



Visioning Food, Health and Energy Sovereignty: Ways Forward for Research and Practice

Report on the workshop hosted by the
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Executive Summary

- Sovereignty emerges from complex connectivity between interacting elements, including a community's collective knowledge capacity, relevance of adaptation strategies to cultural systems, facilitated by what is ecologically possible, and effective social or institutional governance structures.
- Diversity of ways of knowing supported by a variety of cultures and ecological habitats are the cornerstones of enduring sovereignty.
- The workshop *Visioning Food, Health, and Energy Sovereignty*, held at the 14th Congress of the International Society for Ethnobiology in Bumthang, Bhutan, was attended by 44 participants from 21 countries on six continents. Workshop participants identified key attributes of sovereignty, generated questions to assess sovereignty at community scale, and offered skills that they could contribute to sovereignty initiatives.
- This report contains an analysis of workshop activities such as geographic distribution of participants' home countries and work locations, usage of the term 'food sovereignty', thematically distributed questions to assess food sovereignty, and skills that participants may contribute to food sovereignty initiatives in communities.
- While the geographic breadth of participants at the workshop was strong, greater representation from Central America, the Middle East, and Central Asia is needed.
- This report is rich with potential interview questions to assess sovereignty to assist both practitioners and researchers in developing projects.
- Participants in the workshop comprise a network of researchers and practitioners with skills that can meaningfully contribute to sovereignty of community partners.
- Areas of strength in terms of skills include: understanding the significance of food as part of ecological and cultural systems, ability to map availability and access to food, capability in assessing food system practices using participatory research, effectiveness in knowledge transmission and communication, competence in ecological relationships, sensitivity to community relations, and depth in research ethics.
- Areas of weakness include: understanding the role of trade relations to sovereignty, assessment of health and nutrition value, competence in the role of governance structures, and understanding of the process of sociocultural and ecological change.
- In August 2016, at the 15th Congress of the ISE in Kampala, Uganda we will build upon our network through a Special Session entitled: "Next Steps for Achieving Food, Health, and Energy Sovereignty: A Collaborative Effort".
- A special issue in a relevant journal has been planned for 2017 to invite insightful examples of participatory research that directly address international initiatives in food justice and sovereignty.

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We would like to thank specific individuals who facilitated and supported our participation at the ISE Congress. Natasha Duarte for her tireless work to ensure that all of the events of the Congress ran smoothly. We would like to thank Wendy Wolford for her guidance and encouragement as we prepared our Rapid Response Fund grant application. We also very much appreciate the guidance and support of Daniel Decker, Chair of the Department of Natural Resources, Sarah Evanega, Senior Associate Director of IP-CALS, and Christopher Barrett, Director of the Dyson School of Applied Economics and Management. Melinda von Gordon, provided invaluable financial-administrative assistance before and after the workshop. We are indebted to Beth Medvecky for providing Jeff, Michelle and Morgan an opportunity to collaborate with her on an exciting research project, which allowed them to earn the funds necessary for the group's travel to Bhutan.

We thank our gracious Bhutanese hosts at the UWICE campus and the hospitality afforded by Gongkhar Guesthouse in Bumthang.

Finally, we would like to thank the participants in our workshop in Bhutan. You brought us enthusiasm and expertise and made this an exciting and insightful process.

Introduction

The workshop on *Visioning Food, Health, and Energy Sovereignty* is very much a work in progress, much like the concept of sovereignty. The work of our research group at Cornell University on sovereignty has been largely directed and informed by the indigenous and rural communities with whom we undertake applied research (see Figure 1). Our experience indicates that while the notion of sovereignty is tied to self-determination and empowerment, it does not exclude interdependence with one's habitat, including other human and non-human life as well as the broader ecosystem. In fact, just the opposite, sovereignty is about complex connectivity determined by a community's collective knowledge capacity, relevance of adaptation strategies to cultural systems, facilitated by what is ecologically possible at the local level, and effective social or institutional governance structures that adjust to changing sociocultural and environmental circumstances. Differences among human beings and between their habitats work in tandem to achieve secure food, energy, and health systems. Diversity of ways of knowing supported by a variety of cultures and ecological habitats are the cornerstones of enduring sovereignty. Much like the simple facts that we need air to breath and fish need water to live, the linkage between biological and cultural diversity seems obvious, and yet it is not easily recognized. Nonetheless, recognizing this relationship is fundamental to understanding sovereignty at a time when humanity collectively seeks to address challenges such as food and energy insecurity, structural poverty and inequity, environmental degradation, and climate change.

Figure 1: Applied Research Locations of the Kassam Research Group at Cornell University.



Our applied research experience with communities in mountainous regions as well as across the northern hemisphere was the impetus for this workshop at the 14th Congress of the International Society for Ethnobiology (ISE) in Bhutan. At the film festival associated with the 14th Congress we showcased three films describing the impact of climate change on the food sovereignty of an indigenous Arctic community, the role of medicinal plants to the health sovereignty of Central Asian mountain societies, and the importance of sacred sites to biocultural diversity (films are

available for viewing at: <http://www2.dnr.cornell.edu/kassam/outcomes.html>). Members of the Kassam Research Group at Cornell (Michelle Baumflek, Murodbek Laldjebaev, Morgan Ruelle, Jeffrey Wall and Karim-Aly Kassam) prepared a workshop not only to present our learning from indigenous and rural communities but engage researchers and practitioners at the Congress to instigate a multiplicity of thinking processes, viewing sovereignty in light of many factors. For practical purposes, we focused on food sovereignty to examine how we may be able to undertake collaborative research in partnership with communities, while bringing together a diversity of skills from practitioners and researchers. Therefore, our workshop was necessarily activity-based, engaging diverse and talented individuals to share their insights with the aim of learning from each other rather than the pretension of teaching.

The workshop was attended by 44 participants from 21 countries on six continents. Workshop participants identified key attributes of sovereignty, generated questions to assess sovereignty at the community scale, and offered skills that they could contribute to sovereignty initiatives. Specifically the process involved: (1) a pre-workshop survey; (2) introduction to the idea of sovereignty determined by ecological context, cultural relevance, indigenous or place-based knowledge, and institutional and social infrastructure; (3) a visioning exercise to articulate what sovereignty may look like in a concrete community setting; (4) generation of questions to assess sovereignty; (5) examples of research related to sovereignty; and, (5) development of a skills-based knowledge network.

This report contains an analysis of workshop activities such as geographic distribution of participants' home countries and work locations, usage of the term 'food sovereignty', thematically distributed questions to assess food sovereignty, and skills that participants may contribute to food sovereignty initiatives in communities. In the appendices, we provide a detailed narrative, description of the various activities, and necessary supplies in the event others may wish to replicate and improve upon our approach. We conclude with next-steps in the process of examining and contributing to sovereignty of indigenous and rural communities.

