Applying Social Network Analysis to Coady Networks: the case of South Africa

Eric Smith

December 2018

INNOVATIVE THINKING

COADY

COADY
INTERNATIONAL INSTITUTE
ST. FRANCIS XAVIER UNIVERSITY

Coady International Institute   Phone: (902) 867-3960
St. Francis Xavier University   Phone: 1-866-820-7835 (within Canada)
PO Box 5000   Fax: (902) 867-3907
Antigonish, NS   Web: www.coady.stfx.ca
Canada B2G 2W5   Email: coady@stfx.ca

Introduction and Rationale

This study was inspired by a 2018 gathering in South Africa, which brought a worldwide body of asset-based community development practitioners to Port Elizabeth, Eastern Cape Province. Many of them were Coady graduates, and expressed interest in continuing to connect with one another to enhance their work in the development field. For a number of years, the Institute has been exploring the networks of Coady alumni that exist, and getting a sense of how to support them. An online graduate learning platform (Coady Connects) was established in early 2018 to foster these connections. Others are working to identify the networks, who is active within them, and what motivates graduates to stay connected with each other.

This Innovation paper presents Coady's test of Social Network Analysis to map alumni networks in South Africa. This paper provides a brief overview of Coady's approach and work in South Africa, an introduction to Social Network Analysis as a methodology, and initial findings from the study and recommendations for supporting graduate networks. While similar to the asset-based community development (ABCD) tool of asset-mapping, Social Network Analysis provides a new set of analytical tools and approaches for mapping relationships.

There is potential to expand the use of the tool to convene, understand, and support graduate networks in South Africa as well as in other countries or regions. The study provided initial findings about what motivates graduates to stay connected with one another, and initial recommendations for how Coady can contribute to building and sustaining these networks. Coady graduates are highly motivated to network and connect with each other. In particular, they wish to support each other's use of ideas and tools, collaborate on projects, and share community development opportunities. Coady has played a role in facilitating these connections, but also has the opportunity to enhance the networks that exist and contribute to building them where they do not.

Beyond mapping Coady's graduate network, Social Network Analysis has the potential to be used as an advocacy tool, building alliances and coalitions for specific development issues, and as a monitoring and evaluation (M&E) tool to map the longer term outcomes and impacts of Coady's programs.

Coady's Approach

The Coady International Institute was founded in 1959 as an adult education organization with the mission of working with community development practitioners around the world to create positive social change in their communities. While the language and topics may have shifted over the years from cooperatives to microfinance and study groups to empowerment, the core approach remains the same. It begins with the assets and agency of people, and then uses adult education methods to foster community leadership and ensure that our work improves the "well-being of all."

Coady's focus is on transformative education programs that work in tandem with knowledge creation and organizational capacity building. The education programs have grown from the flagship Diploma in Development Leadership to include on- and off-campus certificates, learning initiatives, blended and online learning, and constituency programs for women, Indigenous Peoples, and youth. Programs range from shorter 12-15 day certificates to the longer 5-month Diploma. Others, such as the Global Change Leaders program, include a significant mentorship component after an on-campus residency. All the programs focus on development leadership within three themes: building resilient communities; strengthening inclusive economies; and, promoting accountable democracies.

These programs serve a diverse group of leaders and partner organizations committed to creating positive social change in communities around the world. Participants in the programs represent a wide range of countries, cultural traditions, sectors, and issues. While participants mainly work in civil society organizations, they also come from all levels of government and the private sector. This diversity is key to our adult education approach that brings together practitioners to share and build their knowledge together. Coady facilitators draw on the lived experiences and knowledge(s) of participants to foster an inclusive and participatory learning environment. In many ways, diversity underpins the curriculum.

With over 6000 graduates since 1959 and approximately several hundred graduates annually since 2010, Coady continues to play a key role in fostering leadership for community development around the world.

