%) brokerage roles were filled by Oxfam; 36% as a Consultant (coordination of sharing the information between similar types of organizations) and 40% as a Liaison (coordination of sharing the information between different types of organizations). Like the Armenian FSN alliance, cohesion is rather delicate since with the absence of Oxfam 67% of all alliance members would not be able to reach each other to share information (see Appendix for map of fragmentation).

Map 4: Georgia's FSN Alliance's Broader Information Sharing Network.
 (Size of node indicates "bridging" (betweenness centrality) & color represents community cluster)



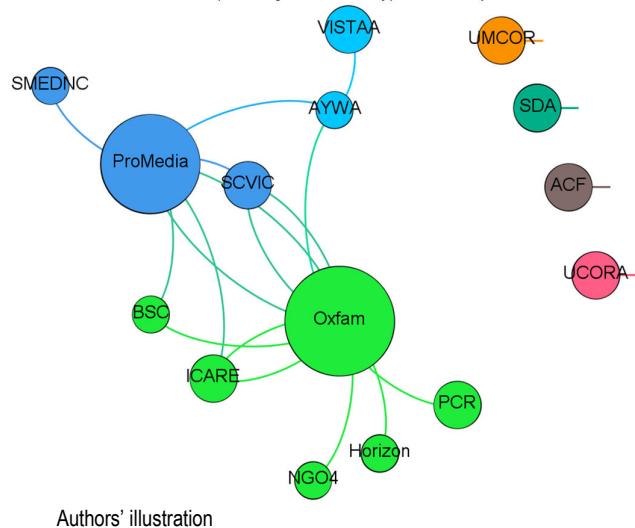
Map 4, above, shows the greater outreach to build a broader social movement in Georgia, consisted of core FSN alliance members sharing information with 108 other organizations.

Again, these organizations ranged from local and international NGOs, government ministries and departments, universities to prominent individuals. Overall, 8 different communities of information sharing were identified in this outreach network. And, the organizations that were the most prominent organizations filling a “bridging” role (connecting different types of organizations) in this larger outreach network were Oxfam, Elkana, and the FAO (Food and Agricultural Organization).

Alliance Function 2: Advocacy Collaboration

Advocacy Collaboration in the Armenia Alliance – Almost three-quarters (73%) of the alliance members collaborated with each other in advocacy efforts in the past year, since 4 network members did not report collaborating with other network members, which is a lower inclusiveness rate than with sharing information. alliance members were, on average, 1.7 steps away from other network members in collaborating in advocacy efforts, which means that, in general, most collaborations were direct and efficient. Reciprocity in collaborating in advocacy efforts was rather low (21%).

Map 5: Advocacy Collaboration in the Armenian FSN Alliance.
(Size of node indicates influence (out-degree centrality) & color represents community cluster)



Authors' illustration

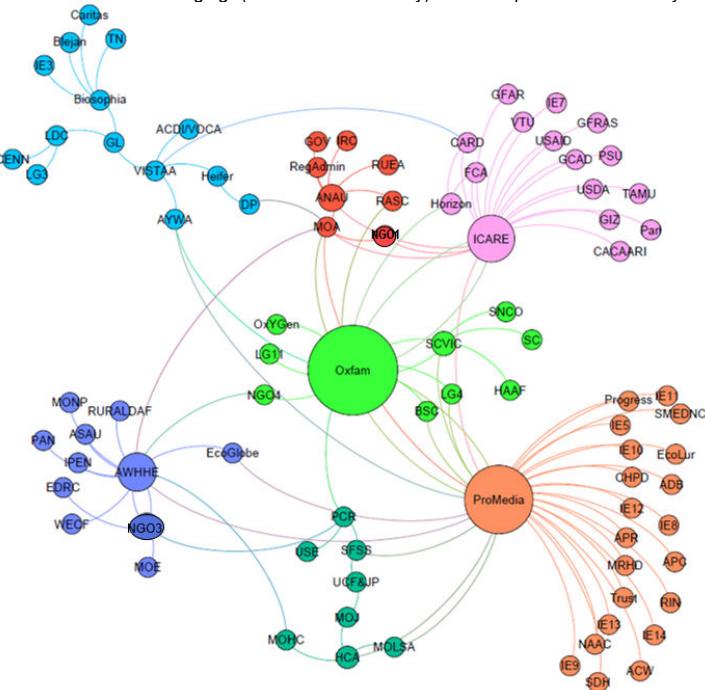
As shown in the map above, there are three communities among alliance members that collaborated in advocacy efforts in the last year. Those organizations that are connected and the same color more frequently collaborated together. Four of the alliance members did not report collaborating in advocacy in the last year. It is interesting that the communities in advocacy collaboration are very similar to the communities in sharing information; thus, in the Armenian alliance, these communities are fully active with amongst each other and more specialized with other network members.

Collaboration in advocacy efforts is somewhat centralized (45%), although more decentralized than the information sharing network (61%). The largest size nodes represent those organizations that are more active in sought collaboration (largest out-degree centrality) among all alliance members, which were Oxfam and ProMedia. Virtually all (99%) brokerage roles in the advocacy collaboration network were filled by Oxfam. Similar to the information sharing network, Oxfam primary brokerage role (67%) was as a Consultant (i.e., linking two similar types of organizations) and few (14%) as a Liaison (linking two different types of organizations). Cohesion is especially weak with the absence of Oxfam; that is, 97% of alliance members would not be able to reach each other for advocacy collaboration (see Appendix for map of fragmentation).

As for the partnering with actors outside the alliance in advocacy, or in other words, outreach in order to build a larger social movement, as shown in Map 6 below, alliance members reported collaborating in advocacy with 83 other organizations, agencies, entities and individuals. Overall, 8 different communities were identified among actors involved in this broader advocacy collaboration network. The organizations most prominent in filling a “bridging” role

(connecting different types of organizations) in this broader advocacy collaboration network were Oxfam, ProMedia, and Green Lane.

Map 6: Armenia's FSN Alliance's Broader Advocacy Collaboration Network.
 (Size of node indicates "bridging" (betweenness centrality) & color represents community cluster)

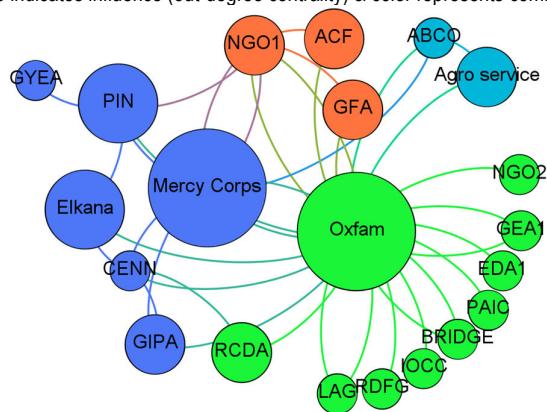


Authors' illustration

Advocacy Collaboration in the Georgia FSN Alliance – As in the information sharing network, inclusiveness is 100%, that is, all FSN alliance members reported collaborating with one or more network members in advocacy. On average, network members were 2.1 steps away from each other, which means that an intermediary was often needed if a FSN alliance member wanted to collaborate with any other network member. Less than one-fifth (18%) of advocacy collaboration was reciprocated in the past year.

Map 7: Advocacy Collaboration in the Georgian FSN Alliance.

(Size of node indicates influence (out-degree centrality) & color represents community cluster)