Analysis of Workshop

Geographic distribution of participants' home countries and work locations

The entrance survey for our workshop (Appendix C) included questions about where participants live and work. Our workshop had impressive international representation, both in terms of home countries (Figure 2) and the countries where we work (Figure 3). Workshop participants come from 21 countries, representing every continent except for Antarctica. The largest contingents were from North America (45%), including the United States (13 participants) and Canada (5 participants), followed by Europe (23%).

Our workshop participants work in 29 countries¹. Most participants (74%) reported working in a single country, however, several participants (23%) reported field sites in multiple countries (Figure 3). On average, our workshop participants work in more than one country. By country, the largest numbers of participants work in the United States (7 participants), Canada (4 participants) and Mexico (also 4 participants). However, when analyzed by continent, more participants work in Asia (14) than in North America (13). A greater number of participants work in Africa, Asia, Oceania and the Pacific Islands, and South America than live in each of those continents, whereas a greater number of participants live in North America and Europe than work there (Figure 4).

The geographic breadth of our home countries and the even greater spread of countries in which we work means that as a collective, we have the capacity to work in support of food sovereignty initiatives in most regions of the world. It also means that we have experiences from diverse sociocultural and ecological contexts that enrich our understanding of food sovereignty at the global scale.

There are gaps in our geographic coverage that deserve attention and perhaps active recruitment of new network members. Only one of the former-Soviet republics was listed as a home country (Tajikistan), and only one other (Azerbaijan) was included as a place of work. There were few participants who live in Central and South America, Africa, the Middle East, Central Asia, South Asia, and Southeast Asia. Several of these regions (South America, South Asia, and Africa) were included as places of work. Therefore, Central America, the Middle East, and Central Asia remain underrepresented in our network.

¹ There is some missing information in the responses we received to the second question. Many participants named the organization where they work rather than the countries where they conduct research or community projects. The question should have been more specific to avoid this problem (e.g. 'In which countries do you currently conduct research or other work?')

Figure 2: Geographical distribution of workshop participants' home countries.

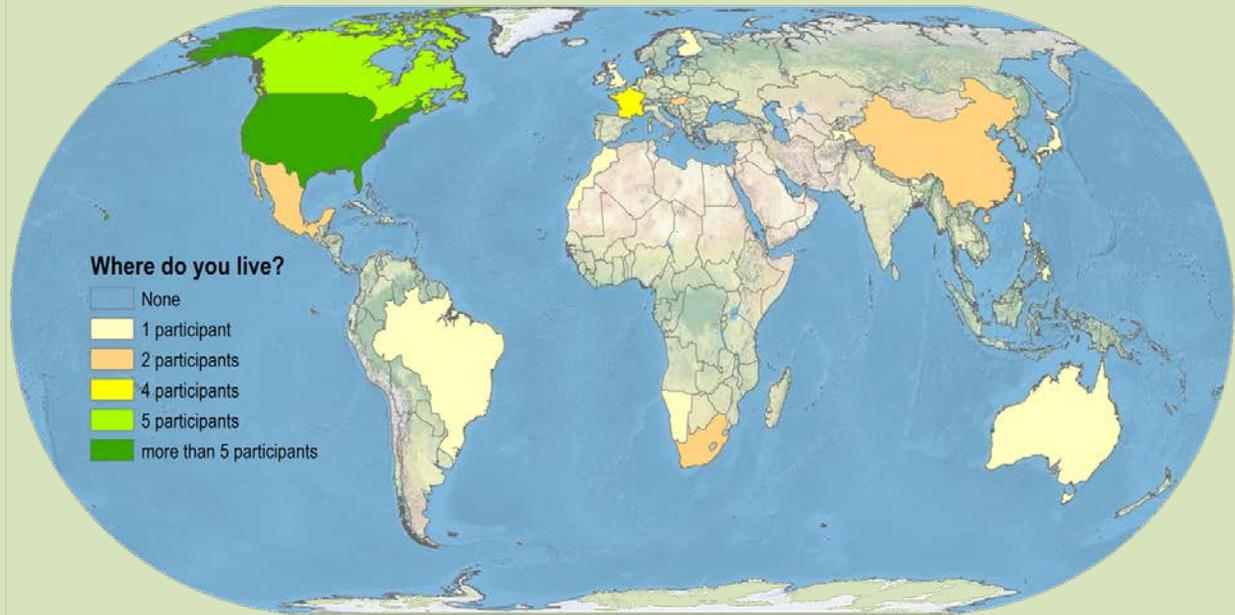


Figure 3: Geographical distribution of workshop participants' work locations.

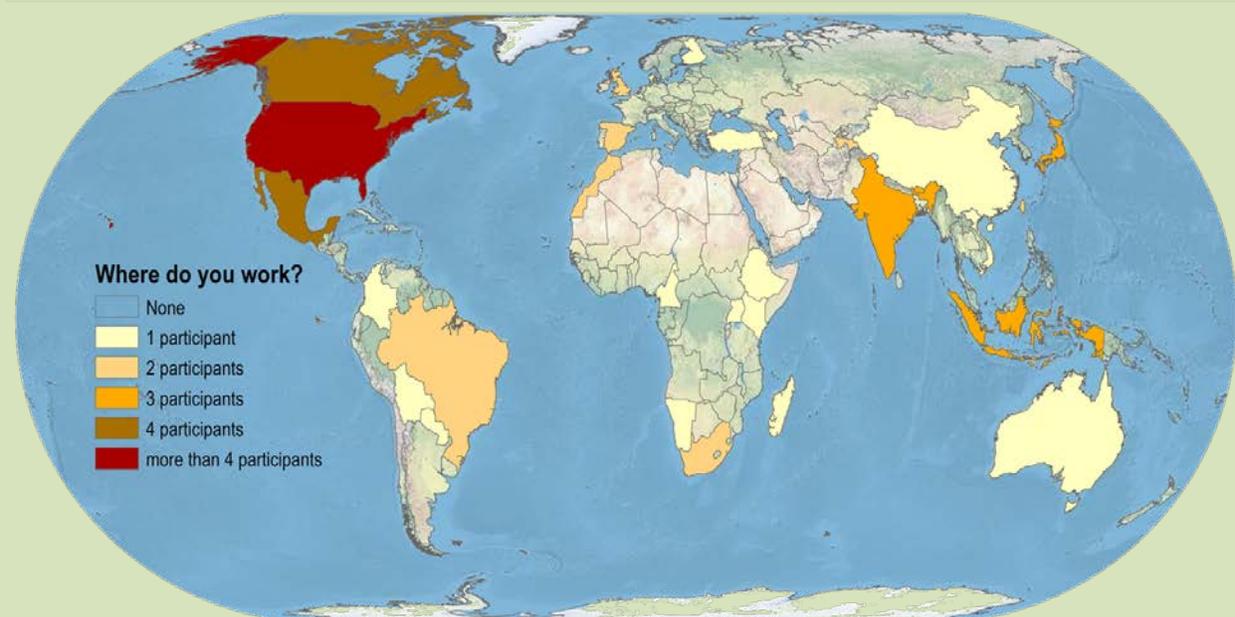
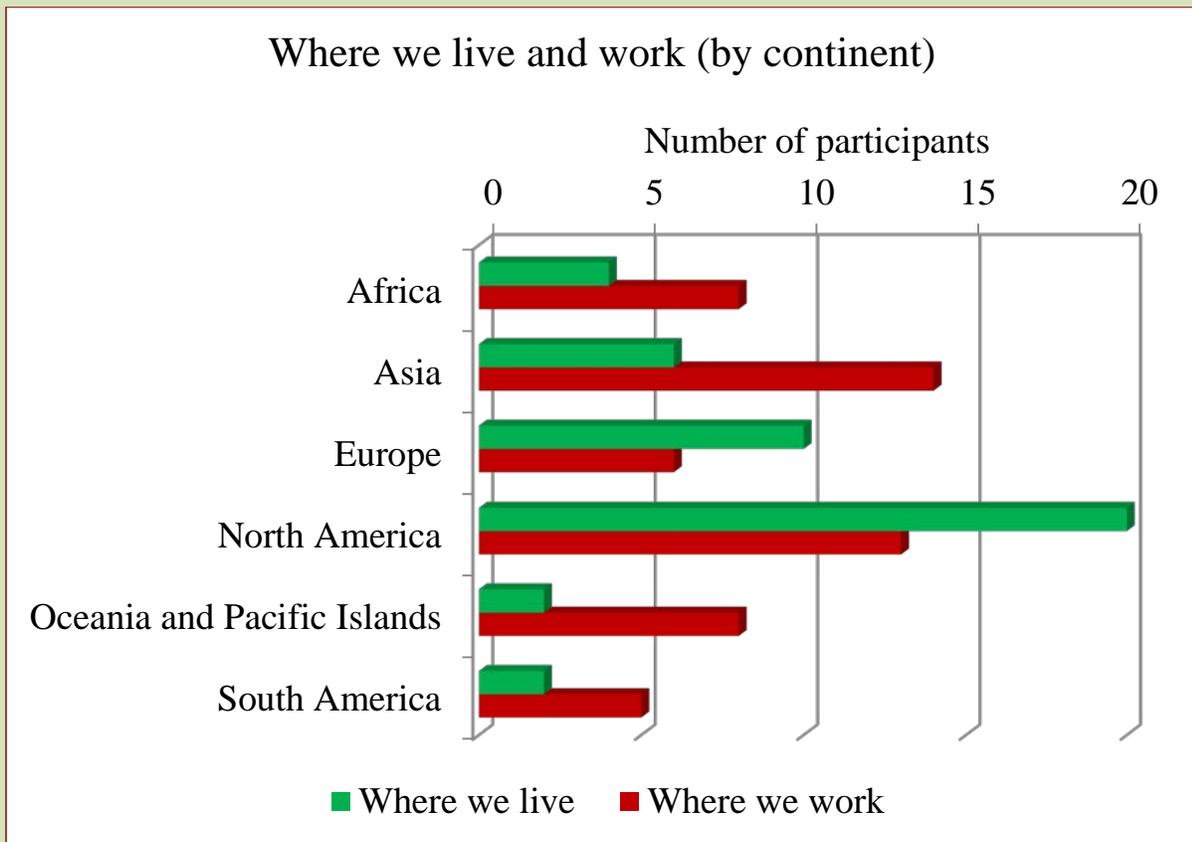


Figure 4: Comparison of participants' home and work locations by continent.



Use of the term 'food sovereignty'

The entrance survey for our workshop included two questions about the term 'food sovereignty'. Out of 44 participants, 32 (73%) submitted answers to the following questions:

- Have you ever heard of food sovereignty?
- Do people in communities where you live and work use the term food sovereignty?

The majority of participants (78%) attending the workshop, had heard of food sovereignty, indicating that the concept is known in many parts of the world among academics and practitioners, particularly those with ties to ethnobiology (Figure 5). However, half of participants (exactly 50%) said that the people in the communities where they live and work do *not* use the term food sovereignty (Figure 6)². This result indicates that food sovereignty is not used in many parts of the world, either due to lack of familiarity or preference for a different term or paradigm. In future efforts, we may explore the idea of 'food justice' in communities where we work.

² Note that the second question is different from the first because it asks about use of the term, and communities may be familiar with the term but not use it. Furthermore, two participants indicated that the term is used where they live, but not where they work.

Figure 5: Workshop participants' familiarity with the term 'food sovereignty'.

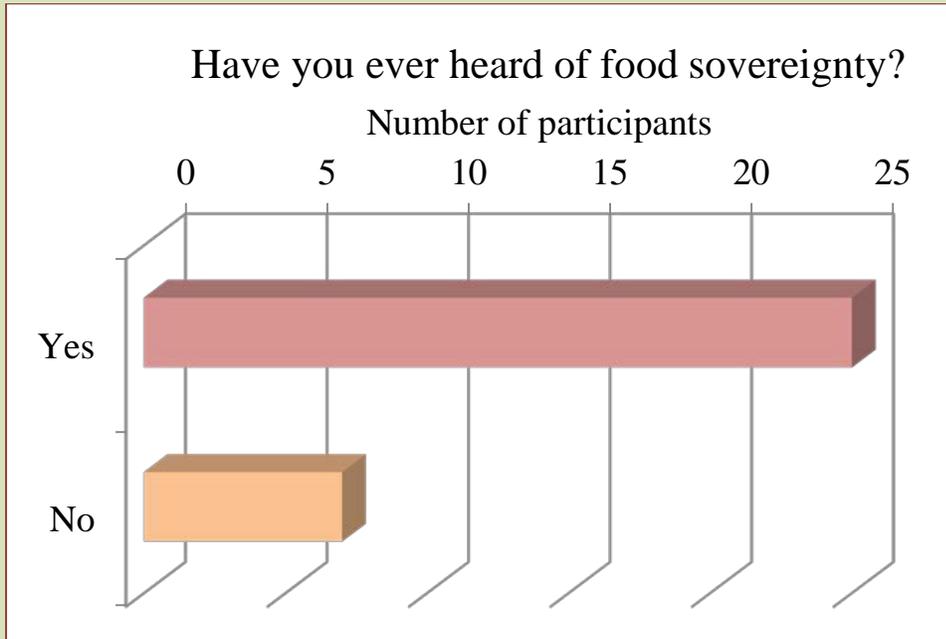
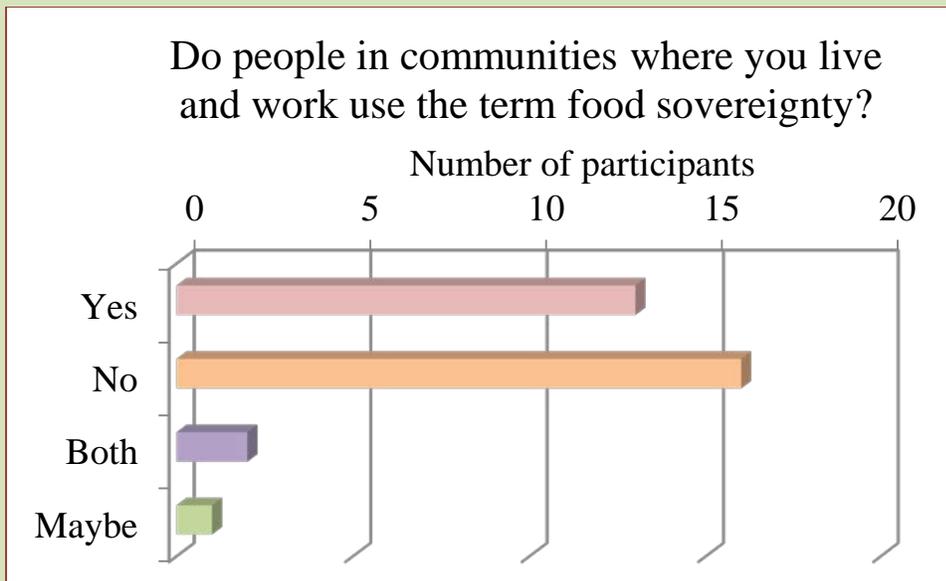


Figure 6: Use of the term 'food sovereignty' in communities where participants live and/or work.



Words and phrases associated with food sovereignty

The entrance survey before our workshop asked participants to list five words or phrases that they associate with food sovereignty. During the workshop, we generated a word cloud using those words and phrases (Figure 7). A word cloud is an image in which the size of the words reflects the

Questions and themes to assess the dimensions of food sovereignty

During the workshop, participants were divided up into small groups and were asked to imagine that they were working together as a team conducting research on food sovereignty. They were all traveling to a community that none of them had visited before. The groups were tasked to brainstorm a list of questions that they would like to ask people to ascertain the status of food sovereignty in this community. The groups were encouraged to attend to everyone's ideas and write as many questions as they liked on the flip chart paper.

During the second part of this activity, each group was asked to identify the themes that they saw arising from the questions. The groups were given a fresh sheet of flip chart paper to generate a list of the themes. Next, each group was given a variety of colored dots, and asked to assign a color to each theme by placing a different colored dot next to each theme on their list.

Upon our return to Cornell, our research group reviewed the questions generated by each small group. We started with the lists of questions and arranged them by category. In generating our categories, we referred to the themes developed by small groups during the second part of the activity. Michelle and Morgan worked as one team, and Murodbek and Jeffrey as a second, in order to generate two independent analyses. We then combined our two results for this report.

Listed below are broad **categories** identified by our research group, followed by the **questions** we associated with each. These categories reflect the dimensions of food sovereignty that would need to be included in an assessment of food sovereignty. We have included all of the questions that participants recorded, so there is some redundancy, but this indicates the significance of these questions. Some questions have been placed under multiple categories, but we have tried to minimize unnecessary overlap. The original themes generated during the workshop are included as Appendix E.

Significance of food

- What do people eat here?
- What are the main staple foods?
- What are the staples?
- What are important foods? (medicine, spiritual, and technology)
- What are your important foods? Sources?
- What is food?
- What do you eat? Why do you eat it? What don't you eat it?
- What is the consumption quantity and quality?
- Do people eat the same as their grandparents (ate)?
- Are there celebrations about food/where food is a big part? What are the foods?
- What foods are scarce, special, or used only for special occasions?
- What about home/household practices? Cultural meaning, rituals?
- Purpose? (health, religion, culture, taboo)
- What is your favorite food?
- Do you take pleasure in meals?
- Do you share food? If so, with who?
- Do people still enjoy eating together?

Availability and access

- What kind of resources are there?
- What resources are available?
- Status and availability, wild or domestic?
- Availability: what do you have to eat?
- Does everyone have the food they need?
- Resources: How do they access?
- How do you access and share water resources?
- Where? Access (resource, land rights, security)
- Are there access issues to foods?
- How secure?
- Other resources are needed - how are they controlled? → fuel
- Where do you get it?
- Is there enough?
- Do you have enough to eat?
- For each household, what diversity of food resources do you have? (chickens, small-stock, live-stock, gardens and fields, access to wild food collections, fuel for cooking?)
- Has food availability changed over time?
- Do you own/have access to the land and sea?
- What resources are needed for your production of food?
- Where do your seeds come from?
- How much do people need to pay for the daily diet?
- What is the income? Is there enough to buy the food you want to eat?
- Can you afford to buy all the food you want/need?
- Do your foods sustain you for a full year?
- When? Season, period of shortage?
- What do people do to deal with shortage?
- How organized in crisis situation?
- Affordability of purchased food? Subsidies important?
- What do you do with surplus? Or deal with scarcity?
- How many people in community (gender/age/status) have these things (i.e. food resources)?
- Does everyone have the same food access, availability, and choices?

Food system practices and participation

- How do you obtain your foods?
- How are your foods produced?
- How? Special technology?
- How is food stored?
- How prepared? Combined?
- Who are the food producers/ collectors/ hunters/ purchase/ exchange?
- What is used to cook/prepare the food?
- What kind of seed and seed saving do you use?
- Fertilizer?

- Who are the service providers?
- Who helps you to produce your foods?
- Agriculture or hunting/gathering or bought or all?
- Who collects/grows food? Who prepares?

Trade

- Do you purchase any foods? If so, what and where?
- Purchase → local?
- Purchase → far away?
- Outside purchase/trade?
- Where from? (Bought? Traditional - collected/obtained?)
- What percentage is bought and where does money come from?
- Affordability of purchased food? Subsidies important?
- What do you do with surplus? How do you deal with scarcity?
- Where do your seeds come from?

Knowledge

- How is knowledge transmitted?
- Who knows about the food sources?
- How is knowledge shared?
- How is food knowledge shared?
- Is knowledge transfer to youth health/active? What forms of transfer/learning are key?
- How has knowledge about food changed over time?

Health and wellbeing

- Are your health and wellbeing improving or worsening?
- What is the health of the area? As it relates to food?
- What do you understand is important for food as medicine/nutrition?

Community relationships

- What is the strength of community cohesion?
- Community relationships (intra- and inter-dynamics)?
- Size of community?
- Interactions with others?
- Do people still enjoy eating together?
- What about relations with neighbors-networks?
- Do you share food? If so, with who?
- How have community relationships and institutional relationships changed over time?

Governance

- How is your community governed?
- How are resources regulated/managed?
- Who? Obtains? Controls? (gender, age, collective, individual)
- Subsidies important?

- Do you own/have access to the land and sea?
- Do you have control over your seeds and animals?

Ecological relations

- Where do you get it [food]?
- In which habitat do these resources occur?
- How are the land and its resources managed over time?
- What is the population/sections of the population various feelings/values of land?
- When? Season, period of shortage?
- Do your foods sustain you for a full year?
- Seasonal: What do you eat throughout the year?
- How many months of winter/rainy season/drought?
- Is climate change affecting you?

Change

- How have cultural practices changed (now, past) over time?
- How has knowledge about food changed over time?
- How have community relationships and institutional relationships changed over time?
- Seasonal changes (conceptualization of changes, adaptive changes)
- Has food availability changed over time?
- Are your health and wellbeing improving or worsening?
- How has your diet changed over time?
- How has ___ changed over time?
- Do people eat the same as their grandparents (ate)?
- Have the fuel/methods changed?
- Is climate change affecting you?
- Response to change?
- What are your fears and concerns and challenges?

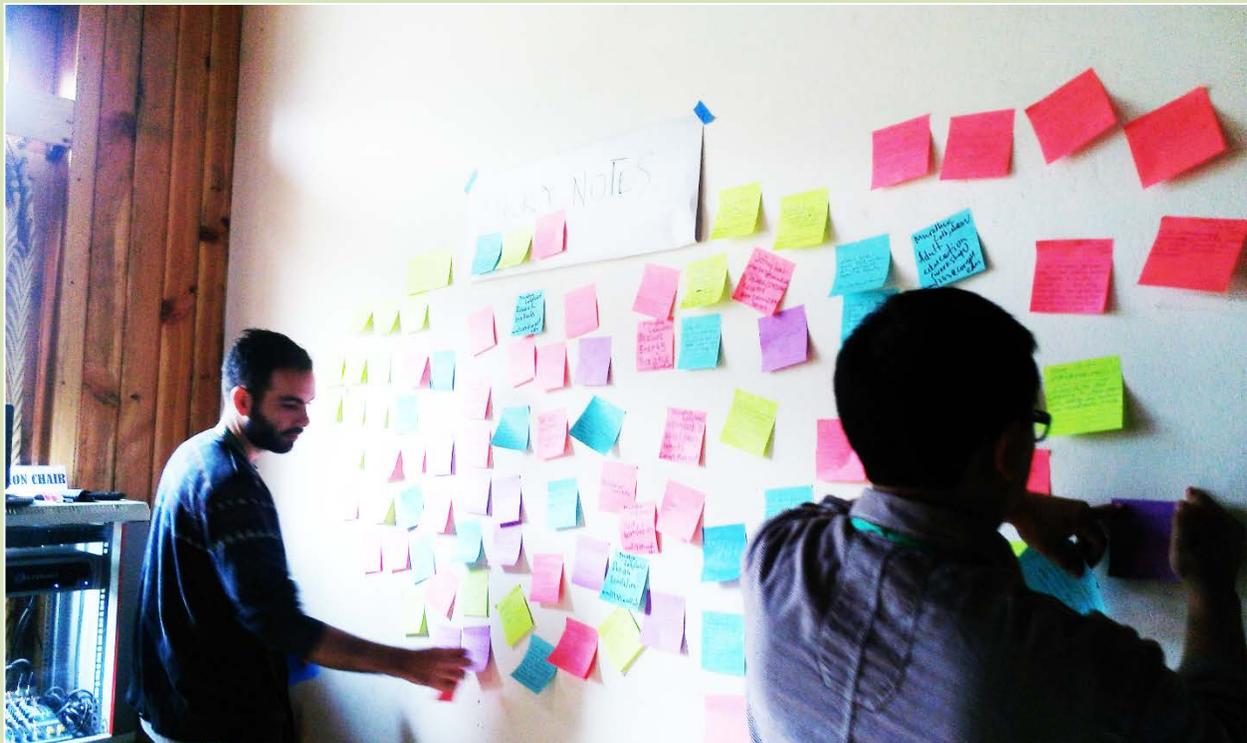
Research ethics

- What's in my mind? [self-reflective]
- What are your fears and concerns and challenges?
- What important things have I not thought of?

Skills to contribute to food sovereignty initiatives

As the final activity during the workshop, participants were asked to think about their own skills, particularly those that might contribute to food sovereignty initiatives. Each member of the Kassam research group provided a 90-second presentation about their dissertation projects and how they contribute to food sovereignty in the communities where they work. After the presentations, participants were asked to write down skills on sticky notes and post them on the wall, including their name (Figure 9). After the workshop, we collected those sticky notes and entered them in a database. We contacted all of the participants to ask if they wanted to revise or add new skills to the database. Listed below are the skills placed in broad categories. We have not included the names of participants in this report, but we will share this information with the workshop participants as we build our new food sovereignty network.

Figure 9: Wall of Skills



Communication Skills

- » Communication, listen and interact
- » Spreading the message through different media
- » Public speaking skills
- » Willing to listen and hear

Education Outreach/Curriculum Design

- » Training and education
- » I can do the food education to teach people to eat healthy, culturally and environmentally-friendly.

- » I can make expositions with different food plants and explain how they are prepared, combined and talk about the nutritional content of some of them.
- » Organizing workshops in communities
- » Adult education (workshops)
- » Teaching participant observation
- » Training local research assistants in ethnobiology methods
- » Provide general cultural sensibility training to the (Western) external researchers

Field Experience

- » Field experience: remote areas, developing countries

Fundraising/grantwriting

- » Fundraising for community food sovereignty initiatives
- » Grant-writing skills

Language Ability

- » Spanish-English as a bridge
- » Languages: French, German, Spanish, Portuguese
- » Azerbaijani translation
- » Fijian language
- » Tajik translation
- » Russian translation
- » Languages: French, English, German, Japanese
- » Knowledge of different languages so I could help facilitate conversations talking about food sovereignty.