Coady in South Africa

Between 1963 and 1994 over 100 South African community leaders attended programs at the Coady International Institute. Coady staff also provided training to over 1800 others on the ground in South Africa, many of whom played important roles in the struggle against apartheid. Coady graduates and staff worked to develop leadership skills and mobilize grassroots communities. Partner organizations included the Wilgespruit Fellowship Centre (WFC), the Ubuntu Social Development Institute, Self-Help Associations for Development Economics, and more. Partner organizations were often raided by the police and Coady staff were sometimes stopped at the airport and prevented from entering the country. After the fall of apartheid, graduates began to serve their communities as members of parliament and public servants, heads of construction companies and business, and as professors and activists.[1]

Since 1994, over 250 South Africans have attended Coady Diploma and Certificate courses, with many more trained on the ground. These relationships have been characterized by strong partnership with universities, social development trusts, government departments, and community based organizations. These include Ikhala Trust, the Gordon Institute of Business Science (University of Pretoria), the Philakahle Wellbeing Centre, the Raphael Support and Skills Development Organisation, the Technical Support Dialogue Platform, the Eastern Cape NGO Coalition, LegalWise, and the Department of Social Development.

Central to this more recent history has been a strong emphasis on asset-based community development (ABCD) which recognizes the strengths and assets ordinary people and communities contribute to improving their livelihoods. In 2018, Coady graduates organized the ABCD Imbizo Festival in Port Elizabeth, South Africa. The festival brought together hundreds of practitioners from 23 countries to deepen their understanding of asset-based community development. Many of the participants were Coady graduates and for some, it was the first opportunity to reconnect since taking part in on-campus programs in Antigonish, Nova Scotia, Canada.

It was this gathering that inspired using Social Network Analysis to map the active networks of graduates in South Africa. Coady wanted to find out where these networks were, what areas they are working in, and how Coady can support their contributions to development.

Other complementary projects include a mapping of ABCD practitioners globally through an ABCD Digital Tools online course (led by Brianne Peters, Senior Program Staff at the Coady Institute), and the 2018 Coady Chair in Social Justice (Sadi Motsuenyani, a Coady graduate and former Chief Director of the Government of South Africa's Department of Social Development).

---

[1] Olga Gladkikh, "Remembering Mandela: How Canada's Coady Institute was quietly training anti-apartheid leaders," *The Chronicle Herald*, January 28, 2014. Retrieved from: http://www.comminit.com/content/remembering-mandela-how-canadas-coady-institute-was-quietly-training-anti-apartheid-lead

What is Social Network Analysis?

Wherever there are people there are social networks. In an organization, in a family, in a neighborhood, or in a field of work. For example, in a family there are often members who are key information and knowledge brokers. They know what other family members are doing, they know their interests, and their challenges. They can use this information to plan gatherings, share advice, and connect family members when needed.

It is similar in our organizations, professional networks, and personal networks. People who are well connected take and share information with others, are aware of the latest developments, and are up to date on current opportunities and challenges. They often play a key role connecting people and ideas to facilitate innovative solutions. Sometimes, in an organization, these relationships don't match the organizational chart at all. The challenge is in going beyond hunches and intuition to systematically and rigorously map these flows of knowledge, strengths of relationships, and social capital.

Social Network Analysis (SNA) is an innovative methodology that provides a way of describing, analyzing, and measuring a network. It provides tools for measuring different values (trust and social capital, information flows, resources, collaboration, disease spread, innovations spread, etc.). It also provides a set of tools for visually representing these networks. This can reveal critical insights for understanding relationships between organizations, within social movements, and/or between individuals. It posits that by knowing the network structure, you can understand how information or resources flow and therefore influence behavior/beliefs. It provides another set of tools for understanding the relationships between people or things, and how they interact in a social system.

Why is SNA important for ABCD?

It is no surprise to asset-based community development practitioners, and development practitioners more generally, that social change needs relationships and networks at the individual, household, community, and policy levels to influence change. Sharing of information, and creating positive relationships is central to the ABCD approach. Social networks have the potential for funders, civil society organizations and entrepreneurs to tap into and bring together shared assets, increase their impact, influence learning opportunities, disseminate new ideas, and achieve social change.

A familiar tool in ABCD is asset-mapping, which often includes relationship mapping. Social Network Analysis shifts the focus solely to relationship mapping and provides a new set of tools and approaches. While computer software is not required, software packages provide a powerful means of analyzing and visualizing relationships.

Application of SNA in South Africa

SNA is a relatively new tool for the measurement of networks within the NGO world. For M&E purposes, Coady wanted to test a tool that might let us shift to network effects and get an idea of what scale or depth of impact looks like. Coady also wanted to visualize our graduate network, and understand why graduates remain connected. A goal was to use quantitative data to visualize network connectivity and other structural features, and qualitative data to understand the motivations that sustain higher engagement in networks.

