

CLIMATE CHANGE ADAPTATION PLANNING GUIDEBOOKS

FOR INDIGENOUS COMMUNITIES



GUIDEBOOK 3

IDENTIFYING COMMUNITY
SUSTAINABILITY AND CLIMATE
CHANGE VULNERABILITIES

These Guidebooks were created by the Centre for Indigenous Environmental Resources in partnership with Sioux Valley Dakota Nation in Manitoba and Peter Ballantyne Cree Nation, Deschambault Lake Community, in Saskatchewan. The Centre for Indigenous Environmental Resources updated the guidebooks in 2020 with guidance from T-Sou-ke First Nation in British Columbia and Fox Lake Cree Nation in Manitoba.

Please contact earth@yourcier.org for any questions or comments on these Guidebooks.

© Centre for Indigenous Environmental Resources Inc, 2006 and 2020. All rights reserved. Reproduction of this material is permitted without the specific permission of the Centre for Indigenous Environmental Resources Inc., provided that the material is reproduced accurately and is not used in a commercial purpose or a misleading context. Modifications are not permitted without the permission of the Centre of Indigenous Environmental Resources Inc.

These Guidebooks were updated with financial support from Crown Indigenous Relations and Northern Affairs Canada's First Nation Adapt Program.



Crown-Indigenous Relations
and Northern Affairs Canada

Relations Couronne-Autochtones
et Affaires du Nord Canada



CLIMATE CHANGE ADAPTATION PLANNING GUIDEBOOKS

1



Starting the
Planning Process

2



Climate Change
Impacts in
the Community

3



Identifying Community
Sustainability and Climate
Change Vulnerabilities

4



Identifying
Solutions

5



Taking Adaptive
Action

6



Monitoring Progress
and Change



CONTENTS

Glossary	1
About the Guidebooks	2
Understanding the Planning Process	5
How to Use the Guidebooks	6
What Will You Learn in this Guidebook?	7
Introduction to Community Sustainability and Vulnerability to Climate Change	7
Community Visioning	10
Community Sustainability	11
Community Vulnerability	17
Identifying Connections	21
Creating Scenarios	22
Influence Diagrams	22
Keep the Community Updated	28
What's Next?	30
Guidebook 3 Checklist	31
References	32
Notes	33



GLOSSARY

Adaptation: The process of adjustment to actual or expected climate change and its effects.

Ability to Adapt: how easy or difficult it will be for the community to adjust to the resulting changes (before implementing any forms of adaptation).

Climate: The word “climate” refers to a region’s long-term weather patterns. The conditions that make up the weather in an area – precipitation, temperature, wind and so on – are measured daily, whereas climate describes what the weather is like over a long period of time (often based on thirty-year averages). Weather can change dramatically day-to-day, but climate is expected to be relatively consistent over time. This is summed up by the old saying, “climate is what you expect, weather is what you get”.

Greenhouse Gases (GHGs): Life on Earth is possible because various gases in the atmosphere trap heat and keep the planet at a livable temperature. These gases that keep the Earth warm are called greenhouse gases (GHGs). When the amount of GHGs increase, the Earth gets warmer.

Indigenous Knowledge: For the purpose of this guide, Indigenous Knowledge is defined as: “A holistic system of knowledge acquired over time through experience or observation and is tied to the cultural, linguistic, spiritual and subsistence ways of Indigenous peoples” (CIER and UBC, 2011).

Magnitude: the importance or size of the effect of the climate change impact on the system or community (e.g. an out of control forest fire in the community could have a large effect on the community’s infrastructure)

Mitigation: An intervention that either reduces the sources or enhances the sinks of greenhouse gases. This may also include reducing the sources of ozone altering substances (e.g. Carbon monoxide, Nitrogen Oxides, etc.)

Sensitivity: the characteristics of the system or community (e.g. a small drinking water source would be highly sensitive to drying up if climate change caused severe drought)

Sustainability: sustainability can be thought of as the ability of a community to adapt and become more resilient to climate change impacts, allowing the community to continue thriving well into the future.

Vulnerability: In this document we will specifically be using the term vulnerability to describe any predispositions (tendencies) your community may have that could increase its likelihood of being adversely (negatively) affected by climate change (IPCC, 2014).

ABOUT THE GUIDEBOOKS

The Climate Change Adaptation Planning Guidebooks for Indigenous Communities consists of a series of guidebooks. The guidebooks provide an overview of the six-step climate change adaptation planning process

The goal of the six guidebooks is to provide a user-friendly and culturally appropriate climate change and adaptation resource to assist Indigenous communities with adaptation planning in order to avoid, minimize, or adapt to the impacts caused by climate change. The planning process outlined in the guidebooks allow for wide application, local adaptation, and ongoing modifications.

Understanding the Planning Process

Each of the guidebooks focus on one of the six climate change adaptation planning steps. The six guidebooks (and accompanying activities included in each guidebook) focus on the following topics:



GUIDEBOOK 1: STARTING THE PLANNING PROCESS

Understanding the importance of climate change adaptation and assembling a team of community leaders and members to assist with the climate change adaptation planning process.

Activities:

1. Meet with Community Leadership: create briefing note for your community's leadership that explains the project and the importance of including climate change adaptation in community plans and decisions for the long-term success of the community.
2. Set-up a Working Group: develop a pamphlet that outlines Working Group member roles and responsibilities and recruit potential Working Group members.
3. Hold a Community Event: inform the community about climate change adaptation planning and provide an opportunity for community members to share their ideas and provide suggestions and direction by hosting an outreach activity or event.



GUIDEBOOK 2: CLIMATE CHANGE IMPACTS IN THE COMMUNITY

Understanding the impacts of climate change and its effects on Indigenous communities, learning about adaptation (adjusting to climate change impacts) versus mitigation (reducing or preventing climate change impacts), and identifying climate change impacts in your own community.

Activities:

1. Gather Background Information: compile information on nature and the environment in your community, including how people currently use and live on the land (e.g. current and past settlements and subsistence, commercial and traditional uses of land, water, wildlife, and plants)
2. Brainstorm Local Observations of Climate Change: generate a list of climate change impacts that have been observed by community members and how these observations have affected the activities people do in the community.



GUIDEBOOK 3: IDENTIFYING COMMUNITY SUSTAINABILITY AND CLIMATE CHANGE VULNERABILITIES

Developing a community vision for a climate resilient future, understanding the difference between community sustainability and vulnerability to climate change, and developing different community climate change scenarios (e.g. no adaptation versus successful adaptation).

Activities:

1. **Community Vision:** gain a sense of community members' vision for the future, including what should be preserved, what should be added (that is currently missing), challenges that the community is facing and would like to resolve/remove, and things to keep out of the community to ensure it remains healthy/successful.
2. **Sustainability Brainstorm:** understand how the community is sustainable in relation to the environment, economy, society, and culture.
3. **Vulnerability Brainstorm:** understand how the community may be vulnerable to the climate change impacts that were identified in guidebook 2 and during the previous Sustainability Brainstorm activity.
4. **Vulnerability Ranking:** understand areas where the community may be most vulnerable to the predicted impacts of climate change
5. **Identifying Connections:** understand if/how vulnerabilities to climate change are related to more than one area of sustainability (environment, economy, society, culture)
6. **Influence Diagram:** develop a list of final climate change effects on the community (i.e. illustration of the changes that may occur in the community due to predicted climate change impacts)
7. **Scenario Building:** gain an understanding of what the community could look like if climate change impacts occur and no adaptation is implemented, if climate change and community development occur with no adaptation, and if successful adaptation is implemented.



GUIDEBOOK 4: IDENTIFYING SOLUTIONS

Identifying and prioritizing solutions for adapting to climate change and determining the feasibility of different solutions.

Activities:

1. **Revisiting the Influence Diagram:** generate a list of possible adaptation and coping solutions to help community minimize/eliminate negative effects and enhance positive effects
2. **Revisiting the Scenarios:** alternate method for generating list of possible solutions
3. **Determining Feasibility:** shortlist of feasible adaptation solutions
4. **Setting Priorities for Climate Change Planning:** from the list of feasible solutions, a list of priority solutions that community members would like to see implemented first
5. **Creating a Comprehensive List of Priorities:** a comprehensive list of all the priority solutions that were identified from previous activity working with different groups of community members that are feasible for implementation within your community.



