



NORTHERN CANADA FOOD SECURITY MAPPING AND NETWORK ANALYSIS

SHARED LEARNINGS

SUMMARY REPORT 2022

Prepared by The Social Planning Council of Sudbury

PARTNERS



MAPLE LEAF CENTRE FOR ACTION ON FOOD SECURITY

The Maple Leaf Centre for Action on Food Security (the Centre) collaborates and supports programs that advance the capacity of people and communities to achieve sustainable food security. They support actions that further learning, networking and measurement to assess program impact and advance knowledge sharing.



THE SOCIAL PLANNING COUNCIL OF SUDBURY

The Social Planning Council of Sudbury is a non profit that brings people together to facilitate a planning process that leads to positive change and community action. This is accomplished through the channels of effective social planning, including research and coordination, social policy advocacy, community development and education.

This project was supported with the Feed Opportunity fund by The Maple Leaf Centre for Action on Food Security.

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PROJECT SUMMARY

The Northern Canada Mapping and Food Security Network Analysis project maps food systems by identifying organizations and initiatives working towards food security in the Far North. As well as analyzing information sharing networks to develop a better understanding of existing interventions, to identify gaps, and to support knowledge sharing efforts.

The project includes three main components including a Food Initiatives Map, a Social Network Analysis and Shared Learnings.

THE FOOD INITIATIVES MAP

The Northern Canada Food Initiatives map functions as the geographic and spatial frame used to better understand food systems in the Far North. By looking at food infrastructure arrangement and food assets using eight food system categories, food initiatives were mapped using a geographic information system (GIS). The map will continue to be updated by the Aurora Research Institute (ARI) at Aurora College until 2032 and is available online.

THE SOCIAL NETWORK ANALYSIS

A social network analysis (SNA) was conducted to understand how existing social networks and actors related to food security in the Far North interact, including who they interact with across the various food system themes, whether they are coordinating or referral relationships; as well as identifying which network actors are central to the network. It was also used to better understand what gaps and opportunities for partnership exist. The survey also included questions to learn more about respondents organizational capacity and reported barriers to food security.

SHARED LEARNINGS

Throughout the project knowledge translation was a key part. This included hosting a Mapping Food Initiatives Across the Far North webinar for a shared data analysis with a soft launch of the map as well the creation of materials in a shared learnings document.

METHODOLOGY

The methodology used for the Northern Canada Food Security Mapping and Network Analysis project included GIS mapping, a social network analysis and a questionnaire.

GIS Asset Mapping

GIS mapping is an approach that allows for the manipulation and visualization of data. As well as to capture, analyze, and store geographical data on a 2-dimensional map. This tool enables layering sets of geographical data points as well as performing query options in spatial and data analysis.

Social Network Analysis

A social network analysis (SNA) measures and analyzes relational structure using a network analysis. It was used to identify actors and graph existing infrastructure across Northern Canada. This was done by conducting a survey that required food organizations to identify their connections, including both coordinating and referral relationships, as well as to self identify their entity type.

Survey Questions

The SNA survey also included a series of evaluation questions. These included Likert scale and open-ended questions on food organization's self-evaluation, organizational capacity and perceived barriers to food security, as well as the drawbacks and benefits of networking.

RESEARCH GAPS

The social network analysis is a snapshot in time. Therefore, the results are based on the current reported connections between food related organizations who participated in the survey. It should be noted that there is a bias towards the Yukon, with a higher response rate.

It should also be noted that First Nations are found mostly in the System, Coordination, Policy and Networks category as most First Nations reported to be working in this category based on their mandate. However, it may have been useful to have First Nations represented in the other three categories as well.

"Food is as important as energy, as security, as the environment. Everything is linked together."

- LOUISE FRESCO

NORTHERN CANADA FOOD INITIATIVES MAP

THE NORTHERN CANADA FOOD INITIATIVES MAP IS A KEY KNOWLEDGE PRODUCT.

The Food Initiatives Map can be found online at: <https://arcg.is/14f1iC0>.

The Aurora Research Institute (ARI) at Aurora College is responsible for hosting and maintaining the Northern Canada Food Initiatives Map until 2032. The team at the institute will further build and advance the Northern Canada Food Initiatives Map.

The map outlines all food initiatives in each community with a description of their activities and mandate, as well as identifying how they fit within the eight food system themes. It also offers query options for data analysis.

The map will assist program coordinators, NGO's, funders, governments, and the general public in accessing information on food initiatives and food assets, strengthening opportunities for collaboration, knowledge sharing and evaluation.

The project includes the following regions of Canada in the Far North: Yukon, Northwest Territories, Nunavut, Nunavik and Nunatsiavut.



THE AURORA RESEARCH INSTITUTE

As the research division of Aurora College, Aurora Research Institute (ARI)'s mandate is to improve the quality of life for Northwest Territories residents by applying scientific, technological and Indigenous knowledge to solve Northern problems and advance social and economic goals.

FOOD INITIATIVE CATEGORIES

The Northern Canada Food Initiatives map has eight categories used to identify the food systems. The social network analysis combined some of these categories for a total of four, omitting Transportation, Food Waste and Exchange. *Below are the eight food initiative types that can be found on the map. Page 7 outlines the SNA categories.*

1. Consumption

2. Production and Harvesting

3. Distribution and Exchange

4. Food Skills, Knowledge and Culture

5. Processing and Storage

6. Food System Coordination, Policy and Networks

7. Food Waste

8. Transportation

A CLOSER LOOK AT THE FOOD SYSTEM NETWORK IN NORTHERN CANADA

Findings from the Social Network Analysis. Here we identify the types of entities involved in each category and the levels of connectivity. Please see graphs on page 8-11 for further reference.

PRODUCTION AND HARVESTING

In Production and Harvesting there are three main clusters found in the Yukon. Most entities are businesses including farms, ranches and greenhouses, apart from a few others including a food bank, an association, an educational initiative and a health institution. The presence of a large number of businesses is positive for this category. Local production and harvesting is the basis for a locally sustainable food system. The connectivity is also relatively stable.

STORAGE, PROCESSING, DISTRIBUTION AND CONSUMPTION

Storage, Processing, Distribution and Consumption also contains three main clusters in the Yukon. The first are all non-profit organizations, the second cluster contains a small organic farm business and the third cluster's central entity is a health institution. Overall, this category has mid-level centralization and relatively high connectivity. The formation is favourable to the small number of entities working in this network when coordinating.

SKILLS, KNOWLEDGE AND CULTURE

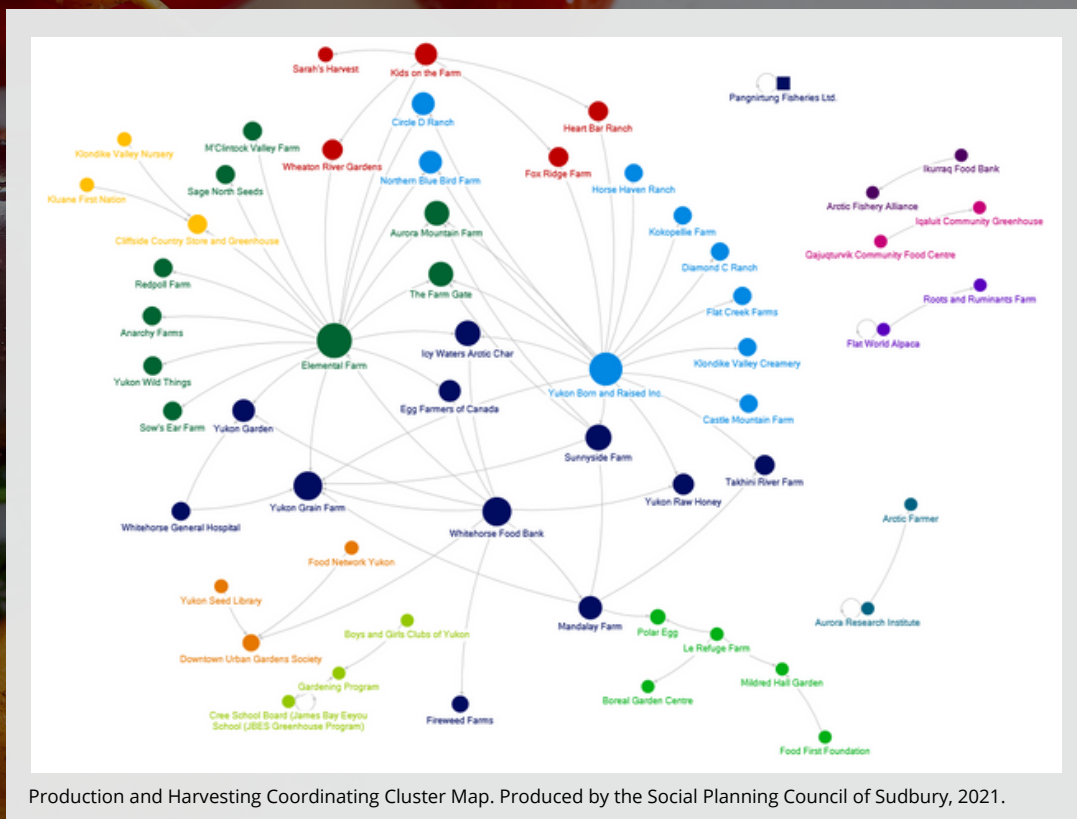
Skills, Knowledge and Culture was the smallest category. Most entities in the Yukon were non-profits, followed by businesses and government. The most dominant central entity is the Government of Yukon. The network shows how the territories are laid out with government involvement throughout, as most non-profits rely on government funding which extends into the communities. The universities were also involved with some initiatives and programs. This category has the highest overall connectivity of the four categories.