As an initial exploration and test of SNA, Coady chose to examine its alumni network in South Africa. South Africa was chosen because historical and recent projects/programs have built a concentration of graduates within the country who are known to be fairly actively engaged with one another. While the project was being conceptualized, graduates were in the process of organizing the 2018 Imbizo Festival in Port Elizabeth, which enabled exploratory conversations and initial interviews.

Following the Imbizo Festival, the survey was sent to 250 South African graduates for whom Coady had contact emails. Of these, 63 were inactive for a distribution to a total of 187 graduates. 30 responses were received, for a response rate of 16%.

The survey asked respondents to identify up to five other South African Coady graduates they were aware of, and identify how well the respondent knew each graduate they named. Several follow-up questions were used to determine the benefits of communication and their motivation for remaining connected. Since the methodology required respondents to report others by first and last name to create the network map, there were some privacy concerns. These were reduced by:

- Not using survey questions such as "who do you trust?" or "who trusts you?"
- Removing names and presenting only aggregate data in visualizations of the network.
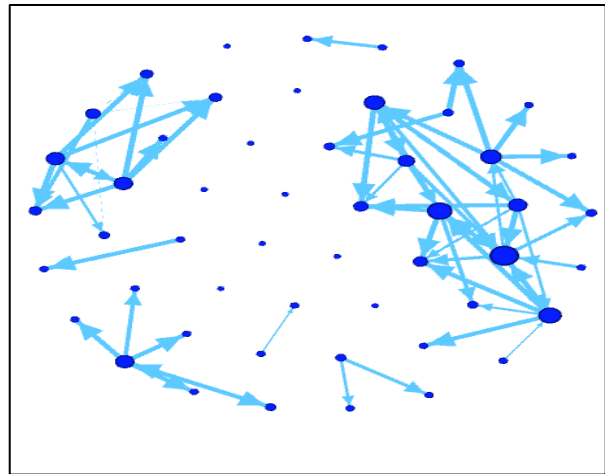- Masking the maps so that individuals' names cannot be inferred from presented maps.

With names removed, it is unlikely that any individual will be identifiable. There were several limitations, in part because this was a test of a new method, but also due to availability of resources. For example, there was a low response to the survey, and little time for follow-up or snowball sampling. Snowball sampling may have improved the information available on the network, but was not possible. Given the low response rate, the findings are relatively general and do not provide a full picture of the network. However, they do provide initial insights into who is connected, why they remain connected, and how Coady can foster these connections.

The South African Coady Alumni Network

Once the survey was closed, the network was visualized and analyzed using the open-source and free software package Gephi. The qualitative data provided additional insights into the network structure, flow of information, and the relationships between graduates.

While software was not necessarily needed to visualize the network, it enabled Coady to quickly determine how dense the network is (the number of connections between actors), which actors are central within the network or link different subnetworks, and the average distance within the network (the number of connections an actor would have to pass through to connect to other actors).

The first Gephi output (right) clearly demonstrated that there are actually three disconnected subnetworks and a number of individuals, pairs and triads. The size of the dots is based on the number of connections each actor has with others, while the size of the arrows indicates the strength of the relationship based on the question "how well do you know each graduate?" The overall network comprises of 51 actors (people) and 63 ties (relationships). Nine of the actors are not connected to other South African grads, while there are three pairs and one triad of connected graduates. It is entirely plausible that there are connections


between the subnetworks and other graduates. However, these were not identified through the survey. Further follow-up would be required to more accurately map all existing relationships.

The three subnetworks that emerged had quite different origins. The smallest comprised six actors, all of whom were alumni from the late 1970s to early 1990s and do not share a common geographical or organizational basis. The second largest is comprised of 8 actors, all of whom are connected to Bergville, KwaZulu-Natal. The largest is a regionally based network, with most actors living in and around Johannesburg (though several actors are in cities such as Port Elizabeth and Cape Town).