GUIDEBOOK 5: TAKING ADAPTIVE ACTION

Understanding past successes in your community, developing an action plan to implement your climate change adaptation solutions, ensuring ongoing community participation in the climate change adaptation process, and celebrating your achievements.

Activities:

1. Decision-making in Your Community: learn more about the community's past successes and decision-making processes to learn how it might inform the current climate change adaptation planning process in a positive way
2. Developing an Action Plan: work with leadership and the Working Group members to create a detailed action plan that outlines how each of your adaptation solutions can be implemented in the community, including level of priority, resources required, roles/responsibilities, milestones, budgets, timelines, and measures of success.
3. Challenge Tree: share your action plan with the broader community and identify ways in which community members can support or help implement the different adaptation solutions and actions.



GUIDEBOOK 6: MONITORING PROGRESS AND CHANGE

Tracking and evaluating the success of your climate change adaptation action plan, adjusting your activities and actions (as needed), and understanding the importance of revisiting the climate change adaptation planning process in the future to ensure it is still useful for your community.

Activities:

1. Evaluating Your Action Plan: evaluate your adaptation action plan and determine if progress has been made in reaching the community's adaptation goal.

UNDERSTANDING THE PLANNING PROCESS

The guidebooks build on one another and are intended to be used in order (from 1-6). Each guidebook provides information, considerations, and activities to walk the user through each step of the planning process and prepare them for the next step of planning. The activities included in the guidebooks are designed to engage community members during the planning process. These activities are suggestions. However, you may decide to change or adapt certain activities to better fit your community's needs.



HOW TO USE THE GUIDEBOOKS

In each guidebook, you can expect to find relevant background/introductory information related to the topic and planning step covered in that guidebook and key considerations, tips, and activities to assist you in completing that step of the planning process.

Note: the suggested activities included in the guidebooks are designed to engage community members during the planning process, however, you may decide to change certain activities to better fit your community's needs.

Checklist

In each of the six guidebooks, you'll find a checklist, like the example below, to help you stay on track and work through each of the planning activities that are required to complete that step of the climate change adaptation planning process. The project coordinator can use the checklists as a tool to see how many tasks need to be completed, who is responsible for completing them, and what progress has been made. Checklists are located at the end of each guidebook or you can refer to Annex I for a complete set of checklists from all six guidebooks.

Task	Recommended to complete task	Progress
Designate a Project Coordinator		Complete
Meet with Leadership	Coordinator	Complete
Set up a Working Group	Coordinator	In progress (meeting scheduled)
Inform Community Members	Coordinator	Not completed

Symbols Used in the Guidebooks

Throughout the guidebooks, there are a series of symbols (shown below) to indicate where a particular type of meeting or activity is suggested. The symbols include the following:

				
Activity	General Meeting Note: the "general meeting" symbol suggests a meeting with other groups not specifically listed below: <ul style="list-style-type: none"> • Elders Meeting • Community Meeting • Youth Meeting 	Working Group Meeting	Materials	Checklist
				
Important Information	Indigenous Knowledge	Environmental	Economic	Social
				
Cultural	Winter	Summer	Spring	Fall

Text Boxes

In coloured text boxes throughout the guidebooks, you will find stories and examples of climate change and community planning in Indigenous communities, as well as examples of CIER and community participants working through the activities suggested to engage people in the project.

WHAT WILL YOU LEARN IN THIS GUIDEBOOK?

In guidebook 3, you will explore the concept of community sustainability versus community vulnerability to climate change. You will be guided through a series of brainstorm activities with different community members. The aim of the activities is to develop a community vision, consider ways in which your community is already sustainable, and consider the ways in which your community may be susceptible to climate change impacts. After working through these activities, you will develop different community climate change scenarios to explore what your community might look like if climate adaptations or interventions are implemented versus if they are not.

INTRODUCTION TO COMMUNITY SUSTAINABILITY AND VULNERABILITY TO CLIMATE CHANGE

All communities have strengths and weaknesses. These strengths and weaknesses are different and can be related to the land, water, housing, infrastructure, health, culture, economic opportunities, education, governance, and family structures. The impacts of climate change can cause threats and create opportunities in these, and other, areas. For example, perhaps a community has strong access to local foods harvested from the land and water, but households in the community are built on land that is expected to flood as a result of climate change. A strength of the community would therefore be food security, whereas a weakness would be that households and building are susceptible to flooding.

Understanding how capable we are at handling changes (both good or bad) associated with climate change is one of the first steps in planning for adaptation. Being able to cope with the stresses associated with climate change will also make communities better able to cope with other stresses and bring them closer to achieving sustainability.

There are many different areas of community life that need to be strong and healthy for communities to be successful and sustainable. In the context of these guidebooks, sustainability can be thought of as the ability of a community to adapt and become more resilient to climate change impacts, allowing the community to continue thriving well into the future. In this sense, sustainability plays a key role in the climate change adaptation planning process. A climate change adaptation plan that allows the community to successfully adapt and become more resilient to the impacts of climate change also results in a community that is more sustainable.

Having thought about what sustainability means in terms of climate change adaptation, it is also important to consider vulnerability to climate change impacts. To understand vulnerability to climate change, it is helpful to think about what a sustainable, climate-resilient community would look like for your community. Next, think about the existing context within your community – what are the community's strengths and weaknesses in regards to climate change impacts? What steps or actions need to be implemented in order to help move the community towards being more climate-resilient? You can think about, and explore, different future scenarios in which climate change may affect the community and community members in different ways. These scenarios will help you to identify next steps and solutions in Guidebook 4: Identifying Solutions.

Now that you've had an opportunity to begin thinking about what it means for a community to be sustainable as well as vulnerable to climate change impacts, the following sections and activities will guide you through the process of working with community members to brainstorm areas where your community is sustainable as well as areas where the community may be more vulnerable to the impacts of climate change.

In order to understand areas in which your community is already sustainable as well as areas where the community may be more vulnerable to climate change impacts, you will need to meet with people from your community (e.g. Working Group, Elders, youth, community) to complete the following activities:

1. Create a vision for your community,
2. Brainstorm and identify areas where your community is sustainable; and
3. Brainstorm and identify areas where your community may be more vulnerable to the impacts of climate change.

You can complete these brainstorm activities together during one meeting or you can organize separate meetings to complete each brainstorm activity. The specific steps for completing each activity is outlined below. To complete these activities, you will need to think about the type of community meeting/event format that could bring together several groups of people at a time and offer multiple opportunities for brainstorming together. The 10-kilometer feast (below) is one example of an event/format that you could use to bring together different community members to complete the visioning and brainstorm exercises, but you may find that a different meeting format works better in your community. Again, you will need to decide whether it makes more sense to complete all three brainstorming activities during a single meeting (particularly if it is difficult to encourage community members to attend activities or if you have limited resources for organizing meetings) or you may choose to complete each brainstorm session as individual activities.

Community Event Idea: T'Sou-ke Nation's 10-Kilometer Feast

One event idea for bringing together different community members and groups to complete the brainstorming activities is to host a feast of local foods. For example, T'Sou-ke Nation hosted a 10-kilometer feast. Could your community hold a feast using foods that can be harvested from the lands and waters near your community? Challenge the community to host a feast using only foods that were harvested within a set distance from your community. The distance that is most appropriate for your community may vary depending on the community and the distance typically traveled for hunting/gathering activities (e.g. you may host a feast with foods collected within a 10-kilometer radius or within a 50-kilometer radius). Select a distance that makes sense for your community.

You can use this event as an opportunity to facilitate brainstorming sessions (refer to the next section(s) for specific details on what each brainstorming activity entails). If you choose to host a community feast, the following are steps and suggestions to help you get started:

1. Identify community members who are knowledgeable about, and willing to help, gather and hunt for foods (e.g. Elders with Youth and/or hunters).
2. Find community members who are willing and able to prepare and cook the foods that are gathered.
 - Ask the group of community members who will be harvesting the foods to meet with those who will be preparing the foods in order to plan for the feast. Remember, there may be traditional methods of cooking that may require additional time or supplies. This will need to be accounted for when planning the feast.
 - This is a good opportunity to work through the Community Visioning and Brainstorming activities. Have this group of people work through these activities outlined in the next section(s).
3. Set a date and invite community members to the feast.
 - The Feast is another good opportunity to have community members work through the Community Visioning and Brainstorming exercises.
4. **Reminder** – you can use your social media page to help advertise the event and recruit community members to help harvest and prepare the foods!

This activity can be completed by:



WORKING GROUP



GENERAL MEETING

Now that you've considered whether to complete the three activities during a single community meeting/event (like the one above) or during separate community meetings, it is time to start brainstorming! To begin, you will work with community members to develop a community vision, followed by brainstorm sessions to identify areas of sustainability and areas of vulnerability to climate change impacts.



COMMUNITY VISIONING

Talking with community members about sustainability allows you to start talking about their hopes and dreams, ideas and priorities for the community. When thinking about sustainability, you may find that your community is not as sustainable as you or others would like. Work together with different groups of people (children, youth, Elders, hunters, trappers, the Working Group) to discuss and gather information on people's dreams for the community. When it comes time to make decisions about future plans (Guidebook 4) and implement action(s) (Guidebook 5), this discussion about people's hopes and dreams will help your community move forward.

This activity can be completed by:



Community Visioning

What is your vision of the community for the future? If you imagine the community in twenty to thirty years from now, and the community is sustainable and thriving, what do you see? What does the community look like? What are people doing? How do they interact with one another? Where do they gather together? What are the children doing? What are the Elders doing?

This is a fun exercise to do with children and youth, in a school, the community centre, or at other gathering places, because children are imaginative and like to dream.

1. Introduce the idea of sustainability to the children/youth, and then ask the youth to draw a picture of their ideal vision of the future.
2. Reassure them that there is no wrong way to do this - whatever they see in their minds is exactly right.
3. It is important to have talked about community sustainability before doing this activity, so the children or youth have an understanding of this when they are dreaming of their future.

When you ask adults about their vision for the future, try using the following steps:

1. Ask them to imagine the community when their grandchildren are adults.
2. What kind of community do they want for their grandchildren?
3. Sometimes talking about what we love about the community, what is missing from the community, or what needs to be taken out of the community, can help people develop an image or vision of the community in the future.
4. You can use the acronym **PARK** to help stimulate discussions about this with adults:
 - a. **Preserve** - what are the good things and values in the community that we need to preserve?
 - b. **Add** - what good things are missing from the community right now that we want to add?
 - c. **Remove** - what challenges are you facing in the community right now that you want to remove?
 - d. **Keep Out** - what do you need to keep out of the community for it to be healthy and successful?

Community Visioning in T'Sou-ke Nation

As part of their comprehensive community planning process, T'Sou-ke community members developed a strong vision for their Nation's future. T'Sou-ke Nation included as many community members as possible in their visioning meetings and met directly with the following community groups: mothers and babies during their weekly get-together, youth, Elders, department staff, and Spiritual Leaders. Each group shared their vision for the community's future. Each group had unique ideas which ensured the community's vision included different perspectives, hopes, and dreams for the future. The community used everyone's input to create a vision statement. T'Sou-ke Nation's vision statement includes their values and the need for: self-government, a healthy and educated community, respect for their tradition, and economic independence with many and equal opportunities.

Community Visioning with Students - Sioux Valley Dakota Nation

Sioux Valley Dakota Nation undertook a visioning exercise with their students. The project team visited the school, described the project, and explained climate change. Students talked about how the playground had been flooded as a result of heavy rains during the summer. After talking about community and climate change planning, students in grades two and three shared what they like best about Sioux Valley. The students shared all kinds of great ideas, like nature, thunderstorms, sweats, food, etc. This is a good way to get children to share their ideas for actions and decisions in the future, and get them involved in developing the community's vision. Try this with the children in your community!



Now that you have had a chance to create a vision for the community, it is time to begin identifying activities and areas where the community is sustainable (i.e. how are you already working towards achieving your vision?) as well as areas where the community may be more vulnerable to climate change impacts (i.e. what measures or actions are needed to help move your community towards the vision that you have created for a sustainable future?).

COMMUNITY SUSTAINABILITY

In this section you will learn about how your community is already sustainable and how you can make decisions that are holistic (i.e. consider the big picture), while considering the effects of these decisions on future generations.

One way to think about your community's sustainability is to look at different areas in which your community may be sustainable. We suggest using the following four areas: environment, economy, society, and culture. Each of these areas has many components. For example, environment includes air, land, water, plants, and animals, society includes education, health, and governance, economy includes the production, distribution and trade of goods, and culture includes your community's customs, morals, codes and traditions. Each of these areas are interconnected and affects the other areas. For example, a change in the environment, resulting from climate change, will affect the economy, society, and culture as well.

Think about possible opportunities that may result from climate change. For example, perhaps warmer summers will create opportunities for gardening, farming, and harvesting in a northern community. This could strengthen local food security and make the local economy stronger as the community may not need to rely as heavily on imported foods. See below for an example of how T'Sou-ke Nation Elders and youth are working together to ensure traditional practices are passed on to future generations.

Community Sustainability in T'Sou-ke Nation: WUI CIST CEN TOL (teaching them together)

Indigenous Nations have lived sustainably on this continent for thousands of years. Think about the methods your community used in the past to live sustainably, and how these could be applied today. For example, T'Sou-ke Nation encourages their youth and Elders to harvest wild foods together. The youth and Elders learn how to harvest Traditional foods, medicines, and teas out on the land. The experience of harvesting wild foods together creates a bond between the youth and Elders in the community.

To complete the sustainability brainstorm activity, you will work with community members to identify areas of sustainability within the community. There are two approaches for brainstorming areas of sustainability. The first approach uses headings to guide the brainstorm activity and the second approach uses a medicine wheel. Review both approaches and determine which approach might work best for your community.





Approach 1: Brainstorming – 4 Areas of Sustainability



MATERIALS

- Whiteboard, flip chart, or wall
- Magazines
- Tape and glue
- Cards, paper, or sticky notes
- Pens, markers, or pencils

In your community, what are the important/priority components related to each of the four areas of sustainability (environment, economy, society and culture)? How sustainable are these components right now? What activities related to each of these four areas and components are sustainable? For example, perhaps your community has a healthy lake where your community members fish. The community protects the water from pollution and contamination, and knows that many generations of people will be able to fish from this lake too. The lake would be a sustainable component, and the way your community protects and uses the lake for fishing would be a sustainable activity.



1. Create/print headings for each of the four areas of sustainability - environment, economy, society and culture
 - a. You may choose to work with children and youth to create pictures or collages (e.g. with old magazines) of the different areas of sustainability, or use the one of the following tools from this Guidebook:
 - b. Areas of Sustainability – Template on page 15;
 - c. Areas of Sustainability through the Medicine Wheel (see page 16).
2. Use these headings as visual aids for the meeting to explain the four areas of sustainability to the group (e.g. Working Group members, community members, or Youth).
3. Use a whiteboard, flip chart, or the wall to hang each of the four pictures, representing a different area of sustainability.
4. Brainstorm the important components (e.g. healthy water/lake/river) related to each of the four areas of sustainability with the group.
5. Write down each idea/component on a card and place each card under the area of sustainability that it relates to. You will probably find that some components fit into multiple areas of sustainability.
6. Brainstorm the sustainable activities currently taking place related to each component (e.g. fishing from the water/lake or replanting trees and other vegetation to improve habitat or coastal erosion).
7. Record these activities on a piece of paper and place them next to the component they relate to.
8. Brainstorm ways that climate change could make your community more (or less) sustainable.
 - a. It may be helpful to share the example of warmer summers increasing the growing season in northern communities.
9. Write each future sustainable activity on a card and place each card in the area of sustainability that it fits into.

During the Community Sustainability Brainstorming session, participants might think of components or activities that are unsustainable. Some of these unsustainable components or activities may increase the community's vulnerability to climate change impacts. If we consider the previous example (lake and fish health), an example of an unsustainable activity would be overharvesting fish from the lake. This would impact the fish stocks (number of fish in the lake), and may make them more susceptible or sensitive to the impacts of climate change, such as warming water, disease, etc., which reduces future generations' ability to fish in the lake. Another example of an unsustainable activity might include overharvesting plants/vegetation, which could impact the biodiversity of the area, increase susceptibility of remaining plants to climate impacts, or increase erosion. Make note of these ideas and any connections that participants are making. We will revisit these ideas and climate change vulnerabilities in the next section of this guidebook.

4 AREAS OF SUSTAINABILITY



Environment



Economy



Social



Cultural

Environment	Economy	Social	Cultural



Approach 2: Alternative Brainstorming Activity - 4 Areas of Sustainability through the Medicine Wheel



MATERIALS

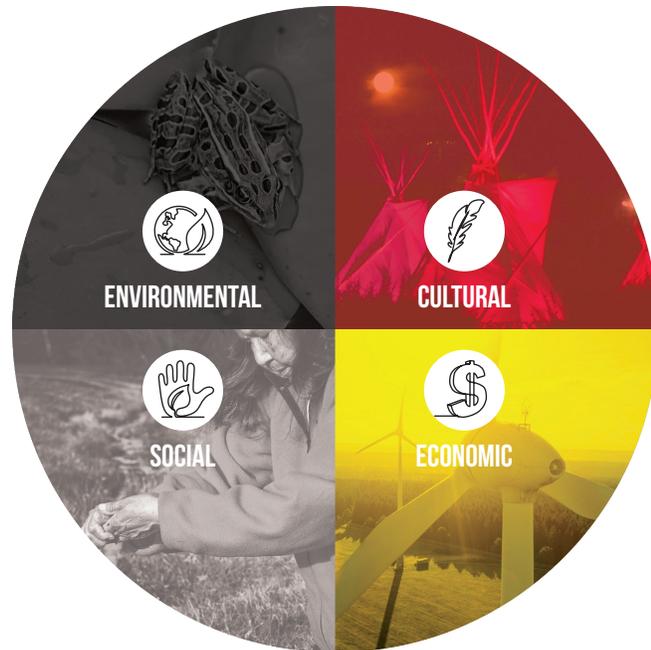
- Whiteboard, flip chart, or wall
- Pens, markers, or pencils
- Cards, paper or sticky notes
- Tape and glue

The medicine wheel can be used as a teaching tool for understanding community sustainability, but you can use whatever method works best for your community and culture/traditions. Using the medicine wheel as an example, it is clear that all four areas of sustainability need to be strong, stable, and of equal size for the circle to be complete. The four areas of sustainability need to be balanced in order to help maintain healthy and successful communities.

1. Draw a medicine wheel on a whiteboard, flip chart or large piece of paper.
2. Follow steps 4 – 8 in the previous activity to complete this activity.

At the end of the brainstorming exercise, you should have a list of sustainable components and activities related to each of the four areas of sustainability within your community. You may also have some ideas of unsustainable activities that are occurring in the community. These are all important ideas and will help you to identify and understand the community’s key areas of strength and weakness related to climate change impacts. Keep the list of any unsustainable activities that have been identified, these will help you during the Brainstorming – Areas of Vulnerability exercise on page 17.

Now that you have an idea of what your community’s vision of the future could look like and what makes your community sustainable, it is time to start thinking about the types of climate change impacts that may compromise your community’s vision and current state.



COMMUNITY VULNERABILITY

Climate change vulnerability refers to the conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards (UN-ISDR, 2017).

While vulnerability is a key term used in climate change adaptation planning, it is also used in other contexts such as medical and psychological terminology (Cardona, 2012). In this document we will specifically be using the term vulnerability to describe any predispositions (tendencies) your community may have that could increase its likelihood of being adversely (negatively) affected by climate change (IPCC, 2014). Vulnerability encompasses a variety of concepts and elements including a community's potential to be harmed and ability to respond and adapt to climate change (IPCC, 2014).

Identifying vulnerability will take some time and effort, so it is a good idea to sit down with the Working Group to start discussing vulnerability. Because this group is made up of people with different experiences and knowledge about the community, they should be able to identify different areas of the community that are vulnerable to climate change.

Recall the list of climate change observations that you developed in Guidebook 2. You can use this list of observations as a starting point for brainstorming areas where the community may be more vulnerable to the impacts of climate change.



ACTIVITY



WORKING GROUP MEETING

Brainstorming – Areas of Vulnerability



MATERIALS

- List of Climate Change Impacts (Guidebook 2)
- List of non-sustainable components and activities from the 4 Areas of Sustainability activity (Guidebook 3)
- Whiteboard, flip chart, or wall
- Blank cards (e.g. paper or sticky notes)
- Pens, markers, or pencils
- Tape and glue

1. Review the list of impacts (Guidebook 2) and the list of unsustainable components and activities (Guidebook 3) previously developed with the group.
2. Ask the group to add any impacts that may be missing from these lists.
3. Write each climate change impact and each unsustainable component or activity onto separate cards. You will be using these again in future activities (e.g. creating influence diagrams – see page 22).
4. Take each of the cards from step 2 and identify at least one associated vulnerability for each climate change impact. Write down each vulnerability on separate cards.
 - For example, perhaps one of the climate change impacts is hotter and drier summers that could lead to increased risks of forest fires near/in the community. This could be an area of vulnerability if the community does not have access to adequate fire suppression equipment, people to fight the fires, a community notification system, an evacuation plan, etc. Work through the list of impacts to clearly identify how they translate into vulnerabilities.
5. Read each vulnerability out loud and ask people to think about how they could affect the four areas of

sustainability (i.e. environment, economy, society and culture). This can help the Working Group develop priorities and begin making decisions to plan for action (Guidebook 4: Identifying Solutions). You may find that many of the vulnerabilities affect all four areas of sustainability.

- You could use the tools from the Community Sustainability activities (page 13 and 16) to help work through the list of vulnerabilities.
- If people aren't comfortable separating these four areas, you can also have a general discussion about how climate change vulnerabilities could affect the four areas of sustainability. Write down key points and ideas that people share.

You may end up with a long list of different ways the community is vulnerable to the impacts of climate change. Don't worry if the list seems long and overwhelming. Remind people that this exercise is one of the first steps in planning to address these areas of vulnerability so that they can be minimized or so the community can adapt to them and stay strong. Although you will want to use the full list in later guidebooks, it is a good idea to discuss the different degrees of vulnerability, or the issues on the list that will have the greatest effect on the community as a whole, with the Working Group. For example, the issues that affect multiple areas of sustainability may be issues that you want to address and plan to adapt to first. You can use the next activity to help you prioritize some of the vulnerabilities.



Vulnerability Ranking



MATERIALS

- Cards of Climate Change impacts from previous activity
- Cards of Vulnerabilities from previous activity
- Wall, Large paper, flip chart, or whiteboard
- Stickers, pens, pencils, or markers in 3 different colours

One way to rank the list of vulnerabilities is to determine the magnitude (size) of the impact, sensitivity of the system affected, and the community's ability to adapt to the climate change impact. It is a good idea to start with the vulnerabilities that affect multiple areas of sustainability within the community.

1. Hang each climate change impact card across a wall.
 - a. You may want to split the wall into four sections to represent the four areas of sustainability. Place each impact into the area of sustainability that it will affect.
2. Place each vulnerability card underneath the climate change impact that could cause that vulnerability.
3. Review the definitions of magnitude, sensitivity, and ability to adapt.
4. Give each person stickers or markers in three different colours.
5. Assign one colour to represent magnitude/exposure to a climate change impact, one colour to represent sensitivity to a climate change impact, and another to represent ability to adapt to an impact.
6. Explain to the group that each dot or sticker represents the following:

Helpful Definitions

Ability to Adapt: how easy or difficult will it be for the community to adjust to the resulting changes (without implementing any forms of adaptation)

Magnitude: the importance or size of the effect of the climate change impact on the system or community (e.g. an out of control forest fire in the community could have a large effect on the community's infrastructure)

Sensitivity: the characteristics of the system or community (e.g. a small drinking water source would be highly sensitive to drying up if climate change caused severe drought)

	One sticker or dot	Two stickers or dots	Three stickers or dots
Magnitude	Small	Medium	Large
Sensitivity	Low	Medium	High
Ability to Adapt	Easy	Difficult	Nearly impossible

7. Ask each participant to think about exposure and then stick one to three stickers or dots, in the colour assigned to magnitude, onto each climate change impact according to how much they think the climate impact may affect the community. One sticker = small impact and three stickers = large impact.
8. Ask each participant to think about sensitivity and then stick one to three stickers or dots, in the colour assigned to sensitivity, onto each climate change impact according to how sensitive they think the community or system is to that particular impact. One sticker = low sensitivity and three stickers = high sensitivity.
9. Ask each participant to think about your community's ability to adapt and then stick one to three stickers or dots, in the colour assigned to ability to adjust, onto each climate change impact according to how well they think your community would currently be able to adapt to that particular impact. One sticker = easy to adapt and three stickers = nearly impossible to adapt.
10. Step back and have everyone look at all the climate change impact cards.
11. Take a picture of the results, or write down your observations.

You will now be able to see certain cards with many stickers on them, and some with very few. Cards with many stickers are a good indication of areas that your community is particularly vulnerable. Plan on addressing these vulnerabilities first when working through the next activities (e.g. creating influence diagrams) and Guidebooks (e.g. Guidebook 4).

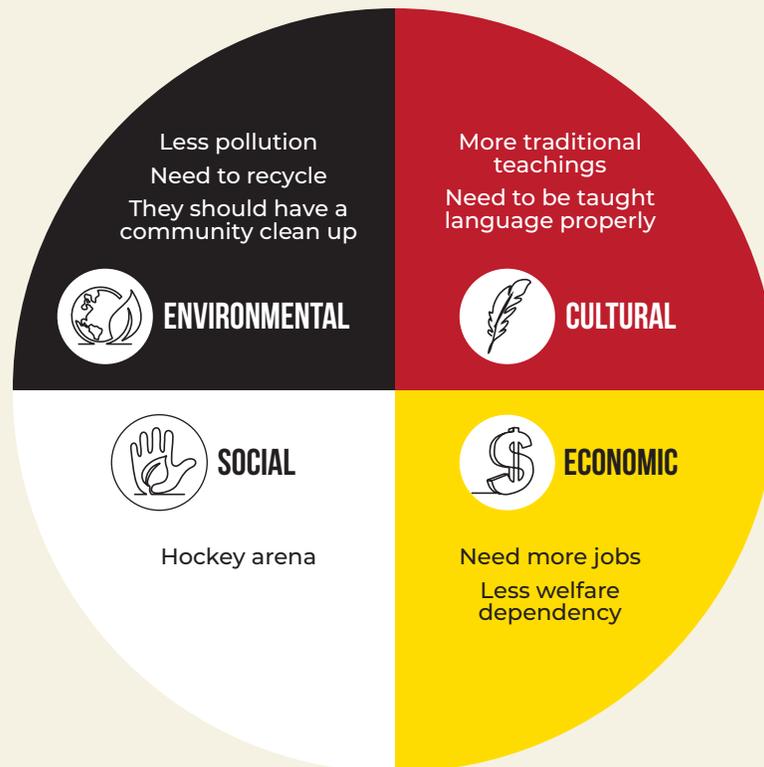


GENERAL MEETING | Set up a meeting with other groups. When you are talking to Elders or groups of hunters, trappers, women, fishers, and others, you can ask them questions or have a discussion about vulnerability to climate change. For example, when you are talking about the effects of climate change, you can also discuss how these effects will impact the community's ability to be successful - how they could affect the economy, people's traditional activities, physical, emotional, and spiritual health, families, and individuals. You can use the information that you gather from these interviews in your discussions with the Working Group and in your summary of the four areas of sustainability.

Vulnerability Exercise: Sioux Valley

Imagining what your community could be like in thirty years as the impacts from climate change continue, is a helpful exercise for developing a community vision for the future. If nothing is done to counteract the changes that are happening in the community what will the effects be? Are these outcomes desirable, or are changes needed?

Using the community visioning exercise from this guidebook the youth in Sioux Valley developed ideas for the direction of the community's future. The exercise helped the youth think about climate change impacts and possible ways to reduce or avoid these impacts. In addition, the exercise provided an opportunity to allow the youth to identify connections between the areas of sustainability (environment, economy, society, culture) and possible solutions, in order to enable the community to become more sustainable. Some of the ideas that were identified include: more jobs for future growth, ensuring the land is preserved for future generations, the need to recycle, and more traditional teachings.



Climate Change Vulnerability - Deschambault Lake Community

Warmer winters and extreme weather (e.g. forest fires and high winds) are two of the impacts of climate change being experienced in Deschambault Lake. During the Working Group meeting, people shared ideas about how their community is vulnerable to the extreme weather associated with climate change. The group identified which areas of sustainability these vulnerabilities were associated with. The following are examples that were generated by the Working Group:

- **Economic and social vulnerabilities:** Buildings are damaged. Repairs cost money and require labour and when people are working on repairing these damages, it takes them away from their regular jobs and other work in the community. We need to build better homes that can withstand strong winds.
- **Environmental, economic, social, and cultural vulnerabilities:** The community is not prepared for firefighting beyond the fire season. Equipment and capacity is needed, including a water bomber airplane, a community fire alarm, and people available to fight fires. We need to plan to have these resources in our community, or easily available.
- **Social and culture:** The community needs to have an evacuation plan and practice using it. We need a safe house for Elders, children, and people who are sick. We need to develop this plan.
- **Environmental, economic, social, cultural vulnerabilities:** The extreme high and low water levels in the rivers are impacting fish spawning and affecting our fishing. People rely on fish for food and money. The impacts on fish are impacting our culture because our children learn to love the land and our traditions when they are out with their families participating in activities like fishing. We need to protect the spawning grounds.
- **Economic and social vulnerabilities:** The high-water levels caused by increased spring run-off causes flooding and has resulted in some docks floating away. Community members can't get out onto the lake, and the docks need to be retrieved or rebuilt. We need to secure the docks, move them to higher ground, or develop a business that is focused on building docks.

Identifying Connections

It is likely that the vulnerabilities identified by the Working Group have connections to more than one area of sustainability.

Complete this exercise on your own before or after a Working Group meeting and share the results with them, OR if there is time, you can do this exercise with the Working Group.

1. Draw a circle with four quadrants (similar to the medicine wheel on page 16) to summarize the key areas of vulnerability to climate change within your community. Each quadrant represents one of the four areas of sustainability (environmental, economic, social, and cultural).
2. Use arrows or lines to show the connections between issues. Use different coloured pens if this helps to organize the connections.
 - For example, connections can be drawn to illustrate the influence/effect of issues that are primarily environmental (i.e. in the environmental quadrant of the circle) on other areas of the circle (economic, social, and cultural).
 - If you do this exercise with the Working Group, draw a large circle to put up on the wall for everyone to see. You can also use different coloured wool or string to show connections.

CREATING SCENARIOS

Developing different scenarios, or pictures of alternative futures, is one way of assessing what the impacts of climate change could do in your community. You can create a scenario that examines the future of the community if the predicted impacts of climate change for your area occur without any adaptations or interventions to minimize the impacts. You can also create scenarios that focus on future land use within the community or future economic development opportunities. You can create many different scenarios of the future, and use them to help make decisions that will help the community achieve its climate change adaptation planning goals.

One of the most important and challenging things you and your community will do is thinking about how to bring different scenarios together (e.g. climate scenarios, health scenarios, land use scenarios, etc.) and integrate the information from each of these scenarios to create a possible picture of the future. For example, if the community doesn't think about its plans for land use and climate change, and is experiencing population growth at the same time, the community could end up planning to build houses in an area that will cause problems with flooding or road access. It is important to integrate these areas of community planning and think holistically.

One reason we have been talking about community sustainability and vulnerability as they relate to the four different areas - environment, economy, society, and culture - is to help us think holistically and to consider how everything is interconnected. This way, when you start to build future scenarios you will already have considered different aspects of your community relationships in relation to climate change.

Influence Diagrams



WORKING GROUP MEETING | To develop different scenarios, we are going to revisit the ideas from the last two activities in this guidebook. The Working Group should meet again for two or three hours to begin the discussion on developing scenarios. You will probably want to share the ideas that come out of this meeting with other groups, including leadership.

Influence diagrams are like a flow chart or mind map that shows the potential changes from predicted climate change impacts in the community (see page 24 for an example). An oval shape represents each step along the way and arrows show the direction of change. At the end of each chain of impacts, you will end up with a list of final effects on the community, written in a rectangle to show its significance. These final effects will probably fit into one of the four main areas of sustainability, but will have implications for others areas as well.

This activity can be completed by:



Creating Influence Diagrams



MATERIALS

- Cards of Climate Change impacts from previous activity
- Cards of Vulnerabilities from previous activity
- Cards of Sustainable activities and components from previous activity
- Wall, Large paper, flip chart or whiteboard
- Index cards, paper or sticky notes
- Scissors
- Magnets, tape or sticky tack
- Stickers, pens, pencils or markers

Influence diagrams represent the flow of changes or a visual map of how different climate change impacts will affect the community. There is an example of an influence diagram included at the end of the exercise for reference.

This activity will revisit some of the previous discussions and will be a good way to get people thinking about the issues again. You can record anything that might have been missed previously. For this activity, you can work as one big group or in smaller groups with each group focused on a different area of vulnerability.

Remember: many of the effects that you identify in this activity may be related to more than one component of sustainability. Be sure to identify these interconnections now, as it will help to ensure that the solutions you identify (in the following guidebooks) are holistic and have a significant impact on all areas of community sustainability (instead of only one or two areas).

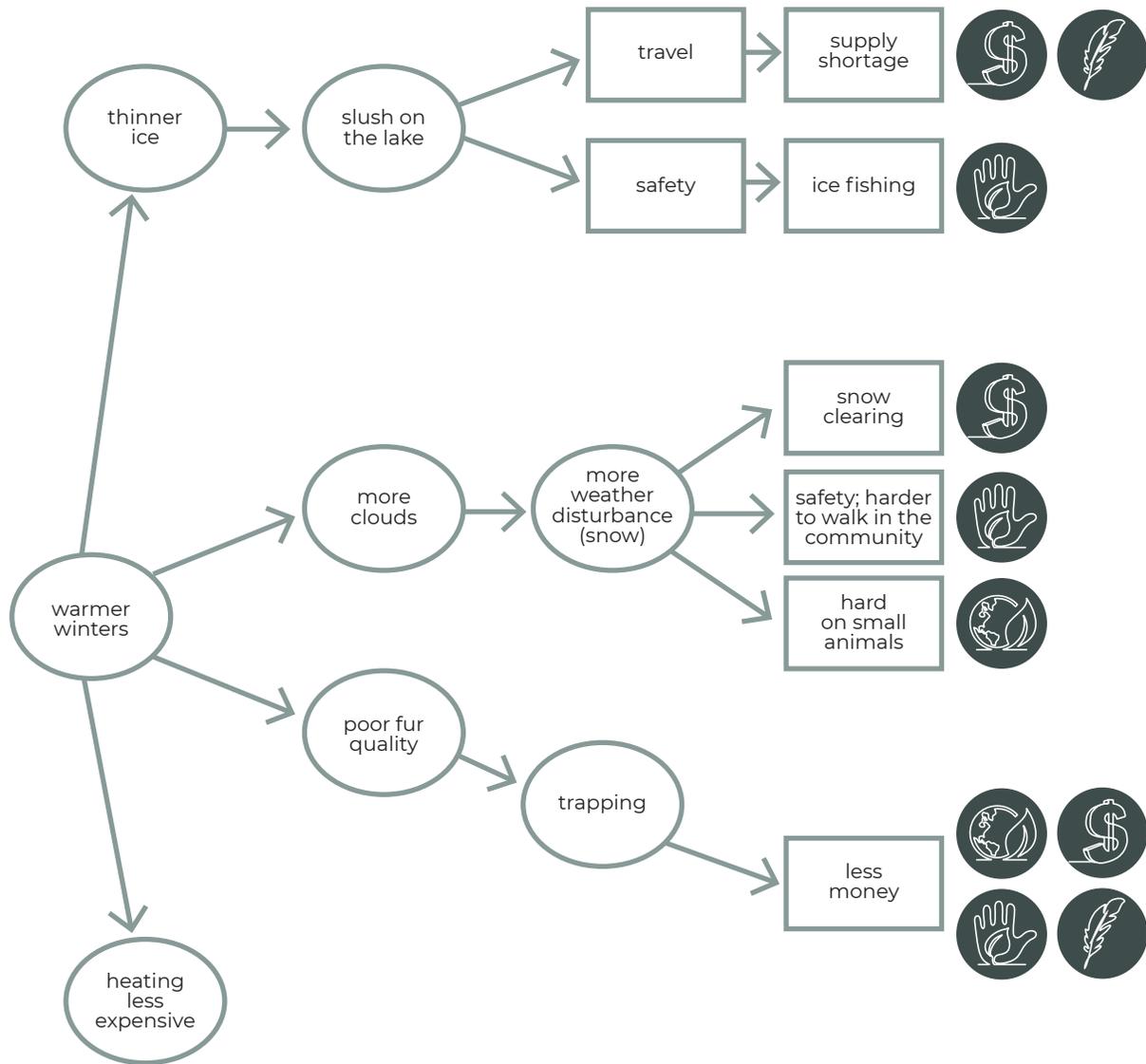
1. Refer to the key areas of vulnerability and sustainability that the Working Group created during the Community Sustainability and Vulnerability brainstorming sessions, to help you identify topics for the different diagrams you will create. For example, if loss of hunting opportunities is an area where your economy will be impacted, you could choose to focus on “potential impacts on economic development” for one of the diagrams.
2. Start by identifying the climate change impacts cards that will affect economic development. You may need to create additional cards during this exercise. Place these cards on the far left side of the wall or draw an oval on the far left side of a white board and write the impact inside the oval. This is the beginning of your diagram.
 - Create different shapes similar to those illustrated on the next page or photocopy and cut out the shapes on page 25 to use for your influence diagrams. You can write on these directly or laminate them to use many times (but remember to record the information from each of the diagrams before you wipe them off to reuse!).
3. What effects will each of these impacts have on economic development? Write these effects onto cards that have been cut into an oval shape. Place these after the impact they are caused by. You may find that some of your sustainability and/or vulnerability cards can be placed directly into the chain(s) of effect.
 - You could have many different chains of effect, each one ending up with one or two final impacts to the community.
4. Write the final impact(s) onto rectangle cards and place these at the end of each chain of effect.
5. Repeat this exercise for each of the four areas of sustainability.
6. At this point, you can look at final impacts and identify if and how they will be felt in the four areas of sustainability.

You can create influence diagrams for many different systems that exist in your community. Here are some ideas:

- Households
- Sacred sites (ceremonial)
- Hunting and trapping grounds
- Economic development
- Food security
- Health and wellbeing
- Transportation
- Land use
- Cultural land based education
- Water

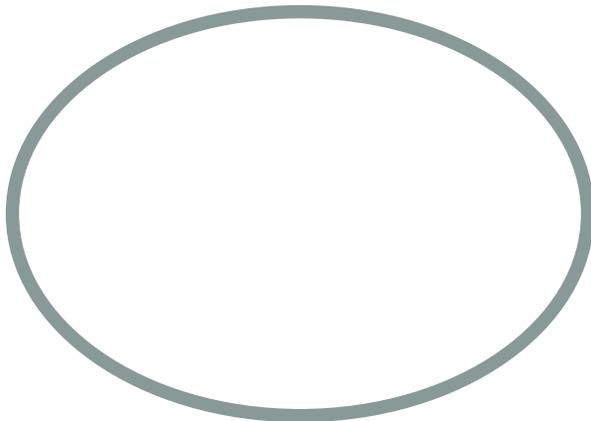
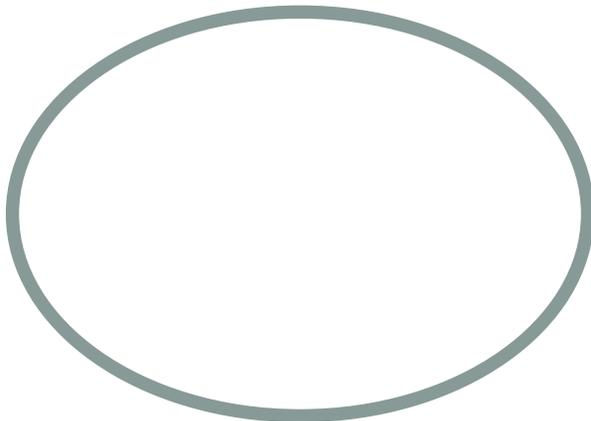
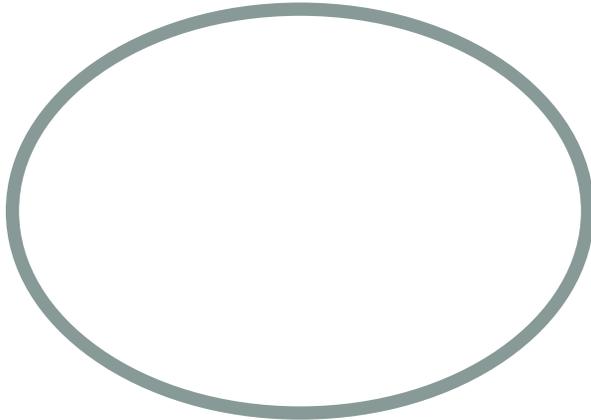
These diagrams will be important when you start thinking about adaptation. You can use the diagrams to identify where your community can take action to change the chain of effects and improve the final impacts (Guidebook 5: Taking Adaptive Action).

INFLUENCE DIAGRAM



*Modified approach from the Sheltair Group (2003).

INFLUENCE DIAGRAM - SHAPES



Now that you have developed diagrams to identify a list of potential/predicted climate change impacts in the community, it is time to create different possible future scenarios. This exercise will help you to understand what the community might look like if the anticipated impacts do affect the community and what the future might look like if the community implements adaptation measures. Note: you may have already had similar discussions when completing the previous influence diagram activity. If so, you may choose not to complete this exercise. Review the Scenario Building activity below to determine whether you have already accomplished the objectives outlined in this activity through your previous discussions.



ACTIVITY



WORKING GROUP MEETING

Scenario Building



MATERIALS

- Chart paper
- Masking tape or sticky tack (for the wall)
- Index cards
- Markers

Now you will use this information to create different scenarios for the future. What will the future look like if these climate change impacts have the anticipated or expected effects on the community? What will the future look like if the community were to adapt and address these effects?

Note: it may be helpful to consider a cost-benefit analysis when creating your scenarios below. To consider a cost-benefit approach, think about what the benefits of implementing an adaptation measure or action are minus the cost of implementing that action. Remember, costs can be both financial (e.g. monetary cost of building a seawall) or non-monetary/intangible (e.g. impact on a marine species as a result of building a seawall). Benefits can also be both financial (e.g. financial savings on infrastructure and housing repair if a seawall is built) and non-monetary/intangible (e.g. improved access to an area for community members to fish or harvest as a result of building a seawall).

A cost-benefit analysis can help you to determine whether the benefits outweigh the costs associated with implementing that action and may be a useful tool to consider as you create each of your scenarios.

Scenario A: Climate Change with No Adaptation

1. On a piece of chart paper, write out the anticipated effects that would result from the impacts of climate change on different key areas of community vulnerability (not the effects of climate change directly, like drier summers, but the effects that this impact, drier summers, would have on the community and existing vulnerabilities. For this example, the effects of drier summers could include the potential loss of crops, lost hunting opportunities due to dried up wetlands, etc.).
2. Ask the group to close their eyes and imagine the community thirty years from now.
 - Read out the anticipated climate change effects to the community.
 - Ask people to imagine what life would look like in this scenario of the future.
3. After a few minutes, ask people to open their eyes and write descriptions of the future they envisioned while their eyes were closed.
4. Give people index cards to write on, if these are available.
5. Write "Scenario A" on an index card, put it up on the wall, and ask people to read out their impressions. Record these under Scenario A.

Scenario B: Climate Change and Community Development with No Adaptation

1. With the Working Group, discuss other assumptions about the community's future, as things other than climate will impact the future as well.
 - For example: Will the population be younger or older? Will there be more or less people? Will the population be healthy or sick? Will land use be different from what it is now?
 - Write down these assumptions on another piece of chart paper.

2. Do this exercise again but try to create a Scenario B that has all of the climate change vulnerability assumptions plus these additional community development assumptions. This may be difficult, but it is a helpful exercise because it forces us to think holistically.
 - Read out the community development assumptions and anticipated climate change effects on the community.
 - Ask people to imagine what life would look like in this scenario of the future.
3. After a few minutes, ask people to open their eyes and write descriptions of the future they envisioned while their eyes were closed.
4. Finish the exercise by asking people to write up their descriptions of this scenario (B) on index cards and putting these up on the wall.

Scenario C: Successful Adaptation

1. Do the exercise one more time, but this time include the assumption that the community will be able to decrease its vulnerability and adapt to the effects of climate change.
2. Include some of the potential positive implications of climate change for the community (e.g. warmer summers could create more opportunities for gardening in northern climates).
3. Again, ask people to think about the community development assumptions but also read out the key climate change assumptions. Adjust these to talk about successful adaptation (e.g. increased respiratory disease due to mold and flooding was avoided because we planned to build our houses away from the flood prone areas of our land).
4. Finish the exercise by asking people to write up their descriptions of this scenario (C) on index cards and putting these up on the wall.
5. To end this meeting with the Working Group, talk about the different scenarios that could become the community's future.
 - Go over the three different sets of index cards.
 - Remind the Working Group that being aware of the potential good and bad aspects of these scenarios will help the community to identify adaptation solutions and plan to achieve a future that looks like Scenario C.
 - Let people know that the next meeting will involve looking at identifying solutions.

KEEP THE COMMUNITY UPDATED

By the end of the exercises in Guidebook 3, there should be a lot of interesting information that can be shared with other community members. You can share your findings with the community at an in-person meeting or on your social media page. We suggest doing both! See below for more ideas.

Social Media

Remember, when using social media to update community members on the climate change adaptation planning process, consider the five W's (**Who** is doing the work/project/activity? **What** are they doing? **Where** are they doing it? **When** is it being done? **Why** are they doing it?). Don't forget to take lots of photos during your brainstorm sessions, these can be included with your social media posts.

Community Meeting



GENERAL MEETING | Set up a community meeting to share information on community sustainability, vulnerability to climate change (including the influence diagrams), and scenario planning.

- Give a presentation to a group of people who already meet on a regular basis (e.g. at the health center, for a community dinner, for bingo) and/or work with volunteers to have a drop-in session at the community center, Band Office, school gym, or other gathering place.
- Create a few posters that summarize the information developed to date and put these up in the Band Office, at the recreation center or arena, or write a story on progress for the community social media page, newsletter or radio.
- Consider implementing both approaches - for example, create a poster, social media update, or newsletter that gives people some basic information and invite them to a community event where you can have discussions with people and ask them about their ideas.

How you engage the broader community is up to you. The important thing is to share updated information with community members - share what you have learned so far and ask them to add their comments and ideas to help get more people involved in planning activities. Below are some ideas for soliciting community feedback.

Tip

If your budget allows, plan for draw prize(s) to increase participation as this has proven to be an effective measure to increase participation at community events and/or for survey responses.

If you are doing a presentation or hosting a drop-in activity, you can:

- Have a survey for people to fill out - you could provide a paper survey with a collection box, or if you have access to a laptop, consider using an electronic survey platform (like SurveyMonkey), where people can stop by and fill in a survey. The responses will be stored electronically for you to refer back to;
- Have chart paper up on the wall (an “idea wall”) with markers for people to add their ideas.
- Have students walk around the room with a set of questions (that you prepare ahead of time) to interview people who are interested; and
- Have sticky notes available for people to write down their comments and ideas, and place these next to posters, chart paper notes from the Working Group, and/or influence diagrams.

If you are creating posters or a write-up for the newsletter or radio, be sure to:

- Provide a summary of the input that you have gathered from previous events/activities to date (this could include a preliminary ranking of specific solutions that have been identified so far),
- Provide contact details so that interested community members can get in touch to learn more and share their ideas; and
- Include relevant details for any upcoming community events so that interested community members can participate.

An example of a newsletter we created to share information with the community on the activities and progress developing these guidebooks is provided at the end of Guidebook 5. You could create this type of communication tool to talk to your community about the planning process.

WHAT'S NEXT?

In guidebook 3, you continued to work with community members to develop a community vision, consider the ways in which your community is already sustainable and the ways in which the community may be susceptible to climate change impacts. You created future climate change scenarios to explore what the community might look like if climate adaptations or interventions are implemented versus not implemented.

In guidebook 4 you will continue building on the scenarios that you created in guidebook 3 to identify and prioritize different solutions for adapting to climate change and determining the feasibility of those different solutions for your community.



GUIDEBOOK 3 CHECKLIST

The project coordinator is the one responsible for coordinating the following checklist of tasks. It is their responsibility to ensure meetings with the proper groups takes place. The working group should assist the coordinator as much as possible as they are the group driving the project.

The checklist below may be useful in ensuring the tasks outlined in this guidebook are accomplished. Remember, these Guidebooks provide suggestions on how to accomplish tasks but your community may have other methods that work best.

Task	Recommended to complete task	Progress
Community Visioning	Working group meeting	
Community Visioning	Youth and/or community members	
Brainstorm 4 areas of sustainability	Working group, Elders, youth, and community	
Review climate impacts from Guidebook 1	Working group	
Identify vulnerabilities and how they affect the four areas of sustainability	Working group	
Create matrix of vulnerabilities	Working group	
Identify connections between vulnerabilities and sustainability's	Coordinator	
Create Influence Diagrams	Working group	
Create Scenarios	Working group	
Set up Community meeting or Elders dinner/bingo to share results and gather more information	Coordinator	

REFERENCES

Cardona, O. M. (2012). *Determinants of risk: exposure and vulnerability*. In: *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*. Cambridge, UK and New York, NY, USA: Cambridge University Press.

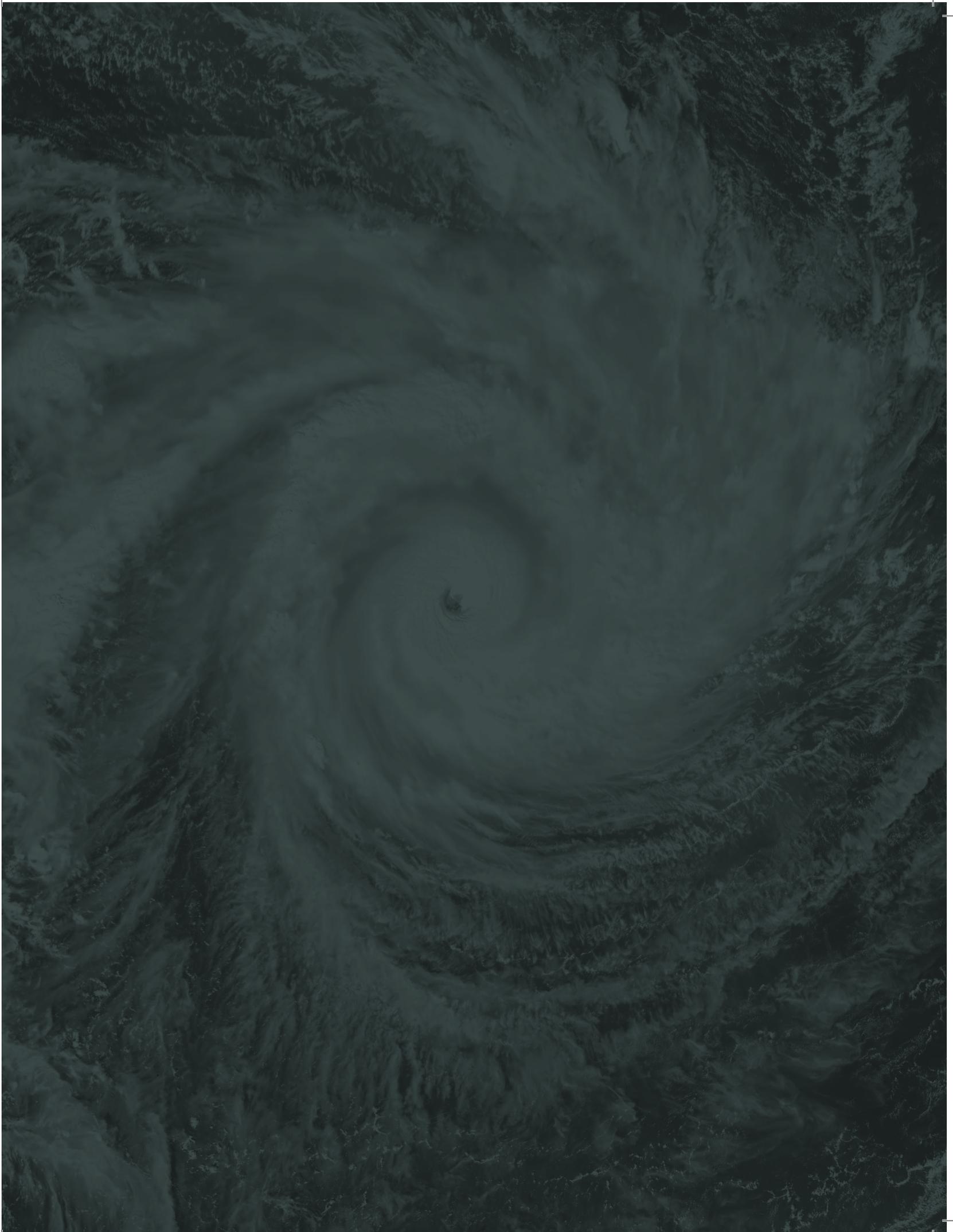
Centre for Indigenous Environmental Resources (CIER) and the University of British Columbia (UBC). 2011. *Climate Change and Adaptive Capacity in Aboriginal Communities South of 60 Assessment Report*. Retrieved from <http://www.yourcier.org/climate-change-and-adaptive-capacity-in-aboriginal-communities-south-of-60-assessment-report-2011.html>

IPCC. (2014). *Annex II: Glossary [Mach, K.J., S. PLANTON and C. von Stechow (eds.)]* In: *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Geneva, Switzerland: IPCC.

Sheltair Group. (2003). *Climate Change Impacts and Adaptation Strategies For Urban Systems in Greater Vancouver*. (Vol. 1). Vancouver: Cities Plus.

UNDP. (2010). *Designing Climate Change Adaptation Initiatives*. UNDP Bureau for Development Policy.

UN-ISDR. (2017). *Terminology*. <<https://www.unisdr.org/we/inform/terminology>>.





CENTRE FOR INDIGENOUS ENVIRONMENTAL RESOURCES

Mailing Address

P.O. Box 26092 RPO Maryland
Winnipeg, MB R3G 3R3

T: 204.956.0660
F: 1.866.288.3919

earth@yourcier.org
yourcier.org

