

NATURAL DISASTERS



Pakistan, 2008

On 1 November, Sulima Paten, holding her two-year-old son, Mohammed, stands outside their destroyed home in Kili Mirgha Kawas Village in Ziarat District, one of the worst-affected areas, in Balochistan Province. UNICEF is assessing needs in the earthquake-ravaged community, located in a very sparsely populated area. On 5 November 2008 in Pakistan, relief efforts continue on behalf of children and families in the aftermath of a 6.4-magnitude earthquake that hit the remote south-western province of Balochistan on 29 October.

INTRODUCTION

Natural disasters are increasing in severity and frequency; we are becoming more aware that climate change is contributing to this growth. Children have the right to be raised in a safe environment and so it is our responsibility to ensure children obtain this right, as stated in Article 24 of the UN Convention on the Rights of the Child.¹ Many organizations worldwide are taking action to equip communities with knowledge and skills to prepare for emergency disasters rather than simply responding after the disaster has taken place. This is essential to protect the lives of children, particularly those most vulnerable in developing countries.

Here in Canada, youth need to be aware of natural disasters that could affect our communities as a result of climate change. We need to equip youth to not only have compassion and take action in developing countries, but also to be prepared for issues facing us locally.

The **good news** is that we **can** learn from the innovative and practical actions underway to address the negative effects of climate change and participate in preparing to lessen the effects of natural disasters. We can start by understanding the issues and then doing our part to make a difference.

ACTIVITIES

The curricula links below are addressed in this theme. For an extensive list of relevant provincial expectations/outcomes, refer to Appendices G and H: Curriculum Links on pages 142 and 146, and Appendix I for links in Alberta, Saskatchewan, Manitoba and Quebec.

Province	Course	Expectation/Learning Outcome
Ontario	HPW3C Grade 1 Social Sciences and the Humanities: Living and Working with Children	Socialization of Children Evaluate various global influences on children and families
Ontario	SNC2P Science, Grade 10 Applied <i>Earth and Space Science</i>	D1. Analyze effects of human activity on climate change, and effects of climate change on living things and natural systems.
British Columbia	Socials 11	Assess environmental challenges facing Canadians, including <ul style="list-style-type: none"> • Ozone layer depletion • Fresh water quality and supply
British Columbia	Civics 11 <i>Civic Deliberation</i>	Analyze the domestic and international effects of Canada's record with respect to issues and events in one or more of the following categories: <ul style="list-style-type: none"> • Environment • Trade • Foreign aid • Peace and security • Human rights

Setting the Stage

Objective: To define natural disasters as they relate to climate change

Time: 10 minutes

Materials

- Reused paper for each student (personal white boards or laptops)
- Appendix E: Reflect and Act (page 139)
- Movie clip: *2 Lives: 2 Miles //Disaster*
http://www.youtube.com/watch?v=5u5Hy8Q3nZ0&list=PLD6AA4215618717BB&index=8&feature=plpp_video

ACTIVITY

1. Explain that you will be discussing natural disasters connected to climate change; climate change results in an increase in (and severity of) global natural disasters. Natural disasters can strike at any time and children are affected the greatest by the aftermath of a disaster.
2. View the movie clip: *2 Lives: 2 Miles.// Disaster*. Distribute to each the Appendix E: Reflect and Act on page 139 and ask students to journal lessons learned during the movie clip, class discussion and activities around the theme.
3. Have students review the site, Children in a Changing Climate at <http://www.childreninachangingclimate.org/home.htm>, which contains reports (ex. Children on the Frontline: Children and Young People in Disaster Risk Reduction) outlining the importance of ensuring that children have a voice when tackling climate change and disaster risk reduction in their communities.
4. Ask students to draft personal definitions of what a “natural disaster” means. Ask students to list examples of natural disasters. Have students share their responses.
5. Share that natural disasters are disasters caused by natural forces. Examples of natural disasters include floods, storms, droughts, cyclones and landslides. Today, millions of children from all over the world suffer from the effects of natural disasters; it is predicted that storms, floods and droughts will become more severe, because of climate change.²
6. Ask students, “What do you feel about the fact that children are usually the most negatively affected by natural disasters?”

When Disaster Strikes

Objective: To list basic human needs and how they are met after natural disasters that increasingly occur because of changing climatic patterns.