Further analysis was carried out on each of the smaller networks to better understand the relationships at play. The following sections provide a brief description of the three networks. The strength of the relationship (based on "how well do you know each graduate?") is visualized by the width of the ties (arrows) as well as by colour (the darkest green indicates knowing someone very well, with lighter shades indicating knowing someone less well). The betweenness centrality (how close an actor is to all the other actors in the network) is represented by the size of the node (the larger the node the "better" connected within the network) and colour (the darkest shade of blue indicates the highest betweenness centrality, while lighter shades indicate lower betweenness centrality).
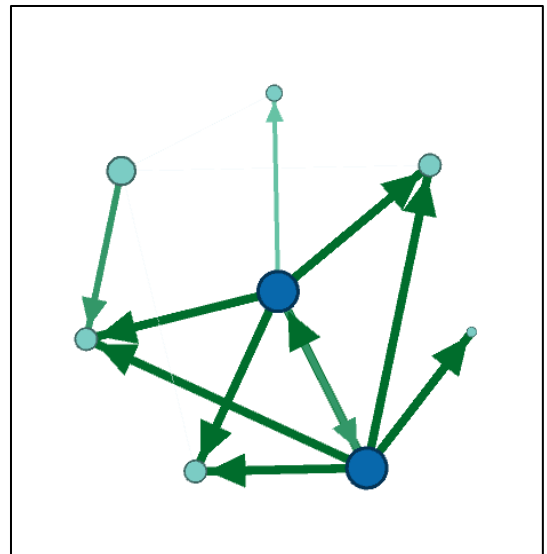
Subnetwork A: Pre-1991 Alumni Network

There were two respondents within this subnetwork. They identified six actors (people) and six ties (relationships), with an average path length of 1.4. All actors graduated from the Coady Institute from 1979 until 1991 (though some attended further certificates in the later 1990s and 2000s). The average weight of their connections is 4.83 out of 5 (based on the question "how well do you know each grad where 1 is not at all and 5 is very well). The central node knows all the others very well or well. While there were just two respondents from the network, the two responses were rich in information. While not all still work in the development field, each is active and well placed in their respective fields. While they don't meet as a group, they are in contact to facilitate thinking, develop training programs, and contribute to strategic development. Through mutual connections to other organizations (such as Mondragon Cooperatives) they have also provided valuable networking opportunities to one another.
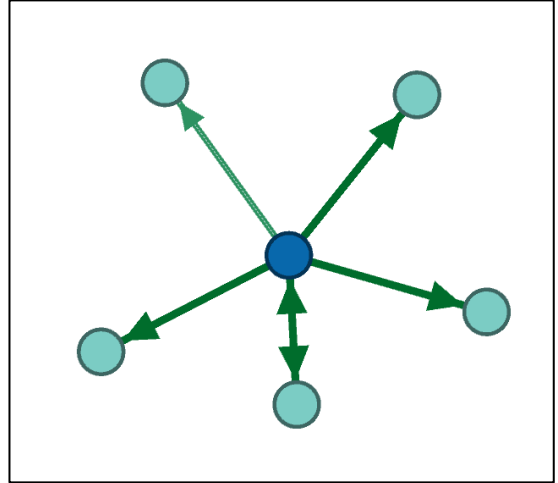
Subnetwork B: Bergville Network

The second largest network is linked by geography in Bergville, KwaZulu-Natal. There were three respondents and a total of 8 actors and 14 ties within the network, with an average path length of 1.25. The average weight of connections is 4.64 out of 5. Many attended off-campus workshops co-facilitated by Coady teaching staff, and have also attended on-campus certificate programs.

Working within the same town and connected to a central organization, nearly all the actors know each other very well or well. The actors within the network connect with one another largely around new project funding and networking opportunities, as well as for advice on how to approach and work with new groups such as government services. They have also shared new tools and approaches, and have supported each other on how to apply these in their work.

Subnetwork C: Johannesburg Alumni Network

The largest of the subnetworks was centered around Johannesburg and Pretoria. It contains 19 actors and 38 ties. The average path length between one actor to another is 2.194. The average weight of connections is 4.31 out of 5, compared to the smaller Bergville (4.64 out of 5) and the 1980s alumni network (4.83 out of 5), so on average the actors in the largest network do not know each other as well as those in the smaller networks. There are several key connectors who have relationships with the greatest number of people and several actors who connect sub-groups.

The network largely has its genesis in Coady's mid to late 2000s engagement with South African civil society

organizations, though there are also several earlier graduates who work within government departments (including the Department of Social Development). Within this network, the ABCD approach is central though actors work within different areas of community development (youth leadership, women's leadership, local economic development, accountable democracies, and resilient communities).

The communication and support provided within the network largely revolves around improving ABCD programmes and integrating them to income generating activities and entrepreneurship. Often, this aligns with joint organizational goals or projects. As one respondent noted "When there is a tender or call for proposals, we collaborate and this has assisted me to build relationships and improve my work - in particular proposal development with a strong ABCD lens." Communication and collaboration also takes place when one member of the network needs support in an area they are not as well versed in (ie local government issues).
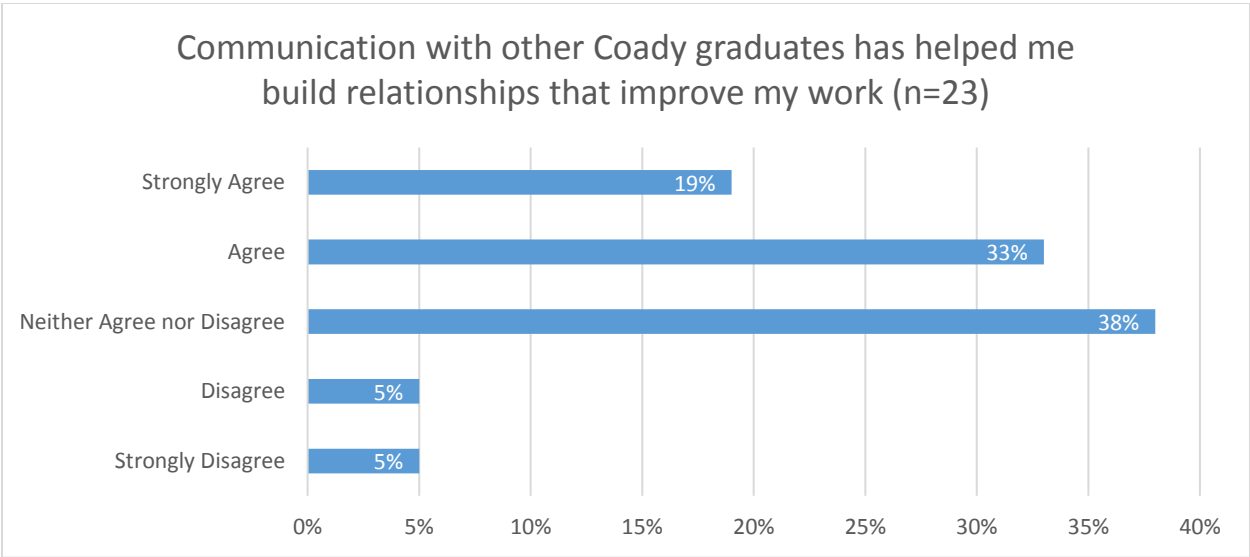
Much of this sharing occurs within the smaller and tightly connected subgroup in the upper right of the visualization, but there are key actors (such as the central one, deepest blue) who has many connections and a high betweenness centrality – so "well" placed within the network to link different subgroups within the Johannesburg network.
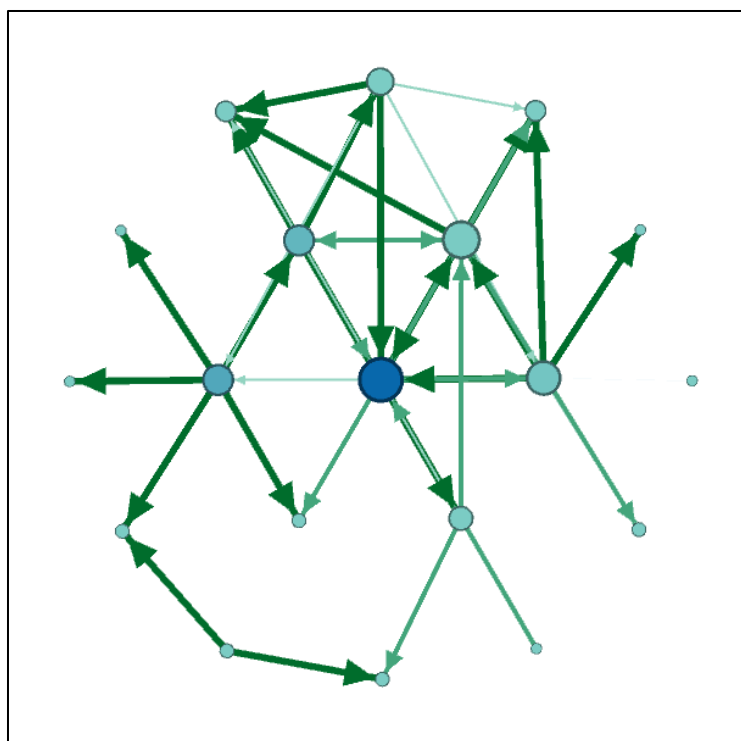
Other Findings