Networking/Facilitation/Community Organizing

- » Facilitation/networking/mediation skills
- » In Holland we eat a lot of bad food. My skill: organize meeting to cook and eat "green" food
- » I had an experience to collect small farmers to establish a farmers market. I think that is my skill.
- » Networking of different members of society
- » Putting people together to discuss on the same problems in Brazil
- » Community facilitation
- » Connect concerned activists in Japan, North America and other Pacific nations around the topic of radionuclide contamination
- » Farmer to farmer learning exchanges facilitation
- » Facilitation between mountain cheese making shepherds (France) and consumers
- » Knowledge of many botanists to help people make connections and lead to better discussions
- » Skill to organize into larger groups - form cooperation and federations to be able to advocate as a large entity - one of the most important issues needing advocacy is opening trade between the India-China borders for the community I work with

Practical/Hands on Knowledge of Food Systems

Food Preparation/Preservation

- » Traditional food preparation and preservation: knowledge (about range of fermented and savory food)
- » I can explain the important attributes of amaranth. I can teach how to prepare different foods with the seeds and the leaves.
- » Dry moose meat
- » The skill of making bread on fireplace!
- » Pit-cooking: layering according to cooking time, use of foliage, use of fire
- » Food storage (preserve perishable food for a longer duration)
- » Gardening/Horticulture/Farming
- » Community garden: coordination, planting, harvesting a variety of tropical plants
- » Building structures for gardening, handyman
- » Practical knowledge on gardening and horticulture
- » To use compost when planting the seed and eat organic food
- » To plant their own food
- » Permaculture
- » Permaculture design (PDC) teaching skills
- » Permaculture: practical skills, knowledge of literature (about projects in Africa and theory, available scientific literature)
- » Food security training in permaculture, horticulture, conventional agriculture

Agroforestry/forestry

- » Chestnut-blight advice

Gathering Plants and Mushrooms

- » Harvest mushrooms for food and fungus for smudging
- » Picking berries, drying, freezing, canning them
- » In China, we often collect wild vegetables pickling to delicious jardinière.
- » Harvesting soapberries (*Shepherdia canadensis*: method, uses- food, medicine, spirit, tech/material)

Seed Saving

- » To use indigenous seed as they are adapted to the weather
- » To save their own seed as they are pest resistant

Hunting, Fishing, and Trapping Animals

- » Sharing hares- stretching and using hides
- » Catching and smoking fish
- » Fishing river salmon: dip nets, drift nets, spears, smoking, canning, freezing, drying

Other Practical/Hands on Knowledge

- » Ecovillage design (EDE) skills
- » Interest and experience in alternative food/energy solutions

- » Alternative/Innovative NEW food production ideas/practices
- » Water harvesting techniques and soil improvements skills/techniques
- » The skill of enjoying gestures in food process

Raising Awareness about Food

- » My skill in Holland: invite people to eat vegetables from my garden and make them aware of good food.
- » Bring concerned citizen's food safety concerns into the public discourse in Japan, Hawaii, and other places

Research Methodologies

- » Research skills: strong quantitative (statistics, modeling, GIS skills), qualitative (surveys, interviews, coding)
- » Working with indigenous peoples skills
- » I know how to do participatory survey of food with locals.
- » Research skills
- » Documenting indigenous food systems in Latin America
- » Ethnographic techniques - how to do long term research
- » Global-well travelled perspective, comparative approach to food production solutions
- » Capacity building in ethnobiological methods for community research
- » Sampling and monitoring wild food (berries, fish, moose meat, medicine, ducks) for pollution/contamination in Oil Sands region
- » Traditional land use research: working with elders on the land, recording stories, knowledge as requested (in Cree)
- » Farmer-centered research /enthusiasm/design
- » Long-term relationships with people, elders, new NGOs working on these exact issues, especially forest management for local livelihoods, energy and ecological restoration/fuel reduction
- » Research methodologies on the anthropology of food
- » Participatory research methods
- » Human-ecological mapping
- » Ethnobotanical skills: plant identification, native language recording
- » Mapping skills
- » Satellite imagery analysis of land change
- » Measure energy balance
- » Research methods
- » Standardize local energy units
- » Mapping of local knowledge on seeds and information and cultural activities
- » Community mapping and monitoring
- » Cultural Domain analysis
- » Documenting local knowledge
- » Methods to sample and monitor NTFP abundance, distribution, growth/yield, response to harvesting
- » GIS- resource mapping. Resource mapping would help visualize resource availability thus help plan utilization/management.

- » Land-use mapping
- » Collaborative research
- » Ecological surveys
- » Ethnobotanical research
- » To make quantitative survey (which food and how much food come from inside and outside) and share the result with community
- » Nutrition analysis

Theoretical/Specialized Knowledge

- » Theoretical knowledge of cross-cultural perceptions of health and well-being skills
- » Green Revolution: knowledge and critique of the movement (from scientific literature and activism)
- » In-depth social/cultural understanding of the region Namibia/Botswana
- » Forest/Veld food knowledge, NTFPs, indigenous/local high-value food knowledge
- » Fijian cultural knowledge
- » Principles of agroecology and practices
- » Medicinal plants (*Artemisia moxa*)
- » The knowledge that resources have an end if we run for it
- » The knowledge that every food we eat has consequences on social equalities
- » Knowledge of local (Montana) flora, soils and effects of historic uses (hunting, burning, gathering etc.) on ecological conditions
- » Cultural practices

Videography/Film-making experience

- » Video/photo skills
- » Film-making (collaborative)

Writing/Editing/Publishing

- » Editorial committee of the online journal Anthropology of Food
- » Recording/writing stories of food use, food histories, social context and regional environmental histories
- » Writing involves close collaboration on many projects initiated by them where they have asked them to 1) document local attitudes etc. on different topics/backstop to their work, 2) facilitate public meetings, 3) exchange knowledge/build literatures
- » Writing

Other

- » I have a hand to lend to a project if they need because I believe in the importance of food sovereignty, etc.
- » How to manage climate change

Comparing categories of questions with skills offered by participants

Compared below are the categories of questions and themes with the skills offered by participants. Based on this comparison, we identify some of the strengths and weaknesses of our current network as we move forward to address key dimensions of food sovereignty.

Significance of food - Strength

Several participants offered research skills that could be used to understand the significance of food to households and communities, including: ethnographic techniques, recording stories, food anthropology studies, and cultural domain analyses. Many participants clearly have experience living within communities and observing the significance of specific foods to diverse cultural systems.

Availability and access - Strength

Several participants offered research skills that could be used to assess food availability and access, such as GIS or other mapping techniques, quantitative surveys, statistical analyses, participatory food surveys; food system documentation; measuring food system energy balance; sampling and monitoring of non-timber forest products; and ecological surveys.

Food system practices and participation - Strength

Many participants said that they had practical/hands on knowledge of food systems, including: food preparation and preservation techniques; gardening, horticultural, and farming skills; permaculture design and teaching skills; forestry and agroforestry skills; how to gather plants and mushrooms; seed saving skills; and hunting, trapping, and fishing skills. Many participants offered theoretical specialized knowledge that could inform food system practices.

Trade - Weakness

Very few participants offered skills related to trade and food sovereignty. One participant mentioned that he had helped to start a farmers' market, and one participant mentioned that he is helping food producers' advocate for trade along the Indian-Chinese border. Skills related to trade appear to be lacking, either because participants do not have these skills or because they forgot to mention them during the workshop.

Knowledge and communication - Strength

Because most of the workshop participants were researchers and educators, they offered many skills that are related to knowledge transmission, including: communication skills, education, outreach, and curriculum design skills; videography and film-making experience; writing, editing, and publishing skills.

Health and wellbeing - Weakness

Some participants mentioned skills related to health, including the ability to conduct nutritional analyses, ability to identify healthy foods, and knowledge of cross-cultural perceptions of health and well-being. Skills related to health and well-being appear to be lacking, either because participants do not have these skills or because they forgot to mention them during the workshop.

Community relationships - Strength

Many participants said that they had communication skills and skills related to networking, facilitation, and organizing that could help to strengthen community relationships.

Governance - Weakness

No participant mentioned skills related to studying or working with formal (State) governance structures, although some mentioned that they have skills organizing cooperative structures (alliances) between food-producers at the community scale. Skills related to governance appear to be lacking, either because participants do not have these skills or because they forgot to mention them during the workshop.

Ecological relations - Strength

A few participants mentioned skills that could be used to assess ecological relationships between humans and other components of their ecosystem that contribute to food systems and sovereignty, including GIS, other mapping techniques, satellite imagery analysis, and plant identification.

Change - Weakness

A few participants offered skills that could be used to monitor social and ecological change, and one participant offered a skill related to climate change. Skills connected to assessment or interpretations of change appear to be lacking, either because participants do not have these skills or because they forgot to mention them during the workshop.

Research ethics - Strength

Participants said that they have extensive field experience, fundraising/grant writing skills, language abilities, and experience with a wide range of research methodologies, all of which require expertise regarding research ethics. Several participants mentioned specific research objectives that promote strong research ethics, such as participatory methods, collaborative research long-term relationships and 'slow' research.

Outcomes, Outputs & Next Steps

As noted at the outset, international discourse on sovereignty is a work in progress. Similarly, this workshop has formed an emergent network of researchers and practitioners. While not restricted to a specific ecological and cultural context, this report is rich with potential interview questions to assess sovereignty and assist both practitioners and researchers in developing projects in collaboration with communities. Furthermore, participants in the workshop comprise a network of researchers and practitioners with skills that can meaningfully contribute to the sovereignty of community partners. However, more skills are needed and the network needs to expand further.

In terms of skills, areas of strength include: understanding the significance of food as part of ecological and cultural systems, ability to map availability and access, capability in assessing food system practices using participatory research, effectiveness in knowledge transmission and communication, competence in ecological relationships, sensitivity to community relations, and depth in research ethics. Areas of weakness include: understanding the role of trade relations to sovereignty, assessment of health and nutrition, competence in the role of governance structures, and understanding of the process of sociocultural and ecological change.

In August 2016, at the 15th Congress in Kampala, Uganda we will build upon our network through a Special Session entitled: “Next Steps for Achieving Food, Health, and Energy Sovereignty: A Collaborative Effort”. At the 15th Congress, we will seek to address our weaknesses in terms of skills as well as limitations in geographic diversity outlined in this report.

Furthermore, a special issue in a relevant journal has been planned for 2017 to invite informative examples of participatory research that directly address international initiatives in food justice and sovereignty. This issue will also examine the linkages to energy and health.

This report is one milestone in a much longer journey of building and rebuilding food, health, and energy sovereignty of the communities we inhabit and those with whom we work.

Appendix A: Workshop Narrative

Building on the international practitioner and research expertise represented by both session organizers and participants, the goals of our interactive workshop session were to:

1. Generate critical dialogue about indigenous food and health systems.
2. Develop a methodology to assess food and health sovereignty at multiple scales (household, community, regional) and for different applications (gender, ethnic communities, class differentials, urban-rural gradient).
3. Create a collaborative, web-based network of practitioner and researcher skills for supporting local and indigenous food and health system initiatives, thus generating rapid-response capacity.

I. Entrance survey (5 minutes)

Upon arrival at the workshop site, the participants filled out a short survey about food sovereignty (see Appendix C). The questions inquired whether the participants had heard of the term “food sovereignty”, and whether the term is used in the communities that they live and work. The participants were also asked to provide five words or phrases associated with food sovereignty. Pencils were provided to participants who needed them. The survey was collected as soon as it was completed and delivered to workshop organizers so that they could type up results as quickly as possible, prioritizing the question on five words/phrases but also keeping a tally for the yes/no questions. The answers to the prioritized question were used to develop a word cloud using Wordraizer software (the size of words indicates how many times they were listed), which does not require an internet connection. The word cloud was to be presented to participants at the end of the workshop during the synthesis.

II. Introduction (5 minutes)

The workshop leader welcomed the participants, introduced the workshop team and explained the objectives of the workshop. Then, the workshop leader provided a general introduction to the domain of food sovereignty, including linkages to health, energy, and water.

III. Visioning exercise (5 minutes)

Having provided a basic understanding of food sovereignty, the workshop leader invited the participants to engage in a visioning exercise. As the workshop leader explained the exercise, the assistants distributed a sheet of paper to the participants. The latter were asked to close their eyes and imagine a community that enjoyed food sovereignty. It was important to take some time to explore that community in their mind. Based on their vision, then, the participants were asked to write down five attributes of food sovereignty on a sheet of paper. It was specified that their notes would not be collected, so participants were encouraged to be as creative as would have liked, and certainly think of things that the workshop leader had not mentioned. This exercise prepared the participants for the next activity allowing them to tap into their imagination and experience.

IV. Group question generation and identification of themes (40 minutes)

This activity had two parts each lasting for fifteen minutes. In the first part, the task was to produce a list of questions, which was followed in the second part by identifying themes from those questions.

