A Toolkit for Equitable Emergency Management

Integrating Intersectional Gender Analysis into Hazard Risk and Vulnerability Assessments for Local Authorities

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We gratefully acknowledge the labour and contributions of all involved in the creation of this document.

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Acknowledgements

This Toolkit was created to address the critical need for enhancing community resilience and ensuring that emergency management practices comprehensively meet the diverse needs of all community members. This Toolkit offers practical strategies to help communities better prepare for, respond to, and recover from hazards, with a focus on reducing vulnerabilities and building resilience for all.

We extend our heartfelt thanks to all of those who provided their valuable insights, knowledge, time, and expertise to this project including the Sector Advisory Committee, subject matter experts in emergency management, and the survey participants. We also acknowledge the Canadian Women's Foundation and The Canadian Centre for Safer Communities for sponsoring this important project and championing the inclusion of intersectional gender analysis in emergency management.

Thank you for your support and dedication to creating safer, more resilient communities.

With gratitude,

Alex and Carmin

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Note

Please refer to the Companion Guide for a list of references, resources, and project contributors.

Acronyms

Acronym/Abbreviation	Definition
CCSC	Canadian Centre for Safer Communities
The Foundation	Canadian Women's Foundation
EDI	Equity, Diversity, and Inclusion
EM	Emergency Management
EAL	English as an Additional Language
GBA Plus	Gender-Based Analysis Plus
HIRA	Hazard Identification and Risk Assessment
HRVA	Hazard, Risk, and Vulnerability Assessment
IGA	Intersectional Gender Analysis
LGBTQI2S+	Lesbian, Gay, Bisexual, Transgender, Queer or Questioning, Intersex, Two-Spirit, plus
M&E	Monitoring and Evaluation
NGO	Non-Governmental Organization
SAC	Sector Advisory Committee
WAGE	Women and Gender Equality Canada

A *Glossary of Definitions* is available in Appendix A.

Introduction

Disasters repeatedly reveal disparities in impacts and highlight inequalities in communities. The tragedies that unfold are not caused by the hazard events themselves, but by social structures, roles, and community vulnerabilities that increase impacts.

In the field of emergency management, understanding and addressing the unique needs and vulnerabilities of diverse communities is essential for creating effective and inclusive disaster management strategies.

Applying GBA Plus, or intersectional gender analysis, to our Hazard, Risk, and Vulnerability Assessments[1] (HRVAs) ensures that emergency management strategies are informed by a comprehensive understanding of how various social identities and factors influence individuals' experiences and vulnerabilities during disasters. Applying this lens helps us to develop targeted interventions that address the specific needs of those most likely to be disproportionately affected by hazards and emergencies.

As emergency management professionals, and community leaders supporting emergency management, we acknowledge that not everyone has had the opportunity to deeply explore intersectional gender analysis or GBA Plus. This Toolkit provides guidance to strengthen our practice and support us in creating more inclusive and effective emergency management strategies.

Who is this Toolkit for?

This Toolkit is designed for local authorities[2] and other community employees responsible for emergency management.

What to Expect from this Toolkit?

- Access to tools and resources to help us develop a deeper understanding of how hazards and disasters are experienced differently across populations.
- Practical, step-by-step, guidance on integrating intersectional gender analysis into HRVAs.
- Advice on engaging with communities that experience multiple and intersecting forms of discrimination and whose voices are typically underrepresented in HRVA processes.

[1] Communities may use different names for similar risk assessment processes, such as Hazard Identification and Risk Assessment (HIRA) or Disaster Risk Assessment. When referring to HRVA in this Toolkit and the Companion Guide, it includes these and other similar processes.

[2] For the purpose of this Toolkit, when ‘‘local authority/authorities’ is used, it also includes municipalities, respective First Nations, Metis, and Inuit communities. The term ‘communities’ may also be used to capture the intent of local authority/municipality.

By using this Toolkit, those responsible for emergency management can create more inclusive, equitable, and effective strategies that enhance community resilience and ensure no one is left behind in times of crisis.

Companion Guide

The Companion Guide and appendices have been created to complement this Toolkit. They provide a roadmap for effectively using this document, offering a comprehensive overview of HRVAs and intersectional gender analysis (IGA). The Companion Guide includes detailed information on how to apply these concepts, along with accompanying resources and templates to support your journey.

Toolkit - Applying Intersectional Gender Analysis to Hazard, Risk, and Vulnerability Assessments

Overview of HRVA and Intersectional Gender Analysis

A **Hazard, Risk, and Vulnerability Assessment (HRVA)** provides a comprehensive understanding of the hazards faced by a community, assesses the associated risks, and identifies vulnerabilities that may exacerbate the impact of these hazards. Read more on HRVAs in the Companion Guide on page 11.

Applying an **intersectional gender analysis** or **GBA Plus** to the HRVA process supports practitioners to:

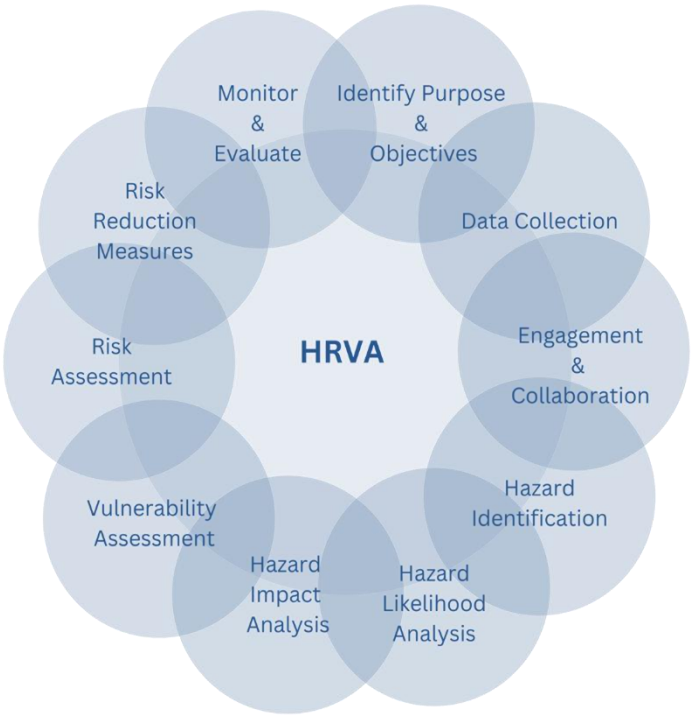
- Gain a more comprehensive understanding of how hazards and emergencies impact different groups within our communities, uncovering hidden vulnerabilities and disparities that may otherwise go unnoticed.
- Ensure that our emergency management strategies are inclusive, equitable, and responsive to the realities of everyone we serve.

Read more on Intersectional Gender Analysis on page 13 of the Companion Guide.

Integrating Intersectional Gender Analysis into the HRVA Process

These guidelines will help you navigate the complexities of the assessment process and develop more resilient and adaptive emergency management strategies. While every HRVA may vary in its approach, the main components are listed below. This is not a linear process; some HRVAs may include more or fewer components. Use these guidelines to effectively incorporate intersectional gender analysis into your HRVA.

Figure 3 – Main Components of an HRVA



Identifying Purpose and Objectives

Clarifying the purpose and objectives of an HRVA ensures that the assessment effectively addresses the diverse needs and experiences of all community members.

Intersectional Gender Analysis in Action

Purpose and Objectives: Explicitly define the purpose and objectives of the HRVA to ensure alignment with the principles of inclusivity and equity inherent in the intersectional gender analysis framework.

- The purpose and objectives should reflect a commitment to developing a nuanced understanding of the ways that risks / experiences of hazards differ across populations (e.g. women, gender-diverse people, racialized groups, LGBTQI2S+, people with disabilities, migrants and those with precarious immigration status, etc.).
- This ensures that the HRVA provides a more accurate and nuanced understanding of risk, enabling the development of targeted interventions that address the diverse needs of the community.

Engagement and Collaboration: Communicate the purpose and objectives of the HRVA to partners and key community stakeholders to encourage their engagement and participation in the HRVA process.

- An inclusive approach ensures that the HRVA process reflects the lived experiences and perspectives of all community members, ultimately leading to more effective emergency management strategies that promote resilience and equity.

Key Questions to Consider

- What is the purpose and objectives of the HRVA, and how do they align with equity and inclusion?
- How do we ensure the HRVA addresses the diverse needs and experiences of all community members?

Getting Started

- Begin with a simple, clear statement of purpose. Focus on the objectives that are most relevant to your community.
- Utilize existing templates and examples from other communities or organizations, which can provide a useful starting point. However, be sure to make the purpose and objectives relevant for your community.
- Reach out to local emergency management agencies or online EM communities for guidance and support.
- **Refer to Appendix C for the Initial Preparation: Goals and Objectives Template.**

Data Collection

Data collection is foundational for informed decision-making, effective risk assessment, and targeted interventions. It is closely linked to engagement and collaboration and is integrated throughout the HRVA process.

Intersectional Analysis in Action

Commit to Systematic and Disaggregated Data Gathering: By systematically gathering relevant data on hazards, vulnerabilities, and community demographics, emergency management practitioners and communities can identify patterns, trends, and areas of concern. By investing in robust data collection, we:

- Enable practitioners to develop comprehensive HRVAs and tailor emergency strategies to the specific needs of the community.
- Facilitate the monitoring and evaluation of emergency management efforts, allowing practitioners to assess the effectiveness of interventions and adjust as needed.
- Ensure that emergency management strategies are evidence-based, responsive, and capable of mitigating risks and enhancing community resilience.