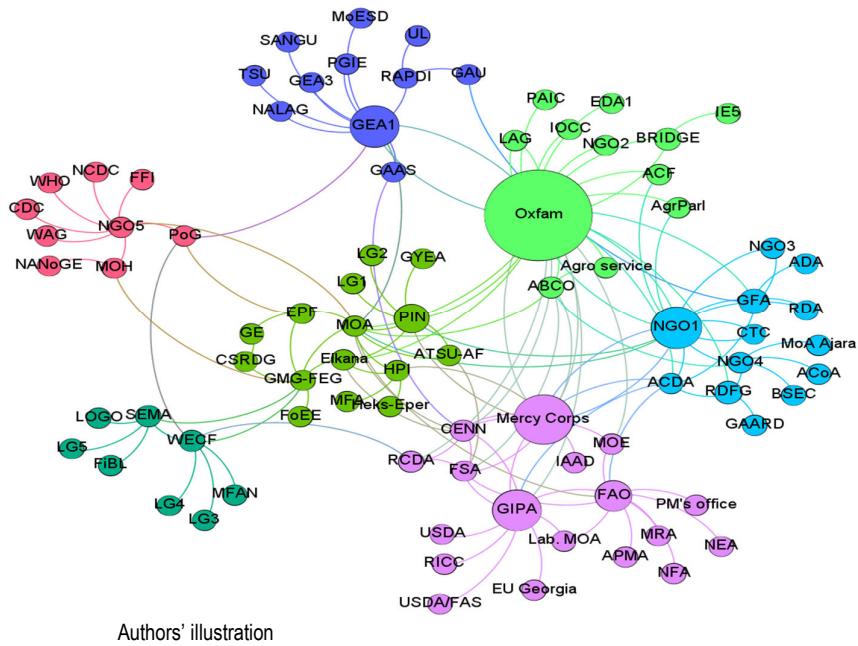
Authors' illustration

There are 4 clusters or communities indicating that FSN alliance members were more frequently involved in advocacy efforts within these communities than between communities. Network centrality is 90%, which indicates a highly centralized advocacy approach in this FSN alliance. As shown in the map below, Oxfam and Mercy Corps were most influential network members (largest out-degree) in seeking advocacy collaboration among FSN alliance members. Virtually all (84%) brokerage roles, in advocacy collaboration, were filled by Oxfam; 42% were as a Consultant

connecting similar types of organization and 46% as a Liaison connecting different types of organizations. Similar to the information sharing network, cohesion is rather fragile since with the absence of Oxfam 77% of alliance members would be unable to reach each other for advocacy collaboration (see Appendix for map of fragmentation).

Outreach, to build a broader social movement for advocacy of food security and nutrition throughout Georgia, consisted of core FSN alliance members collaborating in the past year with 65 other organizations and actors. Overall, 7 different communities involved in advocacy collaboration were identified. The organizations that were the most prominent in filling a “bridging” role (connecting different types of organizations) in this larger advocacy network were all international NGOs (Oxfam, Mercy Corps, and NGO1).

Map 8: Georgia's FSN Alliance's Broader Advocacy Collaboration Network.
(Size of node indicates “bridging” (betweenness centrality) & color represents community cluster)



ANALYSIS OF FINDINGS

This evaluation had three objectives: 1) understanding the status of the alliances in Armenia and Georgia, 2) recommending how these network alliances can be improved, and 3) use an evaluation approach that could be replicated to monitor the progress of these alliance networks. A summary of the outcomes for each objective is described.

Responding to the evaluation questions

1. Are the Armenia and Georgia alliance members regularly connecting and communicating with each other?
The evaluation question asked alliance members to report about connecting and interacting on information sharing and advocacy collaboration in the past year. Based on the network metrics of inclusiveness, the majority of alliance members shared information and collaborated in advocacy efforts with each other over the past year. Also, on average, alliance members were just a little over 1-step away from any other alliance members, or in other words, very reachable if needing to share information or collaborate. That said, it is uncertain if “regularly” connecting and communicating in the past year meant connecting only once during the year, once every 6-months, once a month, or even more frequently. What is certain, however, is that connecting and interacting is mostly one-way and rarely reciprocated.

2. What is Oxfam's role in the Armenian and Georgian alliances?

Based on network brokerage roles, clearly, Oxfam played a central role in the sharing of information and seeking network members to engage in advocacy efforts. Two primary broker roles were filled by Oxfam: Consultant and Liaison. In the Consultancy role, Oxfam was central in connecting different types of alliance members, such as local NGOs with international NGOs, in information sharing and advocacy collaboration. In the Liaison role, Oxfam was central in connecting similar organizations, such as a local NGO with another local NGO, in information sharing and advocacy collaboration. This is to be expected since Oxfam, from the beginning of the alliances project, has been an “anchor intermediary” organization (Pastor et. al., 2010), that is, the organization with the resources, capacity, experience, scale, and scope to help initiate and guide the beginning stage of Connecting these networks. Often different types of organizations (local NGOs and International NGOs), as well as similar organizations (local NGOs), have not worked with each other before, and, therefore, may be hesitant to engage in sharing information and collaborating in advocacy. Moreover, the issue of food security as a holistic concept which covers broad range of areas (availability, accessibility, utilization and sustainability of food) has rarely been tackled by the individual organizations, thus the members of the alliances had less experience of working in the policy advocacy for FSN issues and the project took the leading role in connecting the various conceptual areas. During the Connecting stage, when organizations are “learning” about each other, Oxfam is playing a critical Consultant role by facilitating interactions between different types of organizations. Moreover, Oxfam is also playing a critical Liaison role by facilitation of similar organizations, such as local NGOs who may previously been, and continue to be, competitors in seeking donor funding and thus need to establish a new cooperative relationship.