Time: 25 minutes plus time for research project

Materials

- Reused paper for each student (personal white boards or laptops)

ACTIVITY

1. Discuss natural disasters and brainstorm examples: floods, earthquakes, storms, fires, landslides, tsunamis, etc.
2. Share the details of a natural disaster that caused massive devastation, such as Hurricane Katrina, the tsunami in Thailand, etc. Instruct students to research one recent natural disaster (as homework or during class time). In their report, students should give details on the type of natural disaster, where and when it took place, what toll it took on the local people and environment, and what assistance the community received. This report can be presented on a poster board or as an oral presentation.
3. Explain that inevitably it is the poor who are most vulnerable to a natural disaster in developing

countries, “as their livelihoods are often dependent on land, crops or livestock. They are also more likely to live in high-risk locations such as flood plains, river banks, steep slopes, on reclaimed land, and in densely populated slums of poorly constructed houses.”³

4. Ask students to list basic human needs that might not be met after a natural disaster. Examples may include food, clean water, shelter, first aid, etc. Discuss which of these needs are matters of survival. How can the inability to obtain these essentials impact the welfare of the children?
5. Debate Article 24 of the UN Convention on the Rights of the Child (CRC) 0 the most widely ratified human rights treaty and the foundation for UNICEF’s work with and for children. Article 24 states that it is the responsibility of developed nations to help developing nations. Why (or why not) should we help? How can we help?
6. Next, ask students to research how the aftermath of a natural disaster in Canada may differ from one in a developing country. How are Canadians prepared for a natural disaster? What role does the Canadian government play?

An earthquake of magnitude 9.0 unleashed tsunami waves up to 10 metres high across South Asia and East Africa as people slept one early morning in December 2004; this natural disaster was responsible for killing tens of thousands of people. For more information see http://www.unicef.org/media/media_24628.html.

A category 4 cyclone struck the southern coast of Bangladesh in November of 2007 resulting in torrential rains and strong winds. Over 3 million people were affected by the intense storm; children among the hardest hit. For more information see http://www.unicef.org/infobycountry/bangladesh_41830.html.

Be Prepared

Objective: To develop a list of basic survival items needed in the event of a natural disaster and help students discover why developing countries are at greater risk of a natural disaster.

Time: 45 minutes

Materials:

- Student Handout #15: Emergency List
- Slide show on Cyclone Nargis aftermath and media set-up (<http://www.unicef.org/thailand/8243.html>)
- Student Handout #16: A Picture says a Thousand Words

ACTIVITY

1. Arrange the class into six groups.
2. Distribute Student Handout #15: Emergency List (page 70) and discuss the items that could comprise a disaster emergency kit.
3. Instruct groups to choose, and come to a consensus on, an emergency list containing only 10 items from this list.
4. Compare the lists in the class. Have groups defend their choices.

5. Ask students to compare luxury items versus survival items. What items in their emergency kit could change for people in different parts of the world? After a natural disaster, humans have basic needs; are those basic needs different in Canada than in other countries like India or Malawi?
6. Discuss the Myanmar (Burma) Cyclone Nargis emergency, which devastated that region in May 2008. Cyclone Nargis was a deadly tropical storm. Myanmar is located just northwest of Thailand.
7. Show the slide photo essay on the Myanmar Cyclone Nargis aftermath at <http://www.unicef.org/thailand/8243.html>. Distribute and ask students to complete Student Handout #16: Pictures say a Thousand Words (page 71).

Being Heard: Youth Speak Out

Objective: To understand the importance of youth participation on issues of climate change and natural disasters.

Time:

- Part A: 75 minutes
- Part B: Three 75 minute sessions

Materials:

- *Agents of Change* blog and video clip found at: www.unicef.ca/en/blog/agents-of-change
- Student journals
- Video recording equipment or camera
- Flip chart for additional note taking
- Computers and software for video editing

ACTIVITY

Part A

1. Have students read the article and watch the “Sea Change” video found on the *Agents of Change* blog (www.unicef.ca/en/blog/agents-of-change)
2. Have students take two to five minutes to reflect on how the video impacted them. Is this video different from others about natural disasters that they have seen? Why or why not? Ask students to note their impressions in their journals using one or two words.
3. Arrange the class into groups of three and ask students to share some or all of what they wrote with their group. Between them, students are to choose three key words that might describe their reaction/feeling about the video and write those on the board.
4. As a class, identify major themes from the words listed on the board (e.g., empowerment, climate change, youth, impacts, etc.).
5. In the groups of three, create lists under the following categories: IMPACTS OF CLIMATE CHANGE/NATURAL DISASTERS ON YOUTH (NORTH/SOUTH DIFFERENTIATION), WHAT IS

BEING DONE TO MITIGATE THESE IMPACTS, and WHAT CAN YOUTH DO. (An editable Google document could be used that groups can add to and comment on).