SYSTEM COORDINATION, POLICY AND NETWORKS

System Coordination, Policy and Networks shows two groupings, one in the Yukon and another in the Northwest Territories. In the Yukon many of the organizations are non-profits, aside from the government. Overall, this category has a positive formation with a high level of connectivity and a high level of centralization, showing the ability to foster accountable decision making with broad support throughout.

Production and Harvesting

In the Production and Harvesting category in the Yukon there are three main clusters with central entities in each: Elemental Farm, Yukon Born and Raised and Whitehorse Food Bank. Each central entity has a cluster of farms, though the food bank's cluster is more diverse. Elemental farm is a small organic farm that is extremely well-connected. Yukon Born and Raised offers a slaughterhouse for farmers, displaying a key coordinating relationship. While Whitehorse Food Bank provides food hampers each month to those in need with ongoing service use.



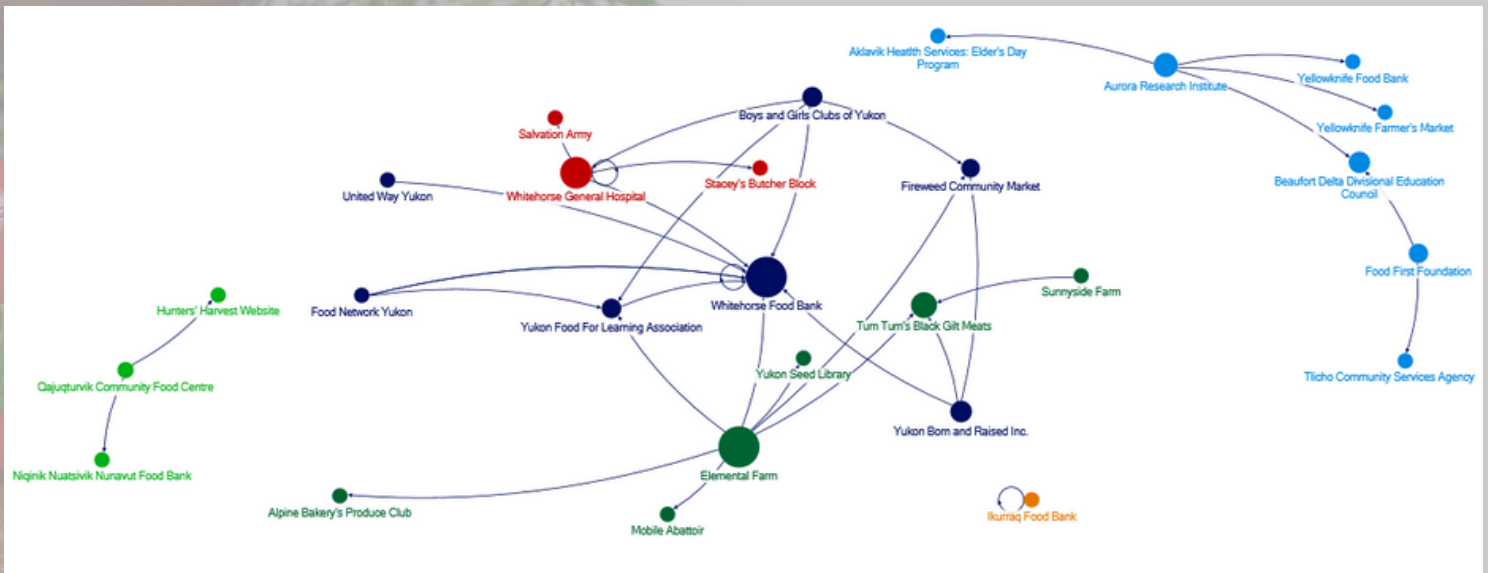
The graph generally reflects the arrangement of the agricultural landscape with farms, ranches and greenhouses producing and harvesting food, as well as a reliance on the foodbank. During the COVID-19 pandemic, Whitehorse Food Bank reported a 30% increase in demand serving a range of 700km around the city (Food Banks Canada, 2022).

In the open-ended survey questions, farmers reported that a barrier to farming was the changing climate, including seasonal fires and flooding. As well as high costs for in-country food such as high energy costs for processing local meat, storage/freezers and little money for hunters. We also heard conversations on the difficulty of 'scaling up' without access to capital costs and accessing funds that are inconsistent. As well as short-term employment and a heavy reliance on volunteer labour (Northern Canada Food Security Mapping and Network Analysis Survey, 2021).

Storage, Processing, Distribution and Consumption

In the Storage, Processing, Distribution and Consumption category in the Yukon there are three main clusters. In the first cluster the central entities are Whitehorse Food Bank, Yukon Food for Learning Association, and the Boys and Girls Clubs of Yukon, which are all non-profits. The second cluster's central entity is Elemental Farm and the third cluster's central entity is Whitehorse General Hospital. These 5 organizations make up the core.

The non-profit organizations include a food bank, educational and social organizations. These organizations offer nutrition programs in schools and children/teen food literacy programs. While the Whitehorse General Hospital provides cultural food programs (offering wild meat preparation) in a public health strategy that understands Indigenous food practices and cultural continuity as a key determinant of health and important to food security.



Storage, Processing, Distribution and Consumption Coordinating Cluster Map. Produced by the Social Planning Council of Sudbury, 2021.

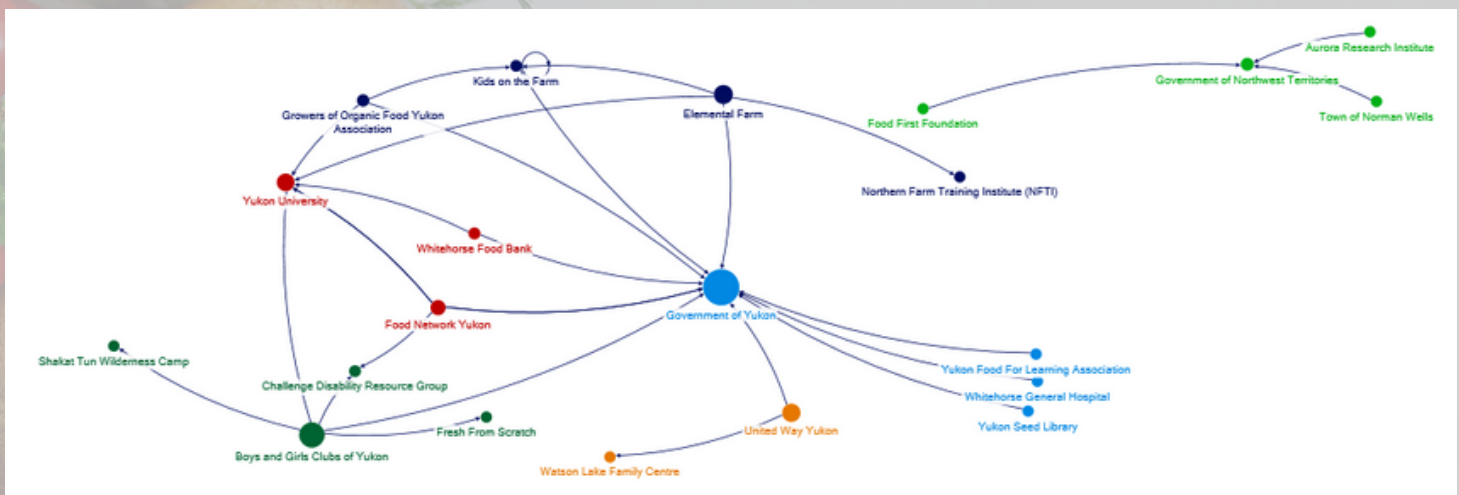
Two organizations that were highlighted in feedback from the Mapping Food Initiatives Across the Far North webinar was Tum Tums Black Gilt Meats and the Seed Library. It was noted that with more responses these organizations may have been more prominent, as majority of farms utilize the seed library to borrow seeds and Tum Tums Black Gilt Meats is a key organization, as it provides a mobile abattoir that is used by many farms with livestock. Both are present in the graph.

Skills, Knowledge and Culture

In the Skills, Knowledge and Culture category the central entities in the Yukon are: The Government of Yukon, Kids on the Farm, Yukon University, Elemental Farm, Growers of Organic Food Yukon Association, Food Network Yukon and the Boys and Girls Club of Yukon.

Boys and Girls Club Yukon is part of a more peripheral cluster but with links to the central entities, while the Government of Yukon and Yukon University are in the two, more central clusters. The most dominant central entity is the Government of Yukon which likely sets the norms and practices for the other organizations in the formation.

Overall, the network shows how the territories are laid out with the government involved in most activities, as most non-profits often rely on the government for funding and support, which extends into the communities. The universities are also involved in community programming and initiatives, for example Yukon University has held a community garden program with a youth food literacy component (growing, cooking and healthy eating).

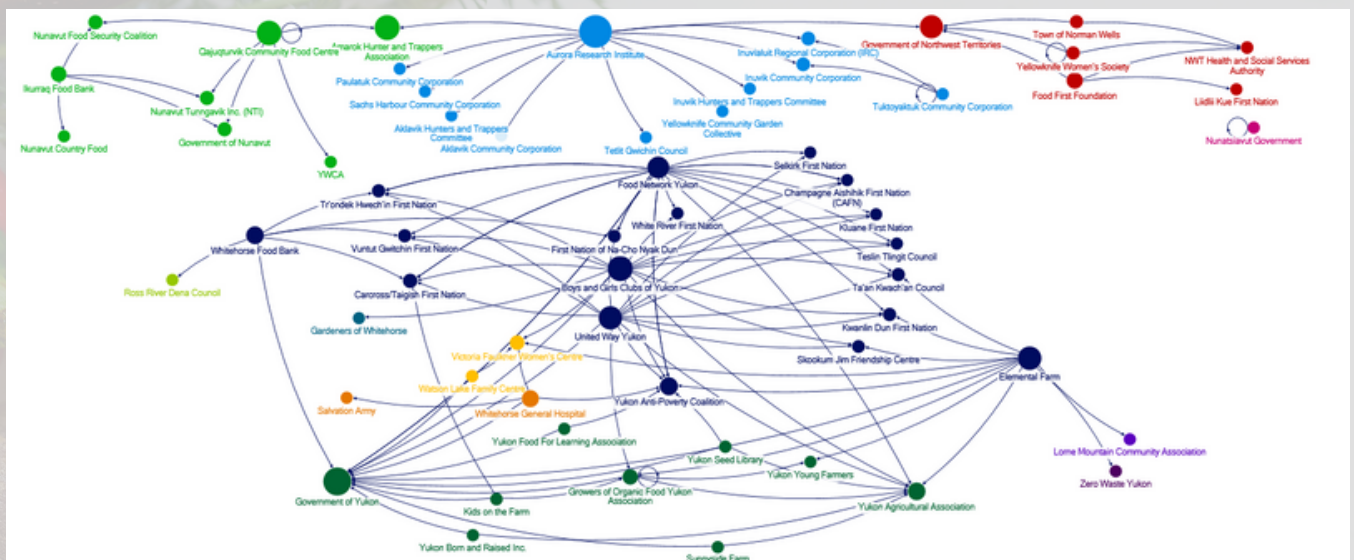


Skills, Knowledge and Culture Coordinating Cluster Map. Produced by the Social Planning Council of Sudbury, 2021.

System Coordination, Policy and Networks

In System Coordination, Policy and Networks The Yukon grouping contains two main clusters, one of non-profit organizations with the central entities being the Food Network Yukon, United Way Yukon and Boys and Girls Club Yukon, that connects to several First Nations, as well as The Government of Yukon and Elemental Farm.

As this theme category includes higher level organizations focused on policy and coordination, rather than on the ground activities we see many community corporations, hunter and trapper associations and councils. Interestingly, we see differing entity types as the “leaders” in each cluster. For example, Aurora Research Institute (education) in the Northwest Territories, and Food Network Yukon (network), Boys and Girls Club (non-profit), United Way (non-profit) and the Government of the Yukon (government). Some of these entities, including the non-profits, are larger national organizations which may attribute to their status.



System, Coordination, Policy and Networks Coordinating Cluster Map. Produced by the Social Planning Council of Sudbury, 2021.

What We Heard

Barriers to Food Security

- Economic (73%)
- Knowledge (66%)
- Geographic (64%)
- Social (54%)
- Health (56%)

*Percentage is number of people reporting that they strongly agree or agree that the factor is a barrier to food security.

Barriers to Organizational Capacity

1. Human Capital

Majority (31%) of respondents feel that the main barrier is human capital including effective recruitment, training of staff and administration of HR policies.

2. Structure and Governance

The second (28%) most reported barrier was structure and governance referring to policies, processes and resources to support coordination and organizational objectives.

3. Skills

The third (16%) barrier was adequate use of technology and qualified staff to deliver the programs and services.

4. Strategy

The fourth (13%) barrier was organizational strategy including having a strategic plan with measurable short term and long-term objectives.

5. Leadership

The fifth (9%) barrier reported was having adequate leadership in their organization.

6. Accountability

The least (3%) reported barrier was accountability, which includes internal/external oversight and transparent governance.

The Benefits of Networking

Majority of respondents reported that the top benefits of networking, which:

HAVE ALREADY occurred, are:

- Building new relationships that are helpful to my agency
- Greater capacity to serve the community as a whole
- The ability to serve my clients better

They **DO EXPECT** to occur, are:

- A heightened public profile of my organization
- Enhanced influence in the community'

They **DO NOT EXPECT** to occur, are:

- Acquisition of additional funding or other resources
- Increased ability to reallocate resources

The Drawbacks of Networking

Majority of respondents reported that the top **DRAWBACKS** of networking, which:

HAVE ALREADY occurred, are:

- It takes too much time and resources in cooperating and collaborating
- Difficulty in dealing with partners

They **EXPECT** to occur, are:

- It takes too much time and resources

They **DO NOT EXPECT** to occur, are:

- Not enough credit given to my organization
- Strained relations within my organization

"KEY ORGANIZATIONS"

PART ONE

The following top organizations in each category are based on **eigenvector centrality**, a measurement used in the social network analysis (SNA).

Eigenvector centrality measures the importance (influence) of a node (entity) in a network based on assigned relative scores of all nodes. The organizations are in ranking order in each category based on their **influence in the network**.

Further centrality measurements used were bridging (shortest path or bridge in a network) and in-degree (number of in-coming connections). These were used more generally to determine the "Key Organizations" in Part Two.

EIGENVECTOR CENTRALITY

PRODUCTION AND HARVESTING

1. Elemental Farm
2. Yukon Born and Raised Inc.
3. Whitehorse Food Bank
4. Yukon Grain Farm
5. Sunnyside Farm
6. Icy Waters and Arctic Char
7. Aurora Mountain Farm
8. The Farm Gate

STORAGE, PROCESSING, DISTRIBUTION AND EXCHANGE

- 1. Whitehorse Food Bank**
- 2. Elemental Farm**
- 3. Yukon Food For Learning Association**
- 4. Boys and Girls Club of Yukon**
- 5. Whitehorse General Hospital**
- 6. Food Network Yukon**
- 7. Yukon Food For Learning Association**

SKILLS, KNOWLEDGE AND CULTURE

- 1. Government of Yukon**
- 2. Kids on the Farm**
- 3. Yukon University**
- 4. Elemental Farm**

SYSTEM COORDINATION, POLICY AND NETWORKS

- 1. United Way Yukon**
- 2. Boys and Girls Club Yukon**
- 3. Food Network Yukon**
- 4. Government of Yukon**
- 5. Yukon Agricultural Association**
- 6. Elemental Farm**
- 7. Yukon Anti-Poverty Coalition**

"KEY ORGANIZATIONS"

PART TWO

The following organizations were chosen based on multiple criteria including SNA measurements, what we heard in the Mapping Food Initiatives Across the Far North webinar and the survey questionnaire.

SNA measurements include **Eigenvector centrality** (influence of an entity), **bridging centrality** (those that have the shortest path between organizations as a bridge), and **in-degree centrality** (the number of incoming connections).

Key Organizations

- **Elemental Farm**
- **Tr'ondëk Hwëch'in Teaching and Working Farm**
- **Whitehorse Food Bank**
- **Food Network Yukon**
- **Yukon Born and Raised and Tum Tum Gilt Meats**
- **Aurora Research Institute**
- **Amorak Hunter and Trapper Association**

ELEMENTAL FARM

Elemental farm is a key connector. The small organic 4-acre vegetable, herb, poultry and egg farm sells produce at the Fireweed Community Market and their produce is also used in a weekly food box program. They are very involved, community minded and ranked first as influencer (eigenvector centrality) and bridge organization in Production and Harvesting.

As well as first as a bridge organization and second as an influencer in Storage/Processing, Distribution and Exchange. While not as highly ranked in the other two categories (Skills, Knowledge and Culture and System Coordination, Policy and Networks), the farm still came up in the top six for influence (eigenvector centrality), as well as a bridge organization in these categories. This shows us that they are a key organization overall in the food network.



TR'ONDEK HWĒCH'IN TEACHING AND WORKING FARM

The Tr'ondek Hwech'in Teaching and Working Farm is a self-sustainable farm in Dawson City, Yukon on the Tr'ondek Hwëch'in First Nation. It serves the community directly through sustainable local food supply, skills development and education. The farm has a cold-climate greenhouse, a community kitchen and has partnered with Yukon College and Yukon Research Centre. The farm is a great example of a self-sustaining food initiative on a First Nation with a skills and education component, showcasing a cross theme collaboration. The First Nation came up 12th as an influencer (eigenvector centrality) in the System Coordination, Policy and Networks category.



WHITEHORSE FOOD BANK



The Whitehorse Food Bank is a community-based organization that provides emergency food to people in need, providing food hampers to up to 1900 people a month. The food bank came up in two categories including as the third bridge and influencer (eigenvector centrality) organization in Production and Harvesting. As well as the first influencer and second bridge organization in Storage, Processing, Distribution and Exchange. The food bank also has the most incoming connections (in-degree centrality) in Storage, Processing, Distribution and Exchange which reflects the degree to which other organizations seek out the food bank on a regular basis and high involvement overall.

THE FOOD NETWORK YUKON

The Yukon Energy Food Network is an initiative funded by the Yukon Energy Corporation and coordinated by United Way Yukon, the Yukon Anti-Poverty Coalition and The Whitehorse Food Bank. The goal is a collaborative food security network within each Yukon community across the Territory.

The Food Network Yukon has high influence (eigenvector centrality) in Storage, Processing, Distribution and Exchange and is a bridge organization in System, Coordination, Policy and Networks. In particular, the network holds many connections when looking at 'referral' relationships versus 'coordinating' relationships. Thus, the Food Network Yukon has a key role in referring organizations in the network and understanding key connections for capacity building and action oriented work.



**Yukon Energy
Food Security
Network**

TUM TUM BLACK GILT MEATS

Tum Tum's Black Gilt Meats in Whitehorse, Yukon operates a mobile abattoir (slaughterhouse), a key service in the local farming industry. It operates when temperatures are below -10C and in a day can process 5 beef or elk and up to 10 pigs, sheep or goats. Tum Tum's mobile abattoir is advertised on regional directories among other websites and the slaughter service displays the reason for the number of coordinating relationships. Tum Tum's Black Gilt Meats was ranked fourth for in-degree (many incoming connections) just under Whitehorse Food Bank, Yukon Food for Learning Association and Fireweed Community Market. And ranked fourth as the top bridge organization in Storage/Processing, Distribution and Exchange.



YUKON BORN AND RAISED

Yukon Born and Raised have meat products such as jerky, ground meat, sausages and they sell both online and in retail stores/restaurants. Yukon Born and Raised also provides an in-house slaughterhouse. In Production and Harvesting, Yukon Born and Raised ranked second as influencer (eigenvector centrality). This important service should be recognized as a key role in the local food chain to in supporting country food infrastructure. As both Tum Tum Gilt Meats and Yukon Born and Raised play an important function in the local food system in processing and distribution with their abbatoirs.



AURORA RESEARCH INSTITUTE

As the research division of Aurora College, Aurora Research Institute (ARI)'s mandate is to improve the quality of life for Northwest Territories (NWT) residents by applying scientific, technological, and Indigenous knowledge to solve Northern problems and advance social and economic goals. ARI's important role in mapping and analyzing food security in the North is evident from its research initiatives in this field and the close relationships between ARI and many of the food initiatives in Northern communities. ARI is considered first among "bridge" organizations in System Coordination, Policy and Networks. That is, ARI is closely connected to many other organizations in the NWT and beyond, and as such has a valuable role in building relationships within and across Northern networks.



AMORAK HUNTER AND TRAPPER ASSOCIATION

The Amorak Hunter and Trapper Association was ranked fourth as a bridge organization in the System Coordination, Policy and Networks category after Aurora Research Institute, Government of Yukon and the Boys and Girls Club of Yukon. This displays the important role of Hunters and Trappers Organizations (HTOs). Hunter and Trapper Organizations help regulate harvesting practices and manage economic development opportunities that may arise from marine and wildlife resources. They also provide communications and updates on weather and local food, and support harvesters and hunters. HTO's are important in the development of a professional harvesting industry and in-country food opportunities within communities, as well as sustaining cultural continuity and traditional food practices in the regions.



MORE "GOOD WORK"

Key insights found by looking at the food initiatives within the networks included identifying **reciprocal relationships** and **cross theme collaborations**. Take for example the Seed Library, a place to borrow seeds to plant, which are later provided back to library after the growing season (when they go to seed), keeping the food chain local. There were also several cross theme collaborations including youth food skills training programs within hunter and trapper associations or partnering with others for strategic service or program delivery. These cross theme collaborations understand that food security is multifaceted, and includes many parts besides food, such as reducing poverty, education, youth empowerment, cultural continuity and so on.

THE YUKON SEED LIBRARY

The Yukon Seed Library was not at the top of the lists, however, it was reported in the webinar that most farm organizations make use of the library, and this organization is key in local distribution and exchange. This **borrowing model** is an initiative by the government of the Government of the Yukon with the goal of supplementing gardens and community gardens with seeds. Yukon Energy Mines and Resources department runs this program as part of the role as the library for the Agriculture Branch. It was noted that it is difficult to scale up even with high demand in its delivery. Perhaps there is potential for partnerships and further expansion and growth, including making the seed library accessible and inclusive to all types of users (not just those with access to land), by enhancing community gardens or working with food hubs.



PHOTO CREDIT: THE SEED LIBRARY HAS GROWN TO INCLUDE MORE THAN 30 SPECIES OF LOCALLY-GROWN PLANTS. STORE-BOUGHT SEEDS ROUND OUT THE COLLECTION. (PHILIPPE MORIN/CBC)

THE QAJUQTURVIK COMMUNITY FOOD CENTRE

The Qajuqturvik Community Food Centre ranked fifth as a bridge organization in the System Coordination, Policy and Networks category. The food centre's mission is to improve access to good food by supporting local harvesting, preparation, education, training, and advocacy. The centre recently launched a food box program that aims to get country food from local hunters to Iqalumiut, with a sliding scale pricing system (pay what you can option) to increase affordability for low income.



The centre also works to provide opportunities for hunters to make a living supplying country food by providing storage and food processing capacity. This **localized in-country food model** that is unlike a food bank, might be replicated in unique ways in other regions in partnership with Hunter and Trapper Associations, business development corporations and/or include skills training or a youth educational component.



KIDS ON THE FARM

The Kids on the Farm Program by Growers of Organic Food Yukon facilitates school field trips to local farms for students in K-12. Students work with soil and compost, learn how plants grow and where food comes from while achieving specific curriculum connections. Kids on the Farm was second as an influencer in the Skills, Knowledge and Culture category and is supported by the government with connections to the school curriculum. Its institutional ties most likely help achieve its impact. This organization is a good example of an educational initiative that **has integrated into larger structures**.



NUNAMI SUKUIJAINIQ: A YOUTH ARCTIC ECOLOGY LAND CAMP PROGRAM

While the experiential on-the-land learning NUNAMI SUKUIJAINIQ ("Our Science on the Land") program was not mentioned in the SNA, it is worth noting that **from one initiative often comes another**. The NUNAMI SUKUIJAINIQ program developed from a previous collaborative and community-based research project called Imalirijiit ("Those who Study Water"). Imalirijiit was started by Kangiqsualujjuaq (Nunavik) community members and university-based researchers to monitor the water quality of the George River and foster environmental stewardship of its watershed. The youth Arctic ecology camp provides one-week expeditions to study local environmental issues that are identified by the host community while training youth in natural sciences making a significant local impact.

CONCLUSION

What We Learn By Mapping Food Security

Mapping food security requires an understanding of food systems. Taking a strength based approach the **Northern Canada Food Initiative Map** was created to identify and categorize the current food assets in Northern Canada. While the **social network analysis** (SNA) was performed to better understand how operating and cooperating networks function within food system categories. Using centrality measurements and visual analysis we are able to identify the types of network relationships including whether they are coordinating or referral, reciprocal or top-down. As well as identify clusters, the types of entities involved and which initiatives are central to the functioning of the food security network. As well as who is involved in cross-theme collaborations or have shared visions and goals.

Overall, we can see that in each category there are key organizations that are best placed to take on a capacity building role or can share information quickly, with more influence or shorter paths to more nodes (entities) in the network. These organizations are identified in *Key Organizations*. Further, the description of the organizations mandates and activities provides further insight into the unique angle and role the organizations play in the network.

Building Social Capital in Networks

Strong connections within a social network build social capital. Social capital is defined as the value of connectedness and trust between people and members of highly connected communities. Members are more likely to trust one another with strong, shared societal values. It gives them confidence in other actors' actions and reliability. Thus, highly connected networks display higher levels of social capital (Batt 2008; Pretty 2003, p.1).

By constructively advancing and strengthening key relationships, a network can continue to build social capital. Both the Northern Canada Food Initiatives Map and the findings from the social network analysis may provide insight into future collaborations, key networking opportunities and in developing shared visions and goals within specific food system categories.

CONCLUSION CONTINUED

Access to Human Capital and Economic Resources

The findings suggest that financial capacity and human capital are two foundational pieces required to tackle food security issues. It was reported in the survey that human capital (training/recruiting and maintaining staff, administration and human resources) is the largest barrier to organizational capacity for food initiatives and organizations.

Alongside this, the most reported drawback to networking is 'that it takes too much time and resources' which also displays the required need for human resources. The largest reported barrier to food security for community members was economic security. Therefore poverty reduction must be addressed with food security work as well as other factors including the impacts of colonialism and climate change.

A Focus on Indigenous Food Systems

It was noted in the Skills, Knowledge and Culture category that the central entities are institutional: the government and the university. In the last few decades there have been more initiatives working to restore and revitalize ancestral foods and to re-learn Indigenous methods of processing and harvesting traditional food. It remains fundamental that decolonization be grounded in food practices and initiatives in support of Indigenous food sovereignties.

Food initiatives led by Indigenous communities connected with language revitalization and cultural programs can be supported by academics and government institutions; and are key to create a transformative shift by placing focus on Indigenous food systems. This also includes policy level changes.

Laying the Groundwork for Future Work

All kinds of "good work" is happening in the Far North which can be supported and highlighted. The goal of this shared learning document is to provide insights into the network connections in the Far North and the food system assets that are currently present. The *Future Considerations for Action* highlights existing food security recommendations that are relevant to what was found in Northern Mapping and Network Analysis project.

FUTURE CONSIDERATIONS FOR ACTION

- **A Focus on In-Country Food and Country Food Programs**

This includes building **harvester enabling infrastructure** in communities and on First Nations, which requires **financial capital**. As well as **supporting Hunter and Trapper Associations**, teaching and working opportunities and increasing **human capital** by offering employment and not just volunteer opportunities.

- **Strengthen Key Relationships in Cross Theme Collaborations**

Effective **cross-theme collaborations** can help tackle complex and multifaceted food insecurity issues. This might include cultural food programs in a hospital, a train the trainer program by a Hunter and Trapper Association or collaborating with another group for the delivery of a program. These **strategic alliances** are key.

- **Support Local Scaleable Enterprises Using Green Technology**

Innovative climate adaptation technologies are being utilized by local businesses and can offer capacity building opportunities to scale up to meet the targeted needs of the community. As well as to mitigate the effects of climate change and move towards sustainable development goals.

- **Build on the Northern Canada Food Initiatives Map**

Continue **action-focussed community based research** projects and **pilot projects** that are informed and led by the community members and key actors in the networks. This includes building on the map, led by the Aurora Research Institute (ARI).

- **Equal Access in a Sharing Economy**

Continue to support a **sharing economy** that recognizes peer lending or borrowing models with the importance of in-country food. While using a framework that promotes equal access.

- **Create a Food Solutions Network**

Create a **formal network and sharing platform** for food case studies and "Good Work" in Northern Canada. This can build on the Northern Food Network.

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