All data collected should be disaggregated by various demographic factors, including gender, sexual orientation, age, race, ethnicity, socioeconomic status, disability status, geographic location, immigration status, and others, as relevant to the specific context and purpose of an HRVA. Disaggregated data helps us identify vulnerable groups and understand how intersecting identities and factors influence hazard impacts.

Example

The COVID-19 pandemic disproportionately impacted older adults and those with pre-existing health conditions. Further, gender-based violence dramatically increased during the pandemic, overwhelming women's shelters and safe housing programs. Using intersectional gender analysis in data collection and planning efforts might have identified these vulnerabilities and differential impacts in advance, allowing for more effective strategies to prepare for what is to come, offer adequate protection, and ultimately prevent harm and catastrophic loss (BMJ, 2023).

Assumptions and Biases

In data collection, it is essential to ensure the accuracy, reliability, and relevance of the information gathered. Data collection processes may be influenced by implicit biases, preconceived notions, or stereotypes, which can lead to inaccuracies or incomplete representations of reality.

- Actively question assumptions and challenge biases throughout the data collection process to help mitigate the risk of overlooking critical information or misinterpreting findings.
- Critically evaluate data sources, methodologies, and interpretation frameworks to identify and address any underlying assumptions that may skew the data or perpetuate inequities.
- Engage diverse partners, stakeholders, and community members in the data collection process to gain valuable insights, thereby validating and enriching the data.

Data Collection Challenges

Existing Mechanisms:

Collecting data on the various intersections of identity poses significant challenges for communities that may not have previously gathered such information. Historically, emergency management has primarily focused on collecting data related to the immediate impacts of hazards and emergencies, such as property damage or injury rates, without necessarily considering the diverse identities and experiences of affected populations.

One challenge lies in the lack of existing data collection mechanisms that capture the nuanced and sensitive intersections of identity.

Ways Forward

Consider exploring a diverse range of data sources and collaborating with other departments or community organizations that may possess relevant data.

Conduct a thorough review of existing data collection practices to identify gaps in capturing information on diverse identities and experiences.

Consider the following data sources:

- Other Government Agencies/Departments: Federal, provincial/territorial, and neighbouring local government agencies often collect and maintain data on hazards, demographics, and infrastructure. The information you need could be in another government agency or held in another department within your agency (Family and Community Support Services, Public Works, Planning and Development departments etc.).
- Indigenous Communities: Neighbouring Indigenous communities may collect and maintain data on hazards, their impacts, and historical events.
- Non-profit Organizations: Many non-profits, community-based organizations, and research institutions collect and analyze data relevant to community demographics and diverse social identities and may even look at information on disaster impacts and risk reduction needs.
- Community Surveys: If no data is available, consider collecting your own data by conducting surveys within the community that can provide valuable insights into social vulnerabilities and local knowledge.

Logistical and Ethical Considerations: There may be logistical and ethical considerations involved in collecting sensitive data related to identity, particularly in communities where trust in government institutions is low or where individuals may fear discrimination or stigmatization.	Build trust, ensure confidentiality and privacy, and obtain informed consent as essential elements of responsible data collection practices.
Resistance or Skepticism: There may be logistical and ethical considerations involved in collecting sensitive data related to identity, particularly in communities where trust in government institutions is low or where individuals may fear discrimination or stigmatization.	Regularly evaluate and update data collection mechanisms to address new challenges and ensure they effectively capture diverse identities. Invest in capacity-building initiatives, such as training programs or workshops on data collection methodologies and ethical considerations, to empower emergency management staff and community partners to collect intersectional data more effectively. Build internal expertise and foster collaboration to enhance the sustainability and quality of data collection efforts over time.

Opportunities

For communities with limited capacity or resources, several practical strategies can help in collecting intersectional data to develop a more comprehensive HRVA.

Leverage Existing Data Sources: Communities can start by leveraging existing data sources, such as census data, demographic surveys, or community profiles, to gather information on various identity intersections within their jurisdiction.

- Use these data sources to identify demographic trends, socioeconomic indicators, and community characteristics that can inform the HRVA process.
- Pay particular attention to identifying gaps in the data, recognizing which voices and perspectives are missing or underrepresented in existing data collection efforts.
- Critically assess assumptions about who has participated in the data collection process and who has been excluded, ensuring a more comprehensive and inclusive understanding of community dynamics.

- Where gaps are identified, seek additional sources or methods to fill these gaps, such as targeted surveys or focus groups with underrepresented populations.

Partner with Relevant Departments: Collaborate with various departments to utilize existing data collection systems and tools, helping to avoid duplication of efforts.

Partner with Local Organizations: Collaborating with local community organizations, advocacy groups, academic institutions, etc., can provide access to expertise, resources,

and networks for data collection including existing training programs, workshops, and tools. Be sure to align with ethical standards and adopt emerging practices. Collaborate with partners to co-design data collection methodologies that are culturally sensitive and inclusive.

- Ensure that data collection involving Indigenous communities adheres to the OCAP (Ownership, Control, Access, and Possession) principles[3], or similar frameworks, to respect Indigenous data sovereignty.
- Work with partners to validate data and share findings with the community to foster transparency and trust.
- Formalize partnerships through agreements that outline roles, responsibilities, and mutual goals for data collection.
- For additional suggestions, please refer to the section on **Budgeting for Community Engagement** under Considerations.

Utilize Participatory Methods: Implementing participatory methods, such as community-based surveys, focus groups, or participatory mapping exercises, can engage community members directly in the data collection process. These methods not only provide valuable data but also empower community members to contribute their knowledge and perspectives to the HRVA.

- Conduct surveys and focus groups with diverse community members to gather data on their experiences and perspectives.
- Implement participatory mapping exercises where community members can physically identify and map out areas of concern and resources in their locality.
- Ensure that these participatory methods empower community members by valuing their knowledge and perspectives.
- Recognize that these methods require time and resources from emergency management personnel and community advisory groups. Plan and allocate appropriate resources to support these activities.

Build participatory methods into existing community engagement sessions, such as seasonal preparedness meetings or advanced planning workshops, to streamline efforts and maximize participation.

Incorporate Technology: Integrating technology such as online surveys, mobile apps, and geographic information systems (GIS) into data collection processes offers numerous benefits, including increased efficiency and the ability to reach a broader audience. However, it is essential to ensure that these technological approaches are inclusive and do not inadvertently exclude any groups.

- Use technology to reach a wider audience, including those who may face logistical barriers to participation in traditional methods.
- Ensure digital tools are user-friendly and accessible to all community members.
- Be mindful of the digital divide and ensure that the use of technology does not exclude the voices and perspectives of those without access or technical proficiency.

[3] The First Nations principles of ownership, control, access, and possession – more commonly known as OCAP® – assert that First Nations have control over data collection processes, and that they own and control how this information can be used. https://fnigc.ca/ocap-training/

- Provide alternative methods for participation, such as paper surveys or in-person interviews, to include all community members.
- Use a combination of tools to ensure comprehensive and inclusive data collection.
- Implement robust data security measures to protect the privacy and confidentiality of participants' information.
- Clearly communicate how data will be used and stored to build trust with community members.

Improve Data Collection Mechanisms:

- Implement pilot projects to test new data collection mechanisms, involving diverse community members to ensure cultural relevance and inclusivity.
- Provide training for emergency management staff on using these tools and emphasize the importance of collecting intersectional data.
- Regularly assess and update data collection mechanisms to adapt to new challenges and continuously improve inclusivity.

By adopting a combination of these strategies and leveraging available resources and partnerships, EM staff can realistically collect intersectional data to develop a more fulsome HRVA that reflects the diverse needs and vulnerabilities of their communities.

Key Questions to Consider

- Is the data relevant, accurate, and up to date?
- Are the data sources credible and representative of the community?
- Is the data disaggregated by key demographic factors such as gender, age, race, ethnicity, socioeconomic status, sexual orientation, and disability status?
- What assumptions could we be making about the data?
- How inclusive is our data collection process?

Reminder: For more detailed ‘Questions to Consider’, please refer to Appendix D.
Reviewing these questions will help ensure a comprehensive and inclusive HRVA process.

Getting Started

Start by identifying and compiling existing data sources, such as government reports, academic studies, and community records. This can save time and provide a baseline for your analysis.

- Gather data directly from the community through surveys, interviews, and focus groups to capture diverse experiences and perspectives.
- Create a structured plan outlining what data to collect, how to collect it, and from whom. This ensures that data collection is systematic and comprehensive.
- Collect data that is disaggregated by key demographic factors such as gender, age, race, ethnicity, socioeconomic status, sexual orientation, and disability status. This helps in understanding how different groups are affected by hazards.
- **Refer to Appendix E for a full list of suggested data to collect for your HRVA.**
- **Refer to Appendix F - Data Collection Template.**

Engagement and Collaboration

The engagement and collaboration process in HRVAs actively involves partners, stakeholders, and communities to ensure diverse perspectives and expertise are integrated, fostering comprehensive and inclusive risk assessments. Engagement and collaboration will be integrated into every step of the HRVA process.

Intersectional Gender Analysis in Action

Central to data collection and developing an inclusive HRVA is ensuring the full and equitable participation of community members, particularly those from traditionally excluded, underrepresented, and marginalized groups. Equitable community engagement and participation is at the core of an intersectional HRVA, allowing for the diverse needs, abilities, and various interconnected power dynamics to be considered when organizing engagement processes and ensuring accessibility for all.

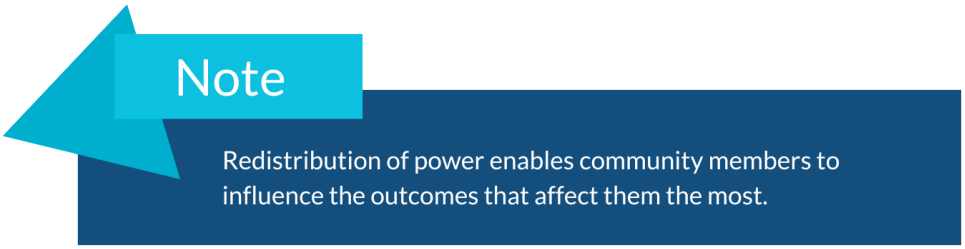
Community Led Engagement

The HRVA needs to not only be community-informed but community-led. In a community-led HRVA, the residents themselves play a central role in identifying and analyzing the risks they face and have decision-making authority throughout the process. This approach shifts from a top-down model, typically led by emergency managers or local authority staff, to a collaborative effort leveraging local knowledge. It requires community involvement from conception to finalization, as outlined in the Sendai Framework for Disaster Risk Reduction.

This collaborative effort requires more than having public hearings, town hall meetings, and surveys, this requires a shift in power dynamics, so the community members/residents have decision making authority. Genuine community participation requires the redistribution of power to enable community members to have influence over the outcomes that affect them the most.

Part of the framework of intersectional gender analysis is to collaborate with the identified audience or population group. Before embarking on an HRVA, it is crucial to prioritize inclusive community involvement at every stage of the process, as part of the methodology and approach of intersectional gender analysis. Recognizing the significance of the local context, unique characteristics, culture, and community knowledge, practitioners should ensure that the chosen approach aligns with and reflects the needs and priorities of the community it serves. This involves engaging community members from diverse backgrounds and perspectives in decision-making processes, ensuring that the established process resonates with local values and experiences.

- Recognize the significance of the local context, unique characteristics, culture, and community knowledge.
- Engage community members from diverse backgrounds and perspectives in decision-making processes.



Indigenous Knowledge

It is essential to incorporate Indigenous Knowledge, including both oral and written historical records, to capture a comprehensive understanding of the hazards. Incorporating Indigenous Knowledge fosters a more inclusive and accurate risk assessment process, reflecting the collective wisdom and experiences of the entire community. For information on cultural risk, refer to Cultural Vulnerability located under Vulnerability Assessments. For more information on Indigenous Knowledge, refer to the Justice Institute of British Columbia (2016) Toolkit.

Indigenous Knowledge:

- Considers details of the local ecosystem, plant and animal behavior, and subtle changes in the environment that might signal an impending hazard. This can provide insights that scientific instruments might miss.
- Emphasizes the interconnectedness of natural systems. This holistic view can help identify potential cascading effects of hazards that strictly scientific models might overlook.
- Is deeply rooted in a specific place. This detailed knowledge of local geography, drainage patterns, or vulnerable areas can inform hazard identification and likelihood analysis and provide insight into targeted early warnings for different communities within a region.

To ensure this Knowledge is used respectfully and properly, consider the following principles:

Respect and Acknowledgment

- Recognize Contributions: Acknowledge the value and significance of Indigenous Knowledge in understanding hazards and managing risks.
- Cultural Sensitivity: Approach Indigenous Knowledge with cultural sensitivity, respecting traditional practices, beliefs, and values.
- Cultural Protocol: Adhere to any cultural protocols or guidelines provided by the Indigenous community or liaison.

Meaningful Engagement

- Collaborative Approach: Engage with Indigenous communities in a meaningful, collaborative manner. Involve them as equal partners in the HRVA process.
- Consent and Approval: Seek consent and approval from Indigenous leaders and knowledge holders before using or sharing their knowledge.

Trust and Relationship Building

- Build Relationships: Invest time in building genuine relationships with Indigenous communities based on trust and mutual respect.
- Continuous Dialogue: Maintain ongoing communication and dialogue to ensure that Indigenous voices are heard and considered throughout the process.

Proper Attribution or Credit

- Credit Knowledge Holders: Properly attribute Indigenous Knowledge to the communities and individuals who provide it.
- Cite Sources: Clearly cite the sources of Indigenous Knowledge in reports and documents, giving credit to the original knowledge holders.

Integration and Protection

- Integrate Respectfully: Integrate Indigenous Knowledge in ways that complement and enhance existing data and scientific methods.
- Protect Knowledge: Ensure that Indigenous Knowledge is protected from misuse, misinterpretation, and exploitation. Safeguard sensitive information and respect confidentiality agreements.

By incorporating Indigenous Knowledge, hazard identification and likelihood analysis can become more comprehensive, place-specific, and culturally relevant, ultimately leading to more effective disaster preparedness and risk reduction strategies.

Addressing Power Dynamics

In the process of community engagement within HRVAs, it's essential to consider and address power dynamics while recognizing the interconnected structures of inequality. Power dynamics often shape who participates, whose voices are heard, and whose needs are prioritized within decision-making processes. To foster genuine inclusivity, HRVAs must actively work to dismantle these power imbalances and create equitable spaces for dialogue and collaboration. For instance, in traditionally marginalized communities, power dynamics

may be influenced by factors such as race, class, gender, or age, which can limit the participation of certain groups or individuals. Addressing these dynamics requires proactive measures, such as providing language accessibility, offering childcare support, or ensuring representation from diverse community members, not just those in leadership positions. Solely relying on community leaders can reinforce existing power dynamics and structures. Residents who are hesitant to speak up to leaders, or those facing language barriers, could be excluded, leading to an incomplete or inaccurate HRVA.

Additionally, HRVAs should seek to amplify the voices of those most affected by hazards and vulnerabilities, recognizing their expertise and lived experiences as valuable contributions to the assessment process. By acknowledging and actively challenging power dynamics, HRVAs can create more inclusive and equitable approaches to community engagement, ultimately leading to more effective risk reduction strategies that benefit all members of the community.

Physical Spaces

When planning community engagement sessions, it's essential to choose venues that are centrally located in the specific neighbourhood/community of focus, that are safe and fully accessible to individuals with disabilities or mobility limitations. Providing translation, interpretation, and multiple formats for materials ensures clear communication for all participants. Scheduling sessions at convenient times and offering support for barriers like transportation, childcare, and options for online participation promotes broader attendance. Emphasizing inclusivity, confidentiality, and cultural sensitivity helps create a welcoming environment where all voices can be heard and valued. Continuous feedback and adaptation are key to maintaining accessibility and improving future engagement efforts.

Community Partners

Below is a list of partners and stakeholders that should be included in your HRVA from inception to finalization and in reviews and amendments. Note that this is not a comprehensive list, and you may want to include others not listed:

- Agencies and departments that are a part of your Emergency Plan including municipal planning and development, operations/public works, emergency management, Family and Community Support Services, infrastructure development and operators, transportation, first responders, among others.
- Community members and residents, particularly those traditionally excluded and underrepresented (see above) .
- Community leaders including Indigenous leaders and oral history tellers, Elders, faith-based leaders, etc.
- Utility and telecommunications companies.
- Health and medical serving agencies.
- Local Chambers of Commerce.
- Community/volunteer organizations and Non-Governmental Organizations, including those who provide services to address gender-based violence.
- Community groups and associations .
- Local businesses.

- Large corporations or entities that drive the economy and employ many residents.
- Oil and gas companies.
- Various subject matter experts (equity, diversity and inclusion experts, seismologists, scientists, cyber security experts, etc.).
- Neighbouring communities: Consider developing partnerships and memorandums of understanding (MOUs) with neighboring communities for collaboration, resource sharing, and mutual aid. Hazards that impact neighbouring communities will likely impact yours. For example, a neighbouring community that has a large lithium battery plant; if a fire occurs, this could greatly impact your community through toxic fumes, air quality, etc.

Tip

Small communities with little resources for emergency management can consider partnering with larger municipalities/communities to create regional HRVAs and emergency programs.

Strategies

A comprehensive and holistic HRVA involves multiple partners and stakeholders, including community members/residents and those most impacted by the hazards and risk reduction measures. Understanding and mitigating risk must be a collaborative effort, with the whole community sharing responsibility. This approach enables a more thorough and accurate assessment that is locally led and informed, allowing everyone involved to take ownership and endorse the HRVA and accompanying risk reduction recommendations. It is particularly important to include traditionally excluded, underrepresented, and marginalized groups such as people with disabilities, youth, LGBTQI2S+[4], Black, Indigenous, and racialized communities.

HRVA Steering/Advisory Committee

An approach to consider is establishing an HRVA Steering/Advisory Committee led by and composed of diverse community members, essential for ensuring meaningful community participation and ownership throughout the HRVA process. This committee should not only reflect the diversity of the community but also hold decision-making authority to guide and oversee the assessment process. By centering the leadership of community members who are directly impacted by hazards and vulnerabilities, the committee can ensure that the HRVA process is inclusive, responsive, and accountable to the needs and priorities of the community. Additionally, having diverse perspectives represented on the committee helps to foster a more comprehensive understanding of local contexts and challenges, leading to

[4] Lesbian, Gay, Bisexual, Transgender, Queer or Questioning, Intersex, Two-Spirit, plus

more effective risk reduction strategies that are grounded in community realities. Overall, empowering a diverse HRVA Steering/Advisory Committee to lead and drive decisions throughout the process is crucial for promoting equity, transparency, and legitimacy in community-based hazard and vulnerability assessments.

Considerations

Time: Addressing time constraints, particularly when engaging a wide range of partners and stakeholders in HRVAs, requires careful planning and consideration of community capacity and resources. It's essential to plan time effectively, ensuring that community members lead the process in a collaborative manner without bearing the entire burden of the work.

One approach is to break down the HRVA process into manageable segments, allowing for meaningful engagement without overwhelming participants. By structuring engagement in this way, we can maintain momentum and ensure that all voices are heard while also respecting the time constraints and commitments of community members and stakeholders.

- Start planning well in advance to allow ample time for engagement.
- Establish clear timelines and milestones for each phase of the HRVA process.
- Communicate the timeline to all partners, stakeholders, and community members early to ensure they can plan their participation accordingly.
- Identify and prioritize the most critical tasks that need immediate attention.
- Focus on high-impact activities that will drive the HRVA forward efficiently.

Providing adequate support and resources, such as training, facilitation, and logistical assistance, can help empower community members to participate effectively without feeling overburdened. Ultimately, by balancing community leadership with strategic planning and support, HRVAs can maximize engagement and produce more inclusive and impactful outcomes.

- Utilize existing community groups, committees, and networks to facilitate engagement.
- Assign specific roles and responsibilities to different partners, stakeholders, and community members to distribute the workload.
- Ensure community members are involved in leading the process but provide support to avoid overwhelming them.

Resources: In communities where resource constraints may limit the capacity for dedicated emergency management personnel, it's important to explore alternative approaches to support inclusive community engagement within HRVAs.

- One strategy is to leverage existing community networks and resources, such as local organizations, community groups, or volunteers, who can contribute their time and expertise to the assessment process.
- Be mindful of their own limitations in terms of engagement fatigue and limited personnel.
- Integrate HRVA activities into scheduled community events or meetings to save time.

- Collaboration with neighboring communities or regional emergency management agencies can also provide additional support and resources, allowing for shared expertise and collective problem-solving.

The goal is to not rely on or utilize just one method of engagement. By adopting flexible and adaptive engagement methods - such as online surveys, virtual meetings, or community workshops held at convenient times and locations – you can help overcome barriers related to time and capacity constraints. Utilizing technology, where available and appropriate, along with innovative communication tools, enables smaller communities or those with limited resources to facilitate broader participation and input from diverse partners and stakeholders, while considering geographical or logistical challenges.

Additionally, prioritizing capacity-building initiatives, such as training workshops or educational sessions on hazard awareness and risk reduction, can empower community members to take an active role in HRVAs, as part of a collaborative process with emergency management personnel. By equipping community members with the knowledge and skills needed to contribute meaningfully to the assessment process, smaller communities can foster a culture of resilience and collaboration that transcends resource constraints.

Budgeting for Community Engagement: In the process of community engagement, it's crucial to recognize and value the input of community members, acknowledging their time, expertise, and knowledge as invaluable contributions to the assessment process. One way to demonstrate this appreciation is by budgeting for and incorporating culturally appropriate gifts and/or honorariums for community groups and individuals who participate in engagement activities.

By providing honorariums, HRVA initiatives can ensure that community engagement efforts are inclusive and equitable, removing barriers to participation and acknowledging the inherent value of diverse perspectives and experiences. Without honorariums, involvement of community members is limited to those who are able to contribute unpaid time and disproportionately excludes others who cannot. Honorariums can help mitigate financial burdens of community members and ensure more inclusive involvement. This can also incentivize continued community involvement, fostering long-term relationships and trust between emergency management agencies and the communities they serve.

Furthermore, incorporating honorariums into HRVA budgets underscores a commitment to fair compensation and ethical practice, aligning with principles of equity and social justice. It sends a powerful message that the contributions of community members are valued and respected, elevating their voices and empowering them to play an active role in shaping their own resilience and well-being.

If communities are unable to provide honorariums, there are alternative ways to acknowledge and signal to community members that their time and expertise are valued and appreciated.

- One approach is to offer non-monetary incentives or gestures of appreciation, such as certificates of participation, letters of recognition, or tokens of gratitude, such as gift cards or small gifts.
- Publicly acknowledge and highlight the contributions of community members through newsletters, social media posts, or community meetings to help validate their involvement and reinforce the importance of their input.
- Acknowledgement and gifts should always be done in consultation with community members to identify what is desired and appropriate in each context.

Ultimately, while monetary compensation may not always be feasible, municipalities can still show appreciation for community members' contributions by offering meaningful recognition, opportunities for involvement, and ongoing communication and engagement. These efforts can help build trust, strengthen relationships, and ensure that community members feel valued and respected for their participation in HRVA initiatives.

Guarding Against Tokenism in HRVAs: In ensuring the meaningful involvement of diverse partners and stakeholders in HRVAs, it's crucial to guard against tokenism and superficial checkmarks. Genuine engagement requires more than just ticking boxes; it demands authentic collaboration and empowerment of all community members, especially those traditionally excluded or marginalized. Tokenistic approaches risk perpetuating power imbalances and overlooking the nuanced needs and perspectives of underrepresented groups.

- HRVAs should prioritize creating inclusive spaces where every voice is valued and respected. By fostering genuine dialogue and partnership, HRVAs can harness the collective wisdom and strengths of the entire community, leading to more equitable and effective risk reduction strategies.

Continuous Feedback and Updates

Ensuring transparency and accountability in the decision-making process involves providing regular updates and feedback on how community input has been incorporated into HRVA outcomes. This approach demonstrates a genuine commitment to listening and responding to community concerns. Creating opportunities for continued engagement and involvement in follow-up activities, such as implementation planning or monitoring and evaluation, can also reinforce the ongoing value of community input and foster a sense of ownership and investment in the outcomes of the assessment process.

Key Questions to Consider

- How can we ensure broad and inclusive participation, especially from marginalized or less vocal groups?
- How do we address power dynamics to empower community members?
- How can we build and maintain trust with the community?

- How do we ensure cultural safety in our engagement process?
- How will community members be involved in the HRVA process from conception to finalization?

Reminder: For more detailed 'Questions to Consider', please refer to Appendix G. Reviewing these questions will help ensure a comprehensive and inclusive HRVA process.

Getting Started

- ☑ Start by listing all potential stakeholders and partners, such as community leaders, Indigenous leaders, local organizations, special interest groups, government agencies, and marginalized groups.
- ☑ Gather contact information for each partner and stakeholder to facilitate communication.
- ☑ Send an introductory email or make a phone call to each person or group explaining the HRVA process and why their participation is important. Feel free to work with a community liaison or someone who holds a relationship with a specific group or partner.
- ☑ Invite them to attend an initial meeting to discuss the HRVA process and how best to collaborate.
- ☑ **Refer to Appendix H - Partner/Stakeholder Identification & Engagement Plan Template.**

Example

The City of Vancouver has been proactive in adopting intersectional gender analysis as part of its broader commitment to equity and inclusion. The city's Resilient Vancouver Strategy explicitly incorporates intersectional gender analysis to address the needs of diverse communities in disaster risk reduction and resilience building. During community consultations, the community members identified that the exclusion of diverse voices in planning and decision-making processes only reinforced barriers to resilience. As a result, specific efforts have been made to include the perspectives of marginalized groups in the planning process.

By using intersectional gender analysis and partnering with diverse community members, Vancouver's emergency plans are more inclusive and better tailored to meet the diverse needs of its population.

Benefits:

➔The focus on intersectional vulnerabilities helps to build the overall resilience of the community by addressing the specific needs of those most at risk.
➔Engaging with diverse communities and incorporating their input into emergency planning has helped to build trust between the city and its residents, which is crucial for effective emergency response.
➔This approach helps to ensure that no group is left behind during emergencies.

Vancouver's example can serve as a model of how municipalities can incorporate intersectional gender analysis to create more equitable and effective emergency management strategies.

Hazard Identification

Hazard identification is the process of identifying the hazards specific to your community. This is where you will evaluate each hazard by assessing its characteristics, including its magnitude, frequency, duration, spatial extent, and temporal pattern. You will also determine the potential sources, triggers, and pathways of the hazard, as well as any secondary or cascading effects it may have.

Intersectional Analysis in Action

Below are some factors to consider when identifying hazards for an HRVA.

Data Collection: The identification and analysis of hazards can be informed by multiple sources including historical data from past hazard events, climate projections, previous risk assessments, topography and LIDAR[5] data, hazard specific assessments such as flood hazard mapping, location of tectonic plates and history of seismic activity, meteorological information and predictions, subject matter experts, and most importantly, local community members and Indigenous Knowledge and history (refer to the section on Data Collection).

Community Engagement: When working to identify your hazards, you will need equitable participation from community members, as detailed in the Engagement and Collaboration section. Please refer to this section for additional considerations regarding community engagement.

Key Questions to Consider

Who is being consulted in the hazard identification process?

Are we considering both environmental and human-made hazards?

How will we gather and verify data on potential hazards?

How will community members and Indigenous Knowledge be involved in hazard identification?

Reminder: For more detailed 'Questions to Consider', please refer to Appendix I. Reviewing these questions will help ensure a comprehensive and inclusive HRVA process.

[5] LIDAR stands for Light Detection and Ranging. It is a method used to measure topography and geography, make 3-D representations of the earth's surface, and create map layers.

Getting Started

- Start by researching the history of hazards in your community. Look at past events and their impacts. Review existing reports and documents from local community agencies, Indigenous communities, government agencies, emergency services, and historical records to understand common hazards.
- Engage community members to gather information about hazards they have experienced or are concerned about. Start by looking at who is in your network. Reach out to community organizations, associations, or groups that you or other departments have relationships with or are within your community. Consider using a survey or focus groups to gather information on hazards.
- Consult with Indigenous communities or groups to learn about historical hazards and their characteristics.
- Form a Steering/Advisory Committee led by and composed of diverse community members to advise on the process and validate the hazards identified.
- **Refer to Appendix J - Hazard Identification Template**.

Hazard Likelihood Analysis

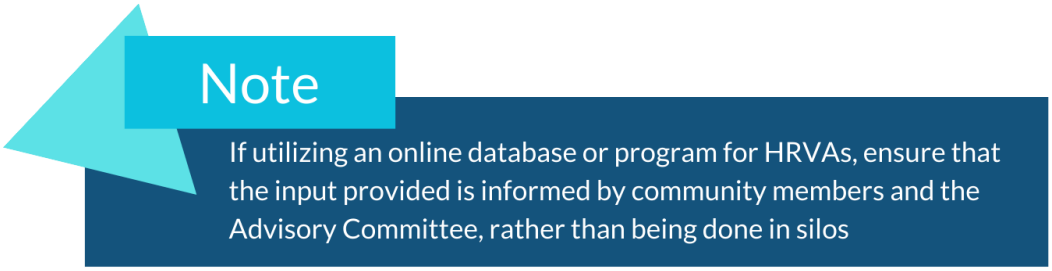
Hazard likelihood analysis includes a review of the technical characteristics of hazards such as their location, intensity, frequency and probability within a given timeframe. Likelihood is usually expressed as a probability or frequency (e.g., low, medium, high).

Intersectional Gender Analysis in Action

Below are some things to consider when conducting your hazard likelihood analysis.

Data Collection: Hazard likelihood analysis assesses the chance of the hazard event happening based on a variety of factors including historical data, scientific models (such as climate projections), expert assessments, Indigenous Knowledge and history, or other relevant factors.

Engagement and Collaboration: This process requires the equitable participation of community members (refer to the section on Engagement and Collaboration).



Key Questions to Consider

- What historical data is available on past occurrences of hazards, and how have these events impacted the community and its members?
- How will the probability of each hazard be determined and communicated?
- How will we integrate local context, such as geographical, environmental, socioeconomic, and cultural factors, into the likelihood analysis?

Reminder: For more detailed 'Questions to Consider', please refer to Appendix K. Reviewing these questions will help ensure a comprehensive and inclusive HRVA process.

Getting Started

- Look for records of past hazard events in your community, including their frequency, intensity, and duration. Use data from local government records, weather services, and historical archives to gather information.
- Consult with Indigenous communities about historical local or regional hazard events in the area.
- Engage community members on their experiences with hazards in the area.
- Use climate projections that will ultimately change the hazard likelihood. Utilize resources like https://climatedata.ca for climate projections on key weather-related hazards.
- Reach out to experts like meteorologists, seismologists, and hydrologists who can provide insights into the technical aspects of hazards.
- Ask these experts to help you understand patterns and trends from the historical data and new projections recognizing risk drivers such as demographics, technology, and climate change.
- Involve and consult with the HRVA Steering/Advisory Committee throughout the hazard likelihood analysis process.
- **Refer to Appendix L - Hazard Likelihood Analysis Template.**

Hazard Impacts/Consequence

Hazard consequence represents the potential impact or severity of a hazard event if it were to occur. It assesses the extent of direct or indirect damage, loss, or harm that could result from the hazard event, including physical damage to infrastructure, buildings, and other assets; economic losses due to property damage, business disruption, or loss of productivity; environmental impacts such as pollution or habitat destruction; social impacts such as injuries, fatalities, displacement, or community disruption, among others.

Hazard consequences are typically assessed quantitatively and/or qualitatively based on the severity and magnitude of potential impacts, considering factors such as the size, intensity, duration, and spatial extent of the hazard event.

Intersectional Gender Analysis in Action

An intersectional hazard impact assessment will consider who is impacted most and why by analyzing how intersecting social identities and factors influence exposure to hazards and sensitivity to their impacts among different population groups. Consider factors such as socioeconomic status, gender norms, housing conditions, power dynamics, access to resources and services, cultural practices, language barriers, and historical discrimination and how these factors intersect to increase hazard impacts.

This analysis involves gathering quantitative data on demographic characteristics, socio-economic indicators, access to resources and services, and other relevant variables, as well as qualitative data through engagement with community members to capture lived experiences and perspectives (refer to the section on Engagement and Collaboration).

The following is a list of factors to consider and analyze in the impact assessment.

Exposure

Residential Segregation: Families with low-income are more likely to live near polluting factories or in flood plains; this may also be true for some racialized groups due to historical segregation and housing patterns, which increases their exposure to environmental and climate induced hazards.

Workplace Factors: Racialized groups may be overrepresented in jobs with higher exposure to hazards, like working in waste facilities or construction.

Access to Housing: Those experiencing homelessness or living in precarious housing may be disproportionately impacted by hazards. For example, the lack of safe and secure shelter may leave them more exposed to hazards such as extreme weather events, fire, or flooding. Gender-based violence also increases in disasters and those without safe and secure housing are more vulnerable to violence.

Social and Health Factors

Language Barriers: Limited proficiency in the dominant language can hinder understanding of warnings or evacuation procedures during disasters.

Socioeconomic Status: Lower income communities may have less access to resources like reliable transportation for evacuation or hazard mitigation measures for homes. They may also have less political clout and struggle to secure resources for rebuilding after disasters.

Race: Consider how various forms of discrimination and power structures create disparities in hazard impacts for racialized groups including access to resources and services, coping capacities, and adaptive strategies. For example, the history of law enforcement that was partially built on the enforcement of colonization, segregation, and slavery, has continued a legacy that has perpetuated a system where racialized communities often face disproportionate surveillance and violence. These historical roots have evolved into modern practices that continue to discriminate against Black, Indigenous and racialized groups. Therefore, racialized communities may have distrust in authorities, which may lead to a delayed response to emergency warnings or aid (Jones, 2021).

Gender: Examine how gender norms, roles, expectations, and relations shape differential hazard impacts. Consider how gender inequalities and disparities shape differential impacts and outcomes for different genders and how gender intersects with other social identities and factors to influence exposure, sensitivity, coping capacities, and adaptive strategies. Examine how gender influences access to and control over resources, opportunities, and decision-making processes; how gender-based violence and discrimination affect individuals' lives; and how gender intersects with other factors to exacerbate vulnerabilities or create barriers to participation and inclusion.

Example

2013 Alberta Floods: During the 2013 floods in Alberta, women, particularly those from low-income households, faced significant challenges in accessing relief services and financial assistance. Caregiving responsibilities increased their stress and hindered their ability to seek aid.

COVID-19 Pandemic: The pandemic highlighted how women, especially those in healthcare and caregiving roles, bore a disproportionate burden. Increased domestic/intimate partner violence during lockdowns also underscored the intersection of gender and disaster impacts.

Age and Life Stage: Consider how age and life stage intersect with other social identities and factors to shape vulnerability and resilience to hazards. Assess how children, youth, older adults, and other age groups may experience differential impacts and have distinct needs and priorities in hazard impact assessments.

Disability: Consider how different hazards may affect those with various disabilities and needs (mobility, vision, hearing, cognitive). For example, consider how existing accessibility infrastructure (ramps, elevators, public transit) might be compromised during or after a hazard event and how this would impact evacuation and access to services and support.

Pre-existing Health Conditions: Those with chronic illnesses may be more vulnerable to environmental hazards like air pollution.

Access to Healthcare: Limited access to healthcare can make it harder for people to get treatment after exposure to hazards. For example, those without legal immigration status or without health care etc.).

Discrimination

In addition to the above, it is important to account for discrimination and marginalization in hazard impact assessments. Recognize how multiple forms of discrimination based on social identities intersect to exacerbate vulnerability and limit access to resources and support services. Assess how intersecting social identities and factors influence coping capacities and adaptive strategies in response to hazards. Consider factors such as social networks, community cohesion, access to information and resources, language proficiency, cultural norms, and availability of institutional support systems.

Note

When analyzing hazard impacts through an intersectional gender analysis lens, consider who is most affected by the HRVA and why. Assess how the HRVA might differently impact various groups based on social identity factors.

By considering these factors, communities can develop a more nuanced understanding of how hazards disproportionately impact various groups of people. This knowledge is crucial for creating equitable risk reduction solutions that protect everyone.

Key Questions to Consider

- What are the potential direct and indirect impacts of each hazard event on different groups?
- How do intersecting social identities and factors influence exposure to hazards and sensitivity to their impacts?
- What mitigation strategies can be implemented to reduce hazard impacts for different population groups?

Reminder: For more detailed ‘Questions to Consider’, please refer to Appendix M. Reviewing these questions will help ensure a comprehensive and inclusive HRVA process.

Getting Started

- List the potential types of damage or harm that could result from each hazard, such as physical damage to infrastructure and buildings, economic losses, environmental impacts, and social and cultural impacts.
- Identify how community elements (e.g., people, businesses) and which assets (e.g., buildings, infrastructure, natural environments) could be affected.
- Look at historical records of past hazard events to understand their impacts.
- Engage and consult with community members to learn about hazard impacts from their lived experience.
- Consult experts, such as engineers, economists, environmental scientists, and Indigenous leaders, social workers, community leaders, etc., to get detailed information on potential impacts.
- Involve and consult with the HRVA Steering/Advisory Committee throughout the hazard impact assessment process.
- **Refer to Appendix N - Hazard Impacts/Consequences Template.**

Tip

Consider reviewing other communities' After Action Reviews or Analysis Reports to understand further impacts and identify potential gaps in your analysis.

Vulnerability Assessment

A vulnerability assessment identifies the vulnerabilities of a community in the face of potential hazards. This may include components such as critical infrastructure, social factors like poverty or limited access to resources, environmental considerations, and economic dependence on vulnerable industries. It differs from the impact assessment in that it focuses on the susceptibilities, strengths, and capacities of a community that could either worsen the impacts of hazards or build resilience to them. A vulnerability assessment should look beyond the susceptibility of a community and include resilience factors that increase the community's ability to cope with, adapt to, and withstand hazards, reducing their risk to disasters.

Note

"Resilience is the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management" (United Nations Office for Disaster Risk Reduction, 2015).

Vulnerability assessment is an important component of an HRVA because understanding the various vulnerabilities, strengths, and coping capacities in a community will help to prioritize risks and allocate resources for mitigation, prevention, response, and recovery by reducing vulnerability and increasing resilience where possible. For example, knowing a community has a significant number of older adults or assisted living facilities where residents may struggle to evacuate during a flood, helps emergency practitioners target their outreach and preparedness efforts there.

There are several aspects of vulnerability to assess, including cultural, economic, environmental/ecological, physical, and social as detailed below:

Cultural Vulnerability: The susceptibility of communities or groups to the impacts of disasters due to factors such as cultural beliefs, practices, language barriers, traditional knowledge, and cultural norms, which may influence mitigation, preparedness, response, and recovery efforts. This includes the strengths and capacities of communities or groups to withstand or cope with hazards based on the same cultural factors.

Economic Vulnerability: The susceptibility of an economy to suffer adverse impacts from hazard events. This encompasses the potential for economic losses due to disruptions in business operations, damage to critical infrastructure, loss of productivity, and the costs associated with recovery and rebuilding. A more diversified economy with a strong tax base may be able to recover quickly and provide resources for prevention, preparedness, and mitigation efforts to increase disaster resilience in the community and support equitable recovery efforts. Whereas a smaller community that relies heavily on one or two economic drivers (e.g., 60% of a community's employment is reliant on one warehouse or factory) may be less able to recover if that warehouse or factory is impacted and may have less resources for prevention, preparedness, mitigation, and recovery.

Environmental and Ecological Vulnerability: The susceptibility of the natural environment to hazards including natural resources (clean water or fertile land), ecosystem disturbance, damage, and the ability of restoration, and biodiversity loss). Consider also looking at a community's sustainable practices that protect natural resources and ecosystems and can contribute to overall resilience by reducing hazard impacts.

Physical Vulnerability: The susceptibility of infrastructure, buildings, and other physical assets to damage or destruction during a hazard event. This type of vulnerability assesses the condition, design, location, and maintenance of these structures to determine how likely they are to withstand hazards such as earthquakes, floods, hurricanes, and other natural or human-made disasters. Robust infrastructure, including communication systems, transportation networks, and safe buildings can minimize damage to hazards and facilitate recovery.

Social Vulnerability: The heightened susceptibility of certain groups or communities to the impacts of disasters due to intersecting identity factors including socioeconomic status, access to resources, demographic characteristics, cultural dynamics, health disparities, and institutional capacity. This includes the strengths and capacities of communities or groups to withstand or cope with hazards based on the same social factors. For example, strong social networks, community

Example

Imagine a community with a strong social network and a history of volunteering. The HRVA might identify this as a resilience factor and recommend programs that leverage this social capital to support disaster preparedness activities and post-disaster recovery efforts. This was evident in the 2013 floods in Calgary, Alberta where community members rallied together and took action to support others and rebuild the community.

cohesion, and trust can facilitate communication, collaboration, and mutual support during disasters.

Intersectional Analysis in Action

Understanding that all the vulnerability assessments listed above are equally important and should be included in an HRVA, this Toolkit will focus on social vulnerability and cultural vulnerability processes.

Social Vulnerability

Assessing social vulnerability to hazards in an HRVA involves analyzing how different social identity factors and characteristics of the community may affect their ability to prepare for, respond to, and recover from disasters. Identifying and understanding social vulnerability helps pinpoint specific groups within the community who may be disproportionately impacted by a hazard event. This could be due to factors such as poverty, limited access to resources, language barriers, dependence on others, duties of care, gender-based violence, among others.

Disasters can highlight and exacerbate existing social inequalities in communities. Conducting a social vulnerability assessment ensures that the needs of those not starting from a place of safety are addressed, providing everyone with a more equitable opportunity to stay safe. This assessment allows practitioners to tailor risk reduction strategies to identified vulnerabilities, such as targeted outreach programs, evacuation plans, and culturally safe, secure, and accessible shelters.

Key Questions to Consider

- What are the specific vulnerabilities of different community groups, including critical infrastructure, social factors like poverty, and limited access to resources?
- How do socioeconomic status, gender norms, housing conditions, and access to resources influence hazard impacts?
- How might people with disabilities and those with pre-existing health conditions be differentially affected by hazards?
- How do social networks and community cohesion influence resilience and response to hazards?
- What barriers to resource access exist for marginalized and vulnerable groups?

Reminder: For more detailed ‘Questions to Consider’, please refer to the Social Vulnerability section in Appendix O. Reviewing these questions will help ensure a comprehensive and inclusive HRVA process.

Key Steps for a Social Vulnerability Assessment

Aligning with the IGA framework, below are some key steps to help you in your social vulnerability assessment:

Step 1: Identify Social Vulnerability Indicators

Assessing vulnerability begins with identifying the various social vulnerability indicators to include in the assessment. Here are some indicators to consider:

Social Demographic and Identity Factors: Age, gender, sex, socio-economic status, education level, race, ethnicity, disability status, sexual orientation, language, literacy, family status, immigration/citizenship status, etc.

Cultural Factors: Cultural practices and norms, and access to culturally safe and appropriate services or resources (refer to section Cultural Vulnerability Assessment below).

Economic Factors: Employment status, access to economic resources, reliance on informal economies, and poverty levels.

Health Factors: Health status, such as prevalence of disabilities or chronic illnesses, access to healthcare, including mental health and addiction, food security

Housing and Infrastructure: Housing quality, tenure (renters vs. homeowners), housing instability or precarious housing, cost of and availability of housing and proximity to hazard zones. Access to home insurance coverage for hazards.

Social Networks: Strength of community networks, social cohesion, and access to support systems.

Access to Services: Availability and accessibility of emergency services, transportation, and communication infrastructure.

Gender Roles and Norms: How gender norms, roles, and relations shape vulnerability, adaptive capacity, and coping strategies.

Example

Women, especially single mothers, racialized women, and women over the age of 65, are more likely to live in poverty due to lower wages, part-time employment, and caregiving responsibilities. This economic disparity limits their ability to prepare for and recover from disasters. Women are also often overrepresented in sectors such as healthcare, education, and service industries, which can be more vulnerable to disruption during hazards. Conversely, men might be more affected in industries like construction and manufacturing.

Gender norms can also influence how risks are perceived and communicated. For example, societal expectations and traditional gender roles may limit women's participation in decision-making processes regarding disaster preparedness and response. This can restrict their access to critical information and their ability to influence strategies that address their unique needs and perspectives.

Step 2: Data Collection

Collect data disaggregated by various demographic factors, including gender, sex, age, race, ethnicity, income level, disability status, and other relevant characteristics as identified above. This data should be used to identify vulnerable groups within the community (refer to the section on Data Collection and Appendix E for suggested data sets).

- Use census data, public health records, economic reports, and other relevant sources to collect information on the identified indicators.

Step 3: Engagement and Collaboration

- Engage and collaborate with local organizations, community groups, social services, Indigenous groups, and those with lived experiences to gather qualitative data through interviews, surveys, and focus groups (refer to the section on Engagement and Collaboration).

Step 4: Analyze Impacts

Social Networks: Strong social networks can be a lifeline during disasters. Assess the social fabric of the community. Are there residents who are isolated or lack social support systems?

Access to Information: Consider how cultural and language barriers or a disability might affect access to hazard warnings and preparedness information.

Social Identity Factors: Examine how gender norms, roles, and relations shape vulnerability, adaptive capacity, and coping strategies. Consider how women, men, and gender-diverse individuals may experience hazards differently. For example, women may have a higher burden of care in the home; caring for young children, older parents, or people with disabilities can make evacuation during disasters more complex or difficult.

Barriers to Resilience: Identify specific intersectional vulnerabilities and barriers to resilience faced by different population groups. For example, women with disabilities, LGBTQI2S+ youth, or older adults living in poverty may face unique challenges during hazard events. Consider how marginalized groups may experience disproportionate exposure to hazards due to factors such as discrimination, poverty, or lack of access to resources and services.

Monitor and Evaluate: Identify patterns and trends that reveal which populations are most at risk and why. Evaluate how the identified social factors intersect and contribute to overall vulnerability.

Step 5: Assess Data and Make Recommendations

Map Vulnerabilities: If available, utilize GIS to create maps that spatially represent the distribution of vulnerable populations and their exposure to potential hazards.

- Combine maps of social vulnerability factors with hazard risk maps. This helps identify areas where vulnerable populations and high-risk hazards coincide.

- Identify clusters of high vulnerability areas that may require special attention during disaster planning and response. These areas can be prioritized for targeted mitigation efforts and outreach programs for emergency preparedness.
- Refer to Part 4 - Resources on page 19 of the Companion Guide for more information.

Example

The City of Calgary has a map that combines the Calgary Equity Index (CEI) map with hazard layers (flood plains, heat mapping, etc.). The Equity Index map and some hazard maps are available separately on their website.

Create Profiles: Create profiles for different groups, detailing their specific needs and opportunities in the context of various hazards.

- Highlight the unique vulnerabilities and resilience factors of each group. For example, individuals with limited mobility may need special evacuation assistance, or those with lower incomes may lack resources for recovery. These group also have resilience factors, such as strong social networks and available social support.

Identify Gaps: Identify and address data gaps related to intersectional vulnerabilities.

- Collect any additional data through qualitative data collection methods to inform gaps, such as focus groups or interviews, to better understand the experiences and needs of marginalized groups.

Make Recommendations: Make recommendations for risk reduction measures based on findings.

Step 6: Implementation

Integrate the results into the risk assessment process to ensure that emergency plans address the needs of those impacted the most. Use the findings to inform risk reduction strategies such as mitigation and prevention initiatives, emergency preparedness and response plans, and resource allocation (refer to the section below on Risk Reduction Strategies).

Cultural Vulnerability

Assessing cultural vulnerability involves identifying how cultural factors influence the ability of various community groups to prepare for, respond to, and recover from disasters. Cultural vulnerability assessments are essential to inform emergency planning efforts. Without it, emergency plans may not be culturally sensitive to the needs of diverse communities, potentially creating further unintended harm.

Cultural vulnerability includes aspects such as language, traditions, social structures, and belief systems that can affect resilience and access to resources. It is a similar process as the social vulnerability assessment described above; however, it is focused on cultural aspects of vulnerability.

To distinguish between the two assessments, we can look at social vulnerability assessment as a broad net that captures various social factors that might increase risk to certain hazards. A cultural vulnerability assessment acts like a finer mesh net that catches the specific cultural aspects that influence vulnerability within that broader social context. Both are necessary for a comprehensive understanding of risk.

While social vulnerability assessments and cultural vulnerability assessments are interconnected, it is important to keep the distinction of a cultural vulnerability assessment separate within an HRVA for several reasons:

- Cultures have specific traditions, beliefs, and social structures that can influence how they perceive and respond to hazards. A social vulnerability assessment might miss these nuances.
- Cultural groups have distinct risks to hazards; cultural heritage sites, traditional knowledge, and cultural practices could be threatened by hazards. A cultural vulnerability assessment specifically considers these risks and can delve deeper into this context.
- By separating the assessments, more targeted interventions can be developed to address the specific needs of different cultural groups, ensuring more effective and equitable risk reduction strategies.

While separate assessments are important, they should be integrated into the overall HRVA. This ensures that cultural vulnerabilities are not overlooked and that risk reduction strategies are culturally sensitive.

Key Questions to Consider

- How do cultural beliefs, practices, language barriers, and traditional knowledge influence vulnerability to hazards?
- How can we ensure cultural safety and sensitivity in our engagement and intervention strategies?
- How does incorporating Indigenous Knowledge contribute to a comprehensive understanding of hazards and enhance risk assessments?

- How do multiple forms of discrimination intersect to exacerbate vulnerability and limit access to resources and support services?

Reminder: For more detailed 'Questions to Consider', please refer to the Cultural Vulnerability section in Appendix O. Reviewing these questions will help ensure a comprehensive and inclusive HRVA process.

Key Steps for a Cultural Vulnerability Assessment

Again, aligning with the IGA framework, below are some key steps in conducting a cultural vulnerability assessment:

Step 1: Identify Cultural Groups

- Gather data on the ethnic, linguistic, and cultural composition of the community.
- Identify cultural organizations, religious institutions, Indigenous groups, Elders, and community members and leaders who can provide insights into the needs and concerns of different cultural groups.

Step 2: Data Collection

- Use census data to understand the distribution of cultural groups.

Step 3: Engagement and Collaboration

- Conduct surveys and interviews with members of various cultural communities to gather qualitative data on their specific vulnerabilities and needs.
- Hold focus groups with representatives from cultural communities to discuss their experiences, challenges, and recommendations.
- Continue to build and maintain relationships with cultural groups to foster on-going collaboration and sustainability.

Step 4: Analyze Impacts

- Assess the proportion of those who do not speak the dominant language or those with proficiency in the dominant language in the community (e.g., those who don't speak English in a predominantly English-speaking community).
- Evaluate the availability, accessibility, and effectiveness of emergency communication in the languages represented within the community.
- Understand traditional practices and how they might positively or negatively impact disaster preparedness and response (e.g., reluctance to evacuate due to cultural or religious reasons).
- Evaluate the level of social cohesion and trust within cultural groups and towards authorities.
- Identify any barriers that cultural groups face in accessing emergency services, healthcare, and social supports.
- Consider how cultural practices might influence economic vulnerability, such as reliance on informal economies.

Step 5: Assess Date and Make Recommendations

Develop Cultural Profiles

- Create detailed profiles for each cultural group, highlighting their specific vulnerabilities, needs, and strengths. Ensure this is grounded in the data and engagement process to protect against assumptions and biases.
- As part of risk perception, understand how different cultural norms and beliefs influence how people perceive or respond to hazards, which can influence their preparedness and response behaviors.
- Tailor outreach and preparedness efforts to resonate with different cultural backgrounds.

Step 6: Make Recommendations:

- Make recommendations for risk reduction measures based on findings.

Getting Started

- [ ] List key critical infrastructure elements like roads, bridges, utilities, and buildings that are essential for the community, considering how their failure might impact various groups differently.
- [ ] Identify social factors such as poverty, access to resources, and demographics, and consider how intersecting identities might compound these vulnerabilities.
- [ ] Note any environmental considerations, such as areas prone to flooding, pollution, or loss of natural resources, and how these might disproportionately affect certain groups.
- [ ] Use checklists and surveys designed to capture data on intersecting vulnerabilities. Ensure questions address multiple identity factors.
- [ ] Implement a simple scoring system (e.g., low, medium, high) to rate the severity of each vulnerability, factoring in intersecting identities.
- [ ] Rank the vulnerabilities based on their potential impact on the community, especially on marginalized or intersecting groups. Focus on those that could worsen the effects of hazards the most for these groups.
- [ ] Identify which intersectional vulnerabilities need immediate attention and which can be addressed later.
- [ ] **Refer to Appendix P - Vulnerability Assessment Template.**

Risk Assessment

The risk assessment process is where the likelihood and severity of potential hazards are evaluated based on the information that was collected in the previous steps. Different methodologies can be used to determine risk based on the combination of hazard likelihood and severity assessments and put into a single risk score, which allows for a quick comparison of the relative risks posed by different hazards. Higher scores indicate a greater risk.

Intersectional Gender Analysis in Action

Many HRVA processes use the equation Risk= Likelihood x Consequence to determine risk, and as a result, they may miss the multiple dimensions of risk that would enable them to develop more effective and comprehensive risk management strategies.

Using the framework of Risk = Likelihood x Consequence x Vulnerability, enables a more holistic assessment of risk by considering multiple dimensions of risk and explicitly incorporating vulnerability as a key factor. By including vulnerability that is informed by a fulsome analysis, this risk assessment framework provides a more comprehensive and nuanced understanding of risk therefore enabling communities to more effectively calculate their overall risk associated with a particular hazard. Placing intersecting vulnerability factors as a key aspect of assessing risk allows communities to identify areas of high risk where intervention measures are most needed, to enhance the resilience and reduce the vulnerability of the whole community.

This framework also acknowledges the interactions and dependencies between likelihood, consequence, and vulnerability in shaping overall risk. For example, a high likelihood of a hazard event occurring may result in greater consequences if vulnerability is also high, leading to increased overall risk. By considering these interactions, communities can better understand the complex dynamics of risk, which allows municipalities to identify and prioritize risks more effectively and develop targeted risk reduction and mitigation strategies that are effective.

Example

Overland flooding occurs in a low-lying suburban area due to rapid snowmelt and intense rainfall. Historically, those responsible for emergency management might focus their risk reduction measures on areas closest to the lowest point in the landscape, assuming those areas would flood first. This might lead to interventions like raising roads or building flood barriers in those specific locations.

Key Questions to Consider

- How do the identified hazards, their likelihood, and potential impacts combine to form overall risk to the community?
- How do intersecting social identities and factors influence the level of risk for different population groups?
- What are the most significant risks to the community, and which groups are most vulnerable to these risks?
- How can risk be prioritized based on the severity of potential impacts and the vulnerability of affected groups?

Reminder: For more detailed 'Questions to Consider', please refer to Appendix Q. Reviewing these questions will help ensure a comprehensive and inclusive HRVA process.

Getting Started

- ☑ Collect data on hazard likelihood, consequences, and vulnerabilities from the previous steps.
- ☑ Ensure that the data includes insights on how different social identities intersect to create unique vulnerabilities.
- ☑ Adopt the equation Risk = Likelihood x Consequence x Vulnerability to capture the multi-dimensional nature of risk.
- ☑ Incorporate intersecting vulnerabilities to ensure a comprehensive understanding of risk for different groups within the community.
- ☑ **Refer to Appendix R - Risk Assessment Template**.

Risk Reduction Strategies

Risk reduction strategies in HRVAs are essential for minimizing the adverse impacts of hazards on communities. These strategies involve identifying, evaluating, and implementing measures that can mitigate risks and enhance resilience. Effective risk reduction requires a comprehensive understanding of the unique vulnerabilities and needs of different community members, particularly those who are most vulnerable to hazards.

Intersectional Gender Analysis in Action

Incorporating IGA into HRVAs ensures that risk reduction strategies are inclusive and equitable. By considering intersecting social identities and the contextual environment, those responsible for emergency management can develop targeted interventions that address the specific needs of diverse populations. This approach leads to more effective risk mitigation, as it accounts for the complex realities faced by different communities.

Example

A small rural community in Ontario surrounded by forest faces a significant wildfire risk. While the community has a basic wildfire preparedness plan, it might not adequately address the needs of all residents.

The community conducted an HRVA using intersectional gender analysis and assessed their wildfire risk. They understood that not everyone faced the same wildfire risk and so they identified various vulnerabilities in the community. Their assessment considered social, cultural, economic, and environmental factors alongside physical location.

Here's how intersectionality played a role:

- **Social Class and Land Use:** Wealthier residents living in sprawling estates might have more resources for private firefighting measures like defensible space creation or water storage, compared to lower-income residents living in denser mobile home parks.
- **Housing:** Many residents lived in older mobile homes, trailers, or log cabins, were more susceptible to fire damage. Limited resources made pre-emptive measures like defensible space creation and FireSmart measures difficult.
- **Indigenous Communities:** Local Indigenous communities with deep historical connections to the land might have Traditional Knowledge and practices regarding fire management that could be valuable in prevention or controlled burns.
- **Seasonal Farmworkers and Tourists:** Many migrant farmworkers and tourists live/stay in temporary housing with limited access to information or resources for wildfire preparedness.
- **Cultural Considerations:** Language barriers and cultural differences could hinder access to information and preparedness resources.
- **Older Adults:** A high percentage of residents were older adults, potentially facing mobility limitations during an evacuation.
- **Technological Vulnerability:** There is only one cell phone tower in the community and if it is damaged or threatened by fire, those without satellite networks/internet may lose their cell phone connection and ability to receive emergency communications.

Targeted Interventions:

Based on the intersectional gender analysis, the community implemented targeted risk reduction measures such as:

- **Financial Assistance Programs:** Provided grants or low-interest loans to low-income residents for defensible space creation or home improvements that enhance fire resistance.
- **Multilingual Outreach:** Developed fire safety information and evacuation plans in multiple languages, partnering with trusted community leaders for dissemination.
- **Transportation assistance:** Identified residents with mobility limitations and established a volunteer network to assist with evacuation during wildfires.
- **Culturally Sensitive Communication:** Developed fire safety education programs that considered different cultural beliefs and practices around fire.
- **Emergency Communication:** Developed emergency communications plans involving community members such as community message boards and buddy systems with neighbours to ensure everyone can stay informed during an emergency.
- **Inclusive Fire Management:** Collaborated with local Indigenous Communities to incorporate traditional knowledge and practices into fire management strategies.

Benefits:

- **Increased Preparedness:** Addressing the specific needs of vulnerable groups improved the community's overall preparedness for wildfires.
- **Reduced Risk:** Targeted interventions helped mitigate vulnerabilities, potentially leading to less property damage and improved safety during wildfires.
- **Empowerment and Collaboration:** The intersectional approach fostered a sense of ownership and collaboration within the community, strengthening their collective resilience.
- **Improved Equity:** By offering targeted resources and education, the community ensured a more equitable approach to wildfire safety for all residents.

Key Questions to Consider

- What criteria will be used to evaluate the significance of identified risks?
- How do community values, priorities, and social identities influence the evaluation of risks?
- How can community members be involved in the risk evaluation process to ensure it reflects their needs and concerns?
- What are the acceptable levels of risk, and how do these vary among different groups within the community?

Reminder: For more detailed 'Questions to Consider', please refer to Appendix S. Reviewing these questions will help ensure a comprehensive and inclusive HRVA process.

Getting Started

- ☑ Compile a list of potential risk reduction measures, including infrastructure improvements, emergency preparedness programs, and community education initiatives.
- ☑ Involve community members, especially those from vulnerable groups, to gather their input on effective risk reduction strategies.
- ☑ Evaluate each measure based on its feasibility, cost, and potential impact on reducing risk.
- ☑ Prioritize measures that specifically address the unique needs and vulnerabilities of different social groups within the community.
- ☑ **Refer to Appendix T - Risk Reduction Strategies Template.**

Monitoring and Evaluation

Understanding community vulnerability is an ongoing and evolving process. Effective monitoring and evaluation (M&E) are crucial to ensure that an HRVA remains relevant, accurate, and impactful.

Intersectional Gender Analysis in Action

Monitoring involves the continuous collection, analysis, and use of data throughout the HRVA process. This ongoing activity helps in tracking the progress of implemented risk reduction strategies and measures their effectiveness. Additionally, regular monitoring allows for the identification of new and evolving risks that may not have been apparent during the initial assessment. It ensures that the HRVA stays aligned with the community's changing needs and priorities, as well as with evolving practices in social vulnerability assessment.

Evaluation is the systematic assessment of the HRVA process, methodologies, and outcomes. It provides an opportunity to assess the extent to which the HRVA has met its objectives and goals. Through evaluation, strengths can be highlighted and areas for improvement identified, enhancing the overall process and methodologies of the HRVA. Evaluation also promotes transparency and accountability, building trust among partners, stakeholders, and community members. The insights gained from evaluation are crucial for refining and enhancing future HRVAs, ensuring they are more comprehensive and effective.

Updates

Regular updates to the HRVA are essential to reflect changes in the community, such as demographic shifts, economic developments, environmental changes, and emerging best practices in vulnerability assessment.

- Engage a wide range of partners and stakeholders, including community members, local authorities, and experts, in the M&E process. It is important to gather diverse perspectives and ensure the assessment accurately reflects the community's reality.

Data Quality

Ensuring data quality and management is another critical aspect of effective M&E.

- The data collected for monitoring and evaluation must be accurate, up-to-date, and relevant.
- Foster a culture of continuous learning and improvement within the emergency management team.
- Findings from M&E should inform training, capacity-building, and development initiatives.

Documentation and Reporting

Comprehensive documentation and reporting of the M&E processes and outcomes are essential. Regular reporting ensures that findings are communicated effectively to all partners and stakeholders, facilitating informed decision-making and collaborative action.

- Integrate comprehensive M&E practices into the HRVA process to ensure that assessments are dynamic, inclusive, and capable of effectively addressing the evolving risks and vulnerabilities within communities.
- This iterative approach not only enhances the resilience and preparedness of communities but also promotes equity and inclusivity in emergency management.

Ultimately, robust monitoring and evaluation practices enhance community resilience, preparedness, and equity, ensuring that emergency management efforts are inclusive and responsive to the diverse needs of all community members.

Key Questions to Consider

- What strategies and measures can be implemented to protect and support community members, especially those who are most vulnerable, from identified risks?
- How can risk treatment options be tailored to address the specific needs and vulnerabilities of different community groups?
- How can community members be involved in the development and implementation of risk treatment strategies?
- What resources and partnerships are necessary to effectively implement risk treatment measures?
- How will the effectiveness of risk treatment measures be monitored and evaluated over time?

Reminder: For more detailed 'Questions to Consider', please refer to Appendix U. Reviewing these questions will help ensure a comprehensive and inclusive HRVA process.

Getting Started

- ☑ Clearly outline the objectives for monitoring and evaluating your HRVA process.
- ☑ Select indicators that measure progress and effectiveness, ensuring they capture data relevant to different social identities and vulnerabilities.
- ☑ Establish a system for the continuous collection of data on implemented risk reduction strategies and community vulnerabilities.
- ☑ **Refer to for Appendix V - Monitoring and Evaluation Template.**

Additional Recommendations for the HRVA Process

Implementing a comprehensive HRVA requires a thoughtful and critical approach to ensure that all aspects of community vulnerability are accurately identified and addressed. It involves actively considering and addressing the needs of those who are often left out of traditional assessments. This section provides practical recommendations, offering actionable insights and strategies to enhance the effectiveness and inclusivity of your assessment. By following these recommendations, those responsible for emergency management can ensure that the HRVA is thorough, equitable, and responsive to the diverse needs of their respective community(ies).

Ensure Training and Education:

- All staff should undergo core training in IGA to understand its principles and application.
- Conduct regular workshops and training sessions on cultural competency to ensure effective communication and respect for diverse needs.

Facilitate Inclusive Meetings:

- Create dedicated spaces in meetings to discuss HRVAs and the integration of IGA.
- Encourage open dialogue and provide opportunities for staff to share insights and concerns regarding the implementation of IGA.

Allocate Resources:

- Include specific budget line items for hiring Equity, Diversity, and Inclusion (EDI) specialists.
- Allocate funds for community engagement activities and the development of inclusive emergency management resources.

Note

Please refer to the Companion Guide for a list of references, resources, and project contributors.