6. As a class, come up with a Youth and Climate Change Declaration and publish it on the school website.

Part B

1. In groups of five or six, have students come up with questions about climate change to ask students in other classes. These questions can be based on the “Sea Change” video and the discussions and the themes that emerged from the previous class. Their questions should be approved by their teacher and principal prior to carrying out the project.
2. Have groups interview and video record other students. Each group member should have a contribution that is clearly defined (e.g., recording the responses, asking for recording permission, asking the questions, etc.).
3. In a computer lab or on a projector, lead a demonstration on how to edit videos.
4. From the footage or audio tracks that they have recorded, have each group edit the content down to a maximum of five minutes.
5. View the videos in the final 30 minutes of the class.

Keep the discussion going

Are all humans given the same assistance after a natural disaster? Why or why not? What role does foreign policy play? What role do different countries play?

What role does the inequity of wealth play in managing a natural disaster?

What are some of the health issues that may develop after a disaster? How could we prepare for this?

As climate change is linked to the increase of natural disasters globally, how we choose to live can affect our global neighbours. What actions can you take to lessen your ecological footprint and therefore help stop climate change?

Yukon's Zelma Lake is losing water at a rapid rate. For more information see <http://www.cbc.ca/canada/north/story/2007/08/07/yk-zelma.html?ref=rss>.



YOUTH TAKE ACTION

Challenge for Change!

Distribute Student Handout #14: Youth Take Action (page 69) and discuss the inspirational profiles. Instruct students (groups, pairs or individuals) to select ONE student project listed under the Challenge for Change Action or invite them to create their own challenge. Set appropriate timelines and criteria. Evaluate each project using Appendix C: Culminating Task Rubric on page 137.

BACKGROUNDERS NATURAL DISASTERS

What is the issue?

There is increasing evidence of the changes in the climate system resulting in an increase in the frequency and severity of natural disasters. "Evidence that our climate is warming is now deemed 'unequivocal' by the Intergovernmental Panel on Climate Change (IPCC) based on global surface temperature records, revealing that eleven out of the last twelve years rank among the warmest since 1850."⁴

The effects of climate change will result in the following:

- Droughts
- Floods
- Storms
- Temperature changes
- Weather pattern changes

What is happening around the world?

2006

- January: Russia and Eastern Europe experienced a coldwave, similarly in India and Bangladesh a coldwave claimed around 300 lives.
- Later in 2006, western and Central Europe experienced the hottest temperatures on record during July to October.
- Severe drought in 2006 affected millions of people across China, Afghanistan and Brazil.
- East Africa experienced the worst flooding in 50 years, with more than 600 lives lost in Ethiopia alone.

2007

- July: floods, Africa – 1.5 million people affected by extreme rainfall across 18 countries of West East and Central Africa.
- August: typhoon, Philippines, Taiwan and China – typhoon Sepat affected more than 1.53 million people in China alone.
- November: floods, Gulf of Mexico – Mexico experienced its worst floods in 50 years affecting more than 1 million people. Thousands of families were forced out of their homes by floodwaters and were in desperate need of water, food and medicine.
- November: cyclone, Bangladesh – Cyclone Sidr leaves a trail of destruction across 30 districts of Bangladesh, 7 million people affected, 600,000 children under the age of 5.

2008

- May: According to UN calculations China was the country with the largest natural disaster-related



economic impact in 2008. In May, China's Sichuan province was rocked by a 7.9 magnitude earthquake leaving 80,000 people dead and 18,000 missing.

- May: Cyclone Nargis left a path of destruction after it swept the Burmese peninsula with massive waves and winds that exceeded 190km/h. According to US estimates, Cyclone Nargis took the lives of over 100,000 people and left approximately 1 million homeless.
- September: Caribbean countries, Louisiana, and Texas were hit by the Hurricane Ike. The devastating effects of the category 4 hurricane left a path of devastation; the storm was directly responsible for 103 deaths, as well as rendering thousands homeless because of the extensive damage left in its wake.