Question generation

For this activity participants were asked to break themselves into small groups of four to five people. Participants sitting close to each other turned to face one another and formed the groups quickly. About two minutes was allowed for group members to introduce themselves to each other. In the meantime, the workshop organizers distributed three sheets of flip chart paper and three markers to each group. Then everyone's attention was directed back to the front of the room and instructions for this exercise were provided. Specifically, the participants were invited to imagine that their group was a research team interested in food sovereignty. They were all traveling to a community that none of them had visited before. The groups were tasked to brainstorm a list of questions that they would like to ask the people in this community in order to understand their food sovereignty. The groups were encouraged to attend to everyone's ideas in the group and write as many questions as they liked on the flip chart paper. The workshop organizers also clarified that the second part of the activity would ask them to think about themes that arose from those questions.

At this point some groups changed their original seats and settled in different corners of the room. Some seated on the floor facing each other with the flip chart paper in the middle so it was easier to write. Some groups seated around a table, yet others put a chair in the middle to lay the flipchart on. As the participants engaged in discussion the workshop organizers were circulating through the small groups to provide assistance, answering questions and encouraging discussion within less active groups.

Identification of themes

After passage of fifteen minutes the workshop organizers called for participants' attention, and provided instructions for the second part of the activity. Now that the groups had generated a good list of questions, they were invited to start thinking about the broad themes that they saw arising from the questions. The groups were given a fresh sheet of flip chart paper to generate a list of the themes. Next, each group was given many colors of dots, and asked to assign a color to each theme by placing a different colored dot next to each theme on their list. Then by placing dots next to each question, the groups would link them to the themes they had listed. This process was visually demonstrated by workshop organizers in order to facilitate comprehension of the task. Upon completion of this part, the groups were asked to post their themes and questions on the wall for everyone to see.

As in the first part, the workshop organizers circled among the groups and provided assistance when necessary. It should be noted that while this activity was going on the organizers would work through the groups and compile a list of all of the themes they had seen, grouping common themes for the final synthesis. As the lists of questions and lists of themes were taped on the walls, workshop organizers wrote a unique code on

all flip chart papers associated with each group so that after the workshop the team could link the themes and the questions for the analysis (see Appendix E).

V. Presentations on sovereignty perspectives (10 minutes)

Having displayed their work on the wall, the group activity was complete, and the participants were asked to take seats facing the front of the room. The workshop leader provided a one-minute introduction to the presentations by workshop team members who are graduate students working on food, health, or energy sovereignty in a different part of the world using different knowledge and skills. It was pointed out that there were posters at the poster session at the conference at large providing much more detail about these research projects. Then, each graduate student took about two minutes to give an overview of their research, and specifically focused on the skills they used to contribute to food/health/energy sovereignty. The presentation provided concrete examples for participants that helped them complete the next activity.

VI. Knowledge/skills networking (10 minutes)

After the presentations were finished, workshop organizers distributed clumps of sticky notes to each participant, and provided instructions for the last activity. Now that the workshop team shared how they used particular knowledge and skills to contribute to food, health, and energy sovereignty in their research, the participants were invited to think about how their knowledge and skills can contribute to sovereignty. First, they were asked to take a moment to think about this question: “In the communities where you work and live, what kinds of knowledge and skills can contribute to food, health, and energy sovereignty?” They were encouraged to reflect on the attributes of food sovereignty that they wrote at the beginning of the workshop, and the questions and themes that they identified with their groups. The participants began to think about the knowledge and skills that they could contribute to food, health, and energy sovereignty efforts. Using the sticky notes they wrote down the skills that they could offer. They were encouraged to write at least two or three skills. It was important that participants wrote each skill on a separate sticky note so that the related skills could be grouped by posting them next to each other on the wall. In order to facilitate interaction and collaboration during and after the congress, the participants also wrote their name and email on each sticky note.

VII. Synthesis and moving forward (10 minutes)

After everyone, including the workshop organizers, posted their skills on the wall, they were invited to take their seats, and face the front of the room. A workshop team member who was typing the survey responses stepped forward and presented a descriptive analysis of the results. These included participants’ responses to questions about the term “food sovereignty” as well as a word cloud on what was associated with this term.

Lastly, the workshop leader reviewed the themes as well as knowledge and skills that were posted on the walls. It was particularly noted that the skills would be a key element to create networks among workshop participants who live and work in different parts of the world. It would be an important contribution to the next steps to achieve food, health, and energy sovereignty throughout the world. A commitment was made to the

participants that all of the results from this workshop would be typed up and emailed to workshop participants.

Appendix B: Workshop supplies

- Flip chart paper
- Painter's tape
- Markers
- Colored dots
- Copies of the entrance survey (Appendix C)
- Copies of the vision exercise (Appendix D)
- Pencils
- Sticky notes
- Word cloud software

Appendix C: Entrance Survey

Visioning Food, Health, and Energy Sovereignty Pre-Workshop Survey

Before we begin our workshop, please complete this short survey:

Name:

Email address:

Where are you from?

Where do you work?

Have you ever heard of food sovereignty?

Yes No

Do people in communities where you live and work use the term food sovereignty?

Yes No

Please list five words/phrases you associate with food sovereignty. If you have never heard of food sovereignty, please write five words/phrases you think of when you hear the term.

1.

2.

3.

4.

5.

Thank you!

Please submit this survey to the workshop organizers.

Appendix E: Food sovereignty themes identified by workshop participants

Group A	Group B	Group C	Group D
<ul style="list-style-type: none"> • Ecological Conditions • Agency • Cultural Values • Knowledge • Livelihoods 	<ul style="list-style-type: none"> • Method • Environment • Culture • Power • Money • Cultural Diversity and Ethnicity • Gender Roles and Age • Ritual • Consumption and Quantity 	<ul style="list-style-type: none"> • Governance/ Institutional Arrangements • Personal/ Cultural Meaning • Production Techniques/ Practices • Knowledge Transfer (Cultural) • Social Capital • Service Providers • Inventory Description/ Ethnography 	<ul style="list-style-type: none"> • Access • Culture/ History • Health • Ecology/ Energy • Economics • Knowledge
Group E	Group F	Group G	Group H
<ul style="list-style-type: none"> • Access • Internal Regulation/ Control/ Management • External Influences • Cultural Practices • Feelings (security, safety, etc.) • Adaptive Capacity/ Environment Sustainability 	<ul style="list-style-type: none"> • Respect • Grounded theory • Relationships and collaboration • Community collaboration and control (research and information sharing agreements that are honourable and ethical) • Acknowledge community teachers and advisors • Holistic 	<ul style="list-style-type: none"> • Resources • Practices • Diet • Knowledge • Community dynamic • Change and timeline • Spiritual/ Belief 	<ul style="list-style-type: none"> • Water management • Wellbeing • Seed exchange • Community institutions • Knowledge transmission • Land access/tenure • Agro-ecosystems (agrodiversity production systems) • Social change/ migration • External pressures (markets)