3. Which members are more central to the Armenian and Georgian alliances?

Based on out-degree centrality, in the Armenia alliance, other than Oxfam, the two central members in information sharing and advocacy collaboration were ProMedia and Horizon. In addition, in the broader social movement network of sharing information and advocacy collaboration, again ProMedia was central in being a “bridge” connecting many diverse organization. Interestingly, ProMedia’s organizational mission primarily focuses on gender issues. In the Georgian alliance, other than Oxfam, the next most central member was Mercy Corps, an international NGO.

4. How sustainable are the Armenian and Georgian alliances?

Based on the Key Player fragmentation delta, which was used as a measure of network sustainability, the most sustainable is the Armenia FSN advocacy collaboration, which will fragment by 21% if the central network members leave. This is compared to information sharing in the Armenian alliance fragmenting by 47% if central network members leave. As for the Georgian alliance, if central members leave, information sharing will fragment by 48% and advocacy collaboration will fragment by 46%.

5. Are the Armenian and Georgian alliances connecting and communicating with civil society organizations and actors to build a larger social movement?

In the past year, the Armenia alliance members reported sharing information with 123 organizations and collaborated in advocacy efforts with 83 organizations. In the broader social movement network of sharing information, Oxfam, Green Line, and ProMedia were critical bridges connecting the network. In the broader social movement for advocacy collaboration, Oxfam, ProMedia and ICARE were critical bridges connecting the network.

As for the Georgian alliance, members reported sharing information with 108 organizations and collaborated in advocacy efforts with 65 organizations. In Georgia’s broader social movement network of sharing information, Oxfam, Elkana, and FAO were critical bridges connecting the network. In the broader social movement for advocacy collaboration, Oxfam and Mercy Corps were critical bridges connecting the network.

In both the Armenian and Georgian alliances, the broader social movement partners included regional and national government entities, farm associations, media, local academic institutions and foreign universities, human rights organizations, local think tanks, private businesses, international development organizations, international donors, and independent experts. These are large numbers of partners for the Armenian and Georgian Alliances, so the challenge going forward will be not simply getting the largest number of partners “at the table” but rather the right partners and ensuring these relations “cement” enough to scale-up.

Development status of alliances

One of the main strategies to improve food security and nutrition through advocacy in the Caucasus region was the formation of sustainable and effective alliances in Armenia and Georgia by Oxfam. In light of the three stages of alliance development, these evaluation results show that certain aspects and characteristics of these alliances align with different stages of alliance growth and sustainability, as shown in the table below.

When examining the composition metric of these alliances, they tend to more closely match the Cementing stage, since they are moderate in size and have a moderate number of organizations that represent different sectors but complementary missions. However, that said, unlike the older Armenian alliance, the Georgian alliance still lacks members in which the primary organizational focus is on gender issues related to food security and nutrition.

Table 3: Summary of Findings

		Alliance Developmental Stages		
Network Metrics		Connecting	Cementing	Scaling
Composition	Number of members	Few	Moderate	Many
	Number of social sectors represented	Few	Moderate	Many
Connectedness	Inclusiveness	Low	Moderate	High
	Average Reach	High	InfoShare - AR Advocacy - AR	InfoShare - GE Advocacy - GE
	Reciprocity	Low	InfoShare - AR Advocacy - GE	Low
Communities	# of clusters	Many	Moderate	Few
		InfoShare – AR, GE Advocacy - AR	Advocacy - GE	
Centralization	Network centralization	High	Moderate	Low
	Alliance member centrality	InfoShare – AR, GE Advocacy - GE	Advocacy - AR	
		Concentrated few members	Sparsely concentrated	Dispersed
Mediation	Brokerage	Few and concentrated	Sparsely concentrated	Few brokerage roles
		InfoShare – AR, GE Advocacy – AR, GE		
Sustainability	Potential for fragmentation	High	Moderate	Low
		InfoShare – AR, GE Advocacy - GE	Advocacy - AR	
Building the larger social movement	Interaction with non-Alliance members	Few	Moderate	
	Bridges to non-Alliance members	Few members as main bridges	Moderate # of members as bridges	Large InfoShare – AR, GE Advocacy – AR, GE
	Communities (clusters)	Few	Moderate	Few bridges needed
		InfoShare – AR, GE Advocacy – AR, GE		Many

Two measures of connectedness indicate that these alliances are at the Cementing, and even at the Scaling stage, since there were few isolated members when sharing information or collaborating in advocacy. In addition, all

members were only 1 to 2 steps away from any other member if they needed to share information or collaborate. However, when it came to reciprocity, these alliances are still in the formation stage of Connecting, since there is very low reciprocity or, in other words, most sharing of information and advocacy collaboration is one-way.

The remaining measures of communities, centralization, mediation and sustainability indicate that these alliances are still in the Connecting stage in which there are still cliques (communities), one or two members that are most influential in sharing information and initiating collaboration in advocacy, brokering and facilitating interaction between similar and different members is dominated by one or two members, and that these alliances are rather fragile if one or two of the central members leave.

As for building toward a larger social movement, both the Armenian and Georgian alliances seem to match the more advanced stage of alliance development, Scaling, at least in the number of partners they share food security and nutrition related information with and collaborate with in food security advocacy; however, that said, Oxfam still plays a central bridging role in this broader social movement network and how many of these organizations represent the “right” partners, both committed and complementary to the core alliance members, has yet to be determined.

Future evaluations – A replicable evaluation approach

Pastor et al. (2010) theoretical framework of alliance development, which provides various characteristics an alliance exhibits from its initial development (Connecting), as it matures (Cementing), and eventual scales-up (Scaling) in order to build a larger social movement for policy change was used to assess the status of these networks. SNA, using both visual mapping and network metrics, was the methodological approach used to assess the structure and characteristics of sharing information and collaboration in advocacy efforts related to food security in the Armenian and Georgian alliances in order to assess the degree to which these structures and characteristics matched various stages of Pastor’s alliance development stages. This theoretical framework for alliance development, and the use of SNA to assess structure and characteristics of alliance networks, provides Oxfam with a replicable approach to assess the Armenian and Georgian FSN alliances in the future.

RECOMMENDATIONS

Oxfam has created two credible alliances that are, at this time, primarily in the formulation stage of Connecting and, thus, much work remains in “weaving” these alliances to be more effective and sustainable in order for them to move to the Cementing and Scaling stages of development. Two sets of recommendations are offered: general and specific.

General recommendations:

1. **An open and transparent dialogue on these evaluation findings** – The issues of the central role of Oxfam in promoting interaction and broking, as well as other international NGOs, and the fragility of the network if they leave, should be alarming. Thus, a frank discussion needs to be held with each alliance on how best to facilitate a more active engagement of network members in sharing information and collaborating in advocacy efforts. Issues such as resource constraints (time and money), disagreements, distrust or competition that may be encouraging separate communities (cliques) and reducing active engagement of all members need to be openly discussed and ways found to resolve them.
2. **Relationship Development** – Active engagement between alliance members in sharing information and collaborating in advocacy needs a good foundation of members knowing about each other (mission, culture, and reliability), knowing how a member, although different, can complement another member, and having relations of trust and mutual respect. Of course, this takes time, but relationships can be fostered by more frequent convening of dialogue sessions to discuss objectives and approaches, encouraging peer-to-peer learning between members, providing opportunities for leadership training and organizational development, and documenting and sharing successful but also challenging efforts to “Cement” relations among members. Relationship development must overcome the lack of information, perhaps due to a distrusting social environment that often leaves organizations ignorant about the capabilities and competences of other members

and therefore often pursue their own strategies with little regard to others.

3. **Identifying Complementarity** – One of the strengths of these two alliances is the diversity of members, which represent various types of organizations and missions. However, the separate clusters and communities indicate that members more often than not interact primarily with organizations similar to themselves and when interaction occurs with a different organization it is not reciprocated, all of which indicate the challenge of building on this strength by identifying complementarity. That is, members whose primary focus is on agriculture, should meet with and identify how they can complement members whose primary focus is on nutrition, or gender, and vice versa. As mentioned above, identifying and recognizing the capabilities and competencies of other members, and seeking areas of complementarity, will lead to greater interaction, help decentralize the network, increase reciprocity, reduce the need for Oxfam to play a central brokering role among different members, and produce a more coordinated approach to policy development.
4. **Improving Gender Focus** – An important focus of these alliances is on gender issues related to food security and nutrition. Although members in the Georgian alliance reported their organization focusses on gender issues, none reported gender issues as a primary focus of the organization. However, two members in the Armenian alliance reported that gender issues of the main focus of the organization. There two members are “ProMedia Gender” and AYWA (Armenian Young Women’s Association). ProMedia Gender was found to be a central member in sharing information within the alliance as well as the broader social movement network. Moreover, ProMedia Gender was even more central when it came to advocacy collaboration in the alliance and in the broader social movement network. Although this is a good start, this shows centralization of gender issues in one organization with the alliance and, therefore, more effort needs to be placed in facilitating AYWA to be more engaged within the network. The Georgian alliance needs to identify organizations that primarily focus on gender issues, and have an interest in food security and nutrition, and encourage them to join the alliance. Once onboard, the Georgian alliance should facilitate a face to face meeting with these new members that have a primary focus on gender issues with the Armenian alliance members ProMedia Gender and AYWA to discuss opportunities and challenges related to incorporating gender into food security and nutrition advocacy efforts.

Specific recommendations:

1. **Composition** – Based on compositional characteristics, both the Armenian and Georgian Alliances are at the Cementing stage, although several improvements need to occur to move to the Scaling stage.
 - a) Both of the Alliances are currently missing the representation of one or more organizations that focus and work on nutrition related aspects of food security; therefore, the project should identify, as well as develop a strategy and implementation plan, to diversify the type of organizations included in the network within the project’s lifetime.
 - b) Georgia’s alliance needs to facilitate the inclusion of NGOs that are gender-focused, such as WECF and UN Women.
 - c) The Armenian alliance needs to incorporate members that have constituencies comprised of small holder farmers, such as GFA and Elkana in the Georgian alliance.
 - d) At the end of the questionnaire, alliance members were asked to identify organizations that they felt would be the most beneficial to cooperate with in food security and nutrition to ensure, during the project lifetime, so that the Alliance has a full range of respective specialties and capacities in food security, nutrition and gender issues.
 - i. The Armenian alliance identified the NGO1 because of its capacity to leverage advocacy efforts with policy makers.
 - ii. The Georgian Alliance mentioned the FAO, since it plays a central role in brokering with government bodies as well as being able to help integrate the alliance Another organization, the EPF, was identified since it has connections to specialized organizations, such as research organizations and think-tanks, to help with monitoring national policies.
2. **Connectedness** – Reciprocity of exchanging information and collaborating in advocacy efforts between alliance members is quite low, which may be due to the special focus of each alliance member and, thus, that there is little complementarity between them to mutually interact. Perhaps, when conducting dialogues and meetings, it would be helpful for alliance members to fully map all the areas, topics, geographic coverage of alliance members to identify complementarities. The intersections of overlap could then provide an initial discussion of how each

members could support the other. Since Oxfam is the central broker in these alliance networks, it can play an important role in facilitating the identification of complementarities among members.

3. **Community Clusters and Mediation** - As mentioned earlier, identifying complementarities among alliance members in Armenia and Georgia will reduce the number of separate community clusters in these networks. Since there are many different sectors and specialties represented among alliance members, completely eliminating all community clusters is not possible. However, what can help link these community clusters are "hubs" or in other words, separate spokes of a wheel that are connected to a central hub. At this time Oxfam plays the role of a hub. In the Armenia alliance, ProMedia and ICARE represent central organizations in two distinct clusters or communities, which is due to these organizations focusing on two distinct operational sectors; ProMedia on gender related issues and ICARE on social-economic development. In the Georgia alliance, there are clear community clusters based on type of organization; multilateral, international or local. Among multi-lateral organizations, there are NGO1 and NGO5 which have their communities; among international organizations, Oxfam, NGO1, and Mercy Corps have their communities; and among local NGOs there are Elkana, SEMA, EPF, PIN, GEA1, and WECF have their communities. A concerted effort needs to be put forth in linking these separate communities together.
4. **Centralization** – centralization of these networks occurred because Oxfam is the primary initiator of information sharing and advocacy efforts among a diverse group of multi-sectoral members. In order to reduce Oxfam's centralized role, there needs to be an increased awareness among alliance members on the importance and effectiveness of multi-sectoral cooperation and coordination rather than single sectoral approaches to regional food security as well as the importance of many "central organizations" rather than one dominant one. Two work toward a more decentralized alliance, more responsibility needs to be given to local alliance members to identify and plan for multi-sectoral approaches and the requisite information that needs to be shared and actions coordinated for advocacy. For example, this could involve local alliance members who are major brokers (mentioned above) convening alliance members to map complementarities of members in food security and nutrition and form "tasks forces" based on those complementarities.
5. **Building the larger social movement** - According to Oxfam's project objectives, the development of food security and nutrition policies in Armenia and Georgia should result from a "*bottom-to-top*" process. In order to assure that awareness, knowledge, and attitudes towards food security and nutrition change for the better, going forward these alliances need to:
 - a) Connect with local grass-root organizations, such as community-based organizations (CBOs) that represent a substantial constituency, such as small-holder famers or women's rights, in order for their voices to be heard and that policies reflect the concerns of these constituencies.
 - b) Increase the number of linkages, both related to information sharing and advocacy efforts, with government Ministries, department and agencies other than just the Ministry of Agriculture, that are just as vital to the development and implementation of food security and nutrition polices. Thus, these alliance can consider the inclusion of the Ministry of Health (nutrition) and the Ministry of Education and Science (food security and nutrition awareness raising) in Georgia and with Ministry of Economy (food security) and Ministry of Emergencies (food security) in Armenia.
 - c) Link with other similarly focused alliances, either in-country or the region, in order to increase the potential the alliance's impact in food security and nutrition. For example, perhaps mutual interests can be codified in a Memorandums of Understanding (MOU) between the alliances and EPF platform which is working on the food safety issues in Georgia and the Mother and Child HealthCare Platform in Armenia.

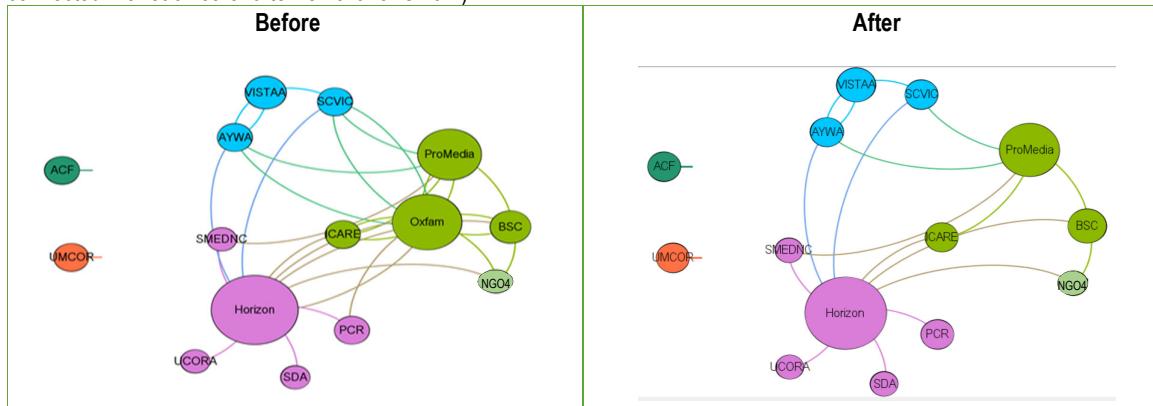
Recently, Oxfam formally designated two local organizations to oversee these two alliances: OxyGen in Armenia and BRIDGE in Georgia. These organizations were included in this study and, thus, these findings represent a baseline for assisting these FSN alliances to reach the Scaling stage. With this study and recommendations as an initial step, OxyGen and BRIDGE have the opportunity to facilitate the engagement of all members in the two alliances in order to improve the alliance's capacity, scale-up awareness-raising, address and overcome obstacles, and support policy development that will lead to greater food security and nutrition in the Caucasus region.

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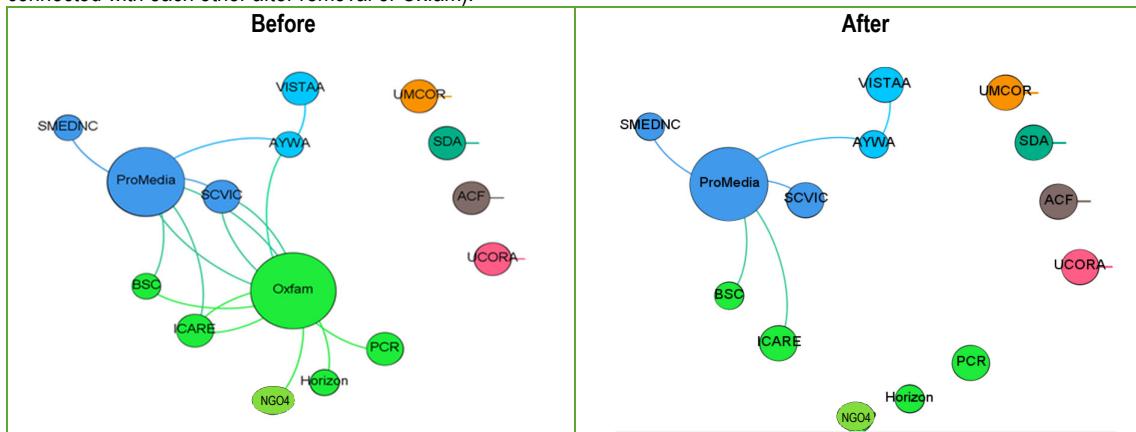
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APPENDIX

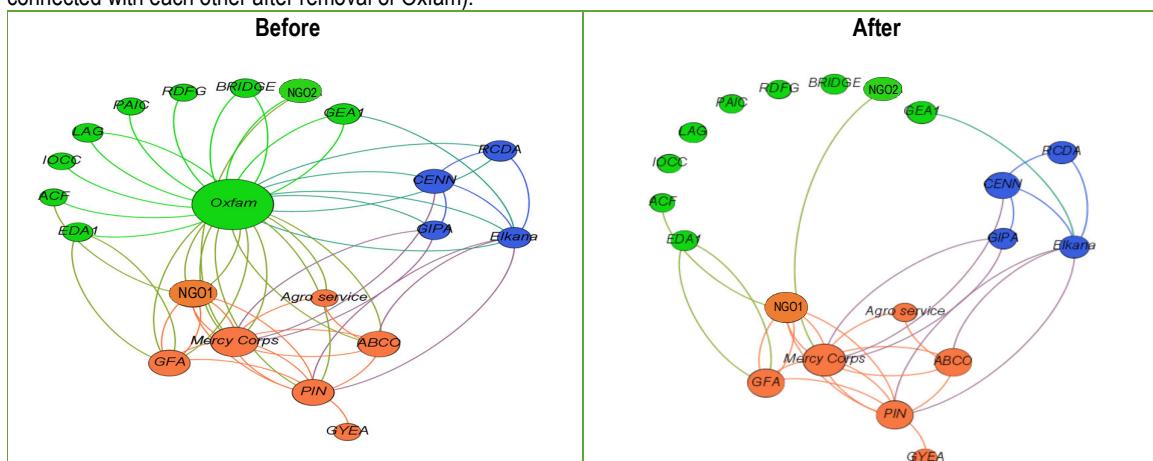
Fragmentation of Information Sharing in Armenia's FSN alliance with Oxfam removed (88% of alliance members are not connected with each other after removal of Oxfam).



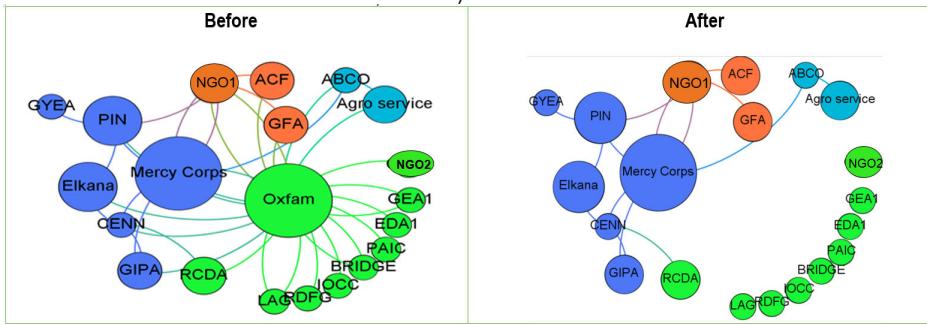
Fragmentation of Advocacy Collaboration in Armenia's FSN alliance with Oxfam removed. (97% of alliance members are not connected with each other after removal of Oxfam).



Fragmentation of Information Sharing in Georgia's FSN alliance with Oxfam removed (67% of alliance members are not connected with each other after removal of Oxfam).



Fragmentation of Advocacy Collaboration in Georgia's FSN alliance with Oxfam removed. (77% of alliance members are not connected with each other after removal of Oxfam).



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