2009

- February: On February 7th Victoria, Australia was faced with a series of bushfires that were subsequently dubbed the "Black Saturday" fires. The fires were sparked by a lethal mix of dry conditions, high temperatures, and extremely high winds. The Black Saturday fires killed 173 people and displaced 7,562 people.
- November: Hurricane Ida caused extensive damage on the east coast of Nicaragua and the adjacent islands. Flood waters and mudslides displaced approximately 6,000 people in El Salvador.
- April: A 6.3 magnitude earthquake affected a number of small villages in the mountainous region northeast of Rome, Italy. The earthquake damaged historical buildings, killed nearly 100 people, and left tens of thousands of people homeless.

2010

- January: A 7.0 magnitude earthquake struck the island nation of Haiti leaving 230,000 people dead.
- February: A snowstorm referred to as "Snowmagedon" blanketed the American northeast with record-breaking amounts of snow. Some areas received over 3 feet of snow over a two day period.
- July-August: Heavier than normal monsoon rains caused serious flooding in northwest Pakistan. Over one fifth of the country's total area was under water affecting over 17.2 million people.
- Volcanic eruptions from the Eyjafjallajokull volcano in Iceland produced an ash-plume so large that it disrupted trans-Atlantic air traffic periodically over a 5 week period.

2011

- March: An 8.9 magnitude earthquake rocked the Japanese coast triggering a tsunami that produced waves as high as 30 feet.
- Summer: Kenya, Somalia, Djibouti, Ethiopia, and Eritrea were affected by widespread drought sparking the most significant famine in decades.
- Beginning in July Thailand experienced the worst flooding the country had seen in 50 years. The floods affected over 12 million people.

2012

- March: Winter in Canada was unseasonably warm with multiple record-breaking high temperatures. As a result of the mild, dry winter, the Alberta government had to begin wildfire season a month earlier than usual.
- September: The Arctic sea ice reached its lowest recorded level.
- October: Superstorm Sandy wreaked havoc on parts of the Caribbean and the American East Coast. The storm left a path of destruction, destroying homes and business and claiming at least 125 lives.

As with the other impacts of climate change, developing and poor countries are most vulnerable to these natural disasters and climate change effects. They do not have the ability to respond and adapt to the disasters, having no resources and finances to invest in disaster preparedness. The developing countries have lower economic diversification, and generally are more reliant on agriculture, making them more vulnerable. Children are the most vulnerable as they may be killed or injured, suffer malnutrition, become orphans, or be separated from their families.⁵

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Communities taking action

Actions plans are being created to equip communities with knowledge and skills to prepare for emergency disasters rather than just responding after the disaster has taken place.

- For example, in West Bengal, UNICEF, the state government, and other organizations have been working with communities to establish action plans. They have identified vulnerable people in their villages, such as the elderly, the sick, and young children. Some have learned to make rafts, and each family has learned to prepare a survival kit.⁶
- Small island developing nations are also a high vulnerability risk since a natural disaster may wipe out the entire nation, forcing displacement and permanent migration. Many nations, including Trinidad and Tobago, are developing risk-reduction and awareness initiatives that will empower communities to plan in advance and effectively address the issues that natural disasters bring to the forefront. Check out UNICEF's SIDS (Small Island Developing States) Fit for Children Network at <http://www.sidsnet.org/>

To learn more about climate change connected to natural disasters, view the UNICEF UK Climate Change Report 2008: Our climate, our children, our responsibility at <http://www.unicef.org.uk/campaigns/publications/pdf/climate-change.pdf>.

NOTES

1. UNICEF UK, Our climate, our children, our responsibility, p. 12.
2. Ibid., p. 26.
3. UNICEF, Climate Change, http://www.unicef.org.uk/campaigns/campaign_sub_pages.asp?page=95 (accessed November 2009.)
4. UNICEF UK, Our climate, our children, our responsibility, p. 4.
5. Ibid., p. 5.
6. Ibid., p. 27.

Student Handout #14

YOUTH TAKE ACTION

Challenge for Change action items

Be part of the solution! Complete ONE project from the list below or create your own! You will be evaluated on criteria including knowledge of the issue, expression of ideas and connections made between personal, local and global views of the issue.

Research and assess your preparedness in accordance with the Government of Canada's 72 Hour Plan; download the step-by-step guide on how to put together an emergency preparedness kit at home. Survey your peers to see who has put together an emergency preparedness kit at home or at school.

PROJECT: Create a YouTube clip, PowerPoint presentation or a song/jingle/PSA/rap/skit to encourage Canadians to be prepared for a natural disaster. Include a global connection to why Canadians should also help developing countries prepare for a natural disaster. Ensure you include information on Canada's 72 Hour Plan. You may want to display a sample emergency preparedness kit at school. For more information see <http://www.getprepared.gc.ca/index-eng.aspx>.

Learn about Arctic residents living along the coast of the Beaufort Sea who are worried about the effects of climate change as rising sea levels and melting permafrost could erode away communities. How can a plan of action help residents prepare for a natural disaster?

PROJECT: Contact a school in a Canadian Territory to interview students on their reactions to the melting permafrost. What changes have they seen over the past five years? What have the teachers noticed over the past 10 years? What local actions are being taken? What actions can we take to make a difference? For more information see <http://www.cbc.ca/canada/north/story/2009/01/12/permafrost.html>

Research the actions UNICEF is taking to offer relief in developing countries in times of natural disasters and document a recent UNICEF relief mission. What support did UNICEF offer? How can we become involved? Visit <http://www.educationandtransition.org/> to learn about UNICEF's international development work on education in emergencies and post-crisis transition countries.

PROJECT: Get involved in a recent relief effort by organizing a fundraiser to raise money (and awareness) for medical, food, and water supplies for regions hit with a natural disaster.

Go to <http://www.unicef.org/appeals/> and familiarize yourself with the current funding appeal of a specific humanitarian mission. Why do the children of that country need UNICEF's support? What activities is UNICEF using charitable donations to fund? How do they distribute funding?

Barrie North Collegiate, Barrie, Ontario

Students at Barrie North Collegiate became part of the solution when they tackled issues affecting developing countries: climate change, pollution, war and poverty. Student clubs organized clothing drives, book fairs and garbage-free lunch days. Students also raised funds for local charities and UNICEF.

Barrie North is a winner of Lakehead University's "Do Something" contest; schools were asked to demonstrate action around issues of climate change, the environment, and social, economic and political issues. For more information see <http://www.lakeheadu.ca>.

Bangkok, Thailand

In February 2005, Alicia Keys hosted MTV Asia Aid. Cheering fans watched their favourite stars perform as part of a benefit to assist the tsunami relief effort in Asia. Because children were especially hard hit by the natural disaster, UNICEF was the chief beneficiary of the concert. For more information see <http://www.unicef.org>.

Student Handout #15

EMERGENCY LIST

Check only the most important TEN items you would require after a natural disaster.

- First aid kit
- Cash
- Gloves
- Portable radio
- Coffee
- Clean sheets
- Doll
- Bucket
- Camera
- Plastic tarp
- Flashlight
- Shampoo
- Sewing kit
- Pillow
- Cell phone
- Tent
- Football
- Towel
- Toilet paper
- Whistle
- Pen and paper
- Book
- Plates
- Knife
- Light bulb
- Dried fruit



A displaced mother with her children in search of shelter in Charpara, Bangladesh.



Children find shelter in Charpara just before the cyclone hits Bangladesh.

- Soap
- Garbage bags
- Dried soup
- Tinned food
- Medicine
- Camping cook set
- Survival blanket
- Chewing gum
- Duct tape
- Mailing stamps
- Disinfectant
- Shoes
- Container of water

Student Handout #16

A PICTURE SAYS A THOUSAND WORDS

Children stand amid the debris of their village, which was destroyed by the cyclone, near the township of Kunyangon in the southern Yangon Division. In May 2008 in Myanmar, an estimated 1.5 million people struggled to survive under increasingly desperate conditions in the wake of Cyclone Nargis, which hit the south-western coast on 3 May, killed some 100,000 people, and displaced 1 million across five states.



1. As a result of the cyclone, how many people in Myanmar had to struggle to survive under the desperate conditions?
2. UNICEF distributed pre-positioned emergency supplies to the hardest hit areas. What was included in these supplies?
3. What percentage of children in the worst-affected areas were suffering from diarrhoea, a major threat to children's lives in emergencies?
4. To combat diarrhoea and other waterborne diseases, what did UNICEF airlift into Myanmar?
5. How long has UNICEF been working in Myanmar?
6. How would relief in Myanmar differ from relief in Canada?
7. What can we do to make this picture different?
8. What natural disaster plan would you suggest for Myanmar for the future? What obstacles are there to implementing this plan?