Respondents were also asked to rate a series of statements to determine how they benefit from communication with other grads, and also asked to explain their choices. As the response rate was low, it is difficult to make generalizations. But some initial points are as follows:

1. The graduates who are connected tend to have had prior professional relationships (based on organization, geography, or shared areas of work) before attending a Coady program.
2. The subnetworks have been reinforced through multiple points of connection with Coady between actors (programs and projects, convenings, research, etc.), recommending colleagues to Coady programs, and shared projects or vision.
3. Those grads who are connected tend to be fairly well connected with each other, and use these relationships for networking, sharing knowledge and skills, supporting one another's work, and finding new project funding.
4. Those who are not connected (many of those who answered neither agree nor disagree, disagree, or strongly disagree to the statement below) might connect personally but note there are limited opportunities to engage professionally, have lost touch with other grads over the years, or were never in touch with other South African Coady graduates to begin with.
5. Networking with others, and sharing new ideas, opportunities or knowledge is a highly valued function by graduates (when there is common purpose).
6. There are limited opportunities to interact more broadly, but relationships built by grads from the same cohort, geographical region, or area of work are often fruitful.
7. There are few "entry points" into the existing networks for new graduates unless there was a prior professional or personal relationship to someone else in the networks.
8. There is significant willingness to connect with other Coady graduates, but there is low awareness of existing networks and opportunities.

Communication with other Coady graduates has helped me build relationships that improve my work (n=23)

Response	Percentage
Strongly Agree	19%
Agree	33%
Neither Agree nor Disagree	38%
Disagree	5%
Strongly Disagree	5%

Initial recommendations and next steps

- In South Africa, Coady should continue to interact with and support the networks that exist, as they are highly engaged in various areas of the development field, with the potential for even greater collective impact.
- Coady may wish to help connect the three subnetworks to form one broader network. This could be facilitated through the most highly connected actors in each subnetwork.
- In South Africa, Coady should identify opportunities to connect new graduates to the existing networks. This could be based on areas of work, geography, or other areas of mutual interest.
- More broadly, Coady should continue to identify existing networks in other countries with a concentration of graduates (i.e. Ghana, Nigeria, Kenya, India, etc.) and identify opportunities to connect new graduates to these.
- Alumni activities should focus on the priorities identified by alumni, which seem to be face-to-face interactions, networking opportunities, sharing of new opportunities, and mutual support on projects and programs.
- Look to lower cost virtual opportunities that Coady can provide to continue to bring alumni from specific countries, regions, or areas of work together. This might include webinars, online focus groups, online courses, and Coady's Online Graduate Learning Platform (Coady Connects).
- Coady Connects should provide an "opportunity corner" on Coady Connects to share research opportunities, collaboration opportunities, job postings etc. The platform should be adapted so that graduates to search one another out by country and area of work, as many have noted this is their top interest in the platform.

What has Coady learned?

Social Network Analysis has proven fairly useful for developing an understanding of the networks that exist within South Africa. It has also provided initial data on why graduates are connected to each other, which could inform a country-based, regional, or global alumni strategy.

A limitation of the tool is that it requires a high response rate to fully map the connections that exist. Missing data has large implications and users need to think realistically about likely participation rates before starting the project. For future use of social network analysis, snowball sampling may provide a better indication of the network, but will require a more significant investment of time and resources.

With the SNA tool now piloted, it can be refined and used with other Coady alumni networks. The tool could also be shared with graduates (or their organizations) to explore the networks that they are aware of. They could then take the lead on identifying networks that exist, and build alumni associations. A step-by-step guide which provides support in using the tool and computer software may be beneficial. Ethical consideration in asking people to name others depends on the context. Prior and informed consent and privacy issues with sharing contact information will be important considerations for follow-up work.

There is also an opportunity to adapt the tool for other contexts beyond alumni networks. For example, in mapping networks for issue based advocacy, building alliances and associations of actors on specific development issues, or as an evaluative tool to measure the outcomes and impacts of particular networks – rather than individual graduates' outcomes and impacts.