



Hazard Risk Assessment

Food Shortages

Food Shortages: For Communities that depend mostly on local food for sustenance
For Communities that depend mostly on food grown elsewhere for sustenance

Food Shortages

This section discusses the potential food shortages. Resources are available to assist you in completing this assessment in the Risk Assessment Resources section. Food shortages are not something that we normally associate with Canada; however, there are a number of situations in Canada where isolated communities have run out of food as a result of a disaster.

Definition

Food shortages occur when the population of a community undergoes a severe shortage of food. A severe shortage of food can lead to starvation, illness and, in extreme cases, death.

Discussion

When communities only have one supply route (e.g., train, airplane) to provide food to the community, and that supply route is interrupted it can cause serious food shortages in the community. Typically supply routes are interrupted by disasters (e.g., landslides) or repairs (highway closures).

Additionally, many residents in remote communities, especially during the winter months, are dependent upon game and locally produced food to sustain themselves over the winter. Long-term power outages can reduce the community's ability to keep food frozen and jeopardize stored food supplies. There are increasing concerns that climate change will impact the ability to northern Inuit communities to hunt and trap sufficient food to meet their needs.¹

It Happened Here...

During the second week of September in 1991 hundreds of people were stranded in the Nass Valley, in what was called the worst flooding in thirty years of the north coastal area. More than 1,000 natives were cut off from fresh food supplies and schools because of these floods. Clear-cut logging in the area was attributed to have contributed to the situation. Estimated cost of damage was \$1.6 million.

In September 2008, the northern Manitoba town of Churchill was facing food shortages after repairs to a key railway line resulted in a month of train service disruptions. Fresh produce, eggs and milk were all scarce in the community of 930, about 1,000 kilometres north of Winnipeg on Hudson Bay. The railway track that provides the only ground access to the town has been under repairs for a month. This was the worst food delays that had been seen in 21 years with stores closed as bacon, eggs and fresh produce had run out.²

For Communities that depend mostly on local food for sustenance

3 4 5 6 7- - Human-caused

Hazard Rating	High Risk <input type="checkbox"/>	Low Risk <input type="checkbox"/>	Need More Info <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
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Yes	No	Need More Info	Not Applicable	FACTORS
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	With increased temperatures scientists have noted that with changes to permafrost and melting ground ice there will be loss of migratory wildfowl and mammal breeding and forage habitats within the southern Arctic ecozone. Is your community dependent upon local animals for food and located within the Canadian Arctic?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Often a result of a combination of factors, but communities which rely on locally obtained food (e.g., seasonal hunting) and long-term freezing of this food, can run out of food if there are extended power failures required to keep food over the long-term. Does your community depend on locally obtained food and does it have long-term power outages?

For communities that depend mostly on food grown elsewhere for sustenance ^{8 9}

10 11 12- - Human-caused

Hazard Rating	High Risk <input type="checkbox"/>	Low Risk <input type="checkbox"/>	Need More Info <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
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Yes	No	Need More Info	Not Applicable	FACTORS
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reliance on a single food source (e.g., food arrives only by air or boat) can have negative effects if supply is cut off due to storms, landslides, earthquakes, etc. Does your community's food supply come from a single source?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	In the winter some communities are dependent upon air transport to deliver food to feed the community. If there is poor weather which prevents planes from landing, food shortages may occur. Does your community's food supply arrive infrequently during certain times of the year?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	**Has your community experienced food shortages in the past?

References

- ¹ Arctic Net. Climate change and food security in regional Inuit centers. Retrieved April 17 2011 from http://www.arcticnet.ulaval.ca/research/summary.php?project_id=70
- ² CBC News. Rail repairs result in food shortages in northern Manitoba town. Retrieved April 17 2011 from <http://www.cbc.ca/news/canada/manitoba/story/2008/09/17/churchill-rail.html?ref=rss>
- ³ Seyf, A. (2010). Iran and the great famine, 1870-72. *Middle Eastern Studies*, 46(2), 289-306.
- ⁴ Burg, J. (2008). Measuring populations' vulnerabilities for famine and food security interventions: The case of ethiopia's chronic vulnerability index. *Disasters*, 32(4), 609-630.
- ⁵ Noland, M., Robinson, S., & Wang, T. (2001). Famine in north korea: Causes and cures. *Economic Development and Cultural Change*, 49(4), 741-767.
- ⁶ Watson, R.T., M. C. Zinyowera, R.H. Moss. (eds.). (1997). *The Regional Impacts of Climate Change: An Assessment of Vulnerability*. IPCC. Cambridge University Press, UK.
- ⁷ Parry, L., O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson. (eds.). (2007). "Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change." Cambridge University Press, Cambridge, UK.
- ⁸ Seyf, A. (2010). Iran and the great famine, 1870-72. *Middle Eastern Studies*, 46(2), 289-306.
- ⁹ Burg, J. (2008). Measuring populations' vulnerabilities for famine and food security interventions: The case of ethiopia's chronic vulnerability index. *Disasters*, 32(4), 609-630.
- ¹⁰ Noland, M., Robinson, S., & Wang, T. (2001). Famine in North Korea: Causes and cures. *Economic Development and Cultural Change*, 49(4), 741-767.
- ¹¹ Watson, R.T., M. C. Zinyowera, R.H. Moss. (eds.). (1997). *The Regional Impacts of Climate Change: An Assessment of Vulnerability*. IPCC. Cambridge University Press, UK.
- ¹² Parry, L., O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson. (eds.). (2007). "Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change." Cambridge University Press, Cambridge, UK.