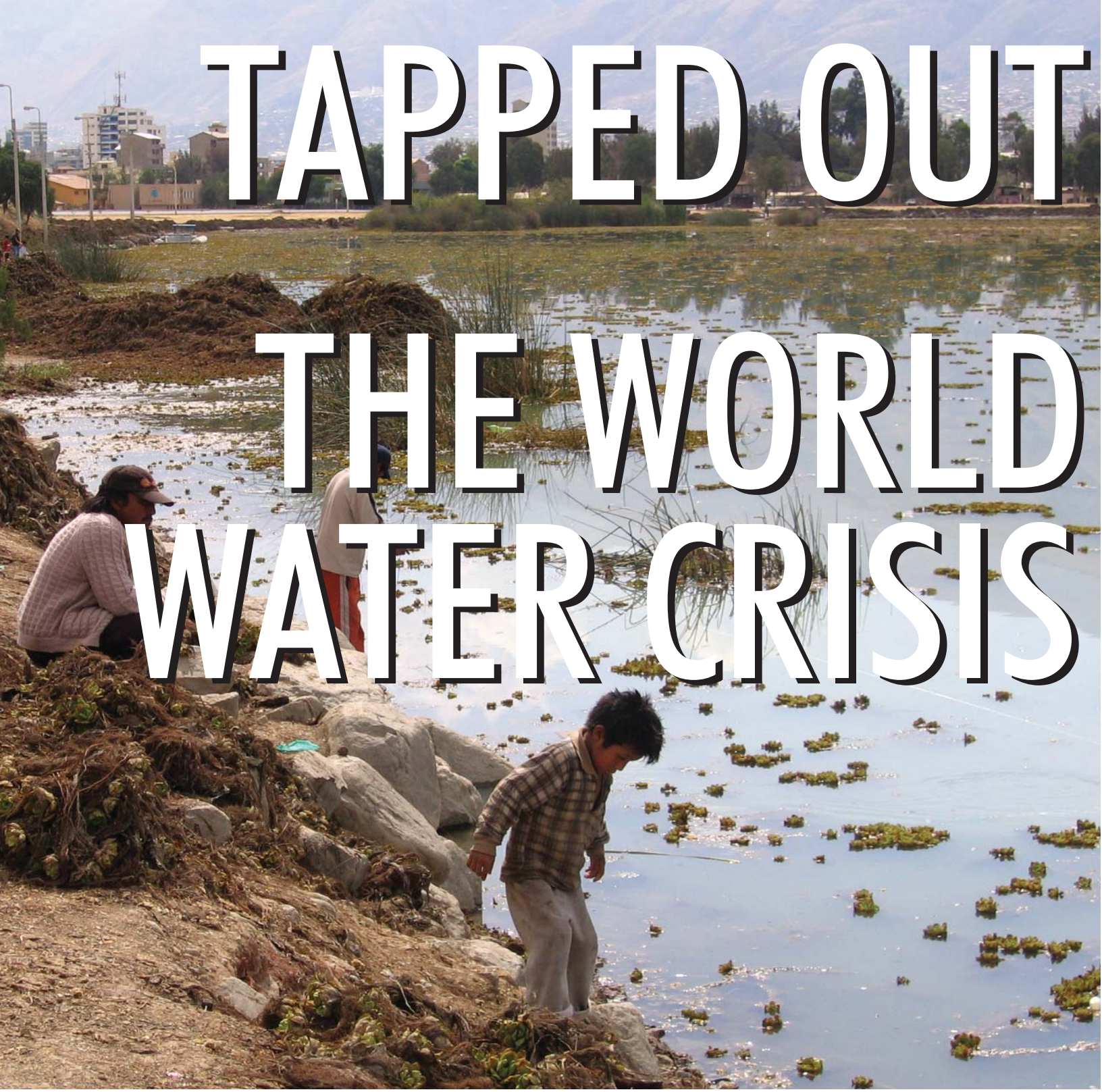

TAPPED OUT

THE WORLD WATER CRISIS

A classroom resource with

- Teaching materials
- Integrated DVD and CD
- Lesson plans
- Evaluation Rubrics

Tapped Out: The World Water Crisis

OSSTF / FEESO

Canadian International Development Agency | Agence canadienne de développement international

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OSSTF/FEESO Common Threads Project III

Ontario Secondary School Teachers' Federation
Fédération des enseignantes-enseignants des écoles secondaires de l'Ontario

Canadian International Development Agency
Agence canadienne de développement interna

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Preface

Common Threads is an OSSTF/FEESO international solidarity initiative that has provided curriculum support to schools across Ontario, and now beyond, thanks in large part to the generous support of the Canadian International Development Agency (CIDA).

Common Threads I (2003) looked at the impact of sweatshops and globalization in Guatemala. Common Threads II (2005) explored the effect of HIV/AIDS on the schools and communities of South Africa. In all cases OSSTF/FEESO has worked in partnership with unions and non-government organizations (NGO) in the countries visited. The result has been some wonderful partnerships and the establishment of solidarity with educational workers and communities around the world.

Our newest project team travelled to Bolivia in 2006, to look at the impact of globalization and the privatization of water. Clearly, water quality and availability is of growing concern for people throughout the world, including Canada. The current Common Threads resource introduces and explores many of the international debates which surround water. Is water a commodity or a human right? Should it be managed privately or publicly? What are the current and future environmental threats to water?

Tapped Out: The World Water Crisis uses a wide-range of explorative lessons and a variety of teaching techniques. Teachers will find that these lessons fulfill many of the current curriculum expectations in a variety of subjects. Students will have an opportunity to research current issues surrounding water, from both a Canadian and an international perspective. Several exercises allow them to experience, through role play and debate, the emotional issues surrounding water. These are lessons designed by Federation members specifically for their classroom colleagues.

The material has been guided by our three themes

Water as a resource lesson plans explore the Earth's finite amount and uneven access to clean water. **Water and health** examines the relationship between unclean water and infections or water related diseases. **Water and globalization** is perhaps the most interesting section providing activities and lesson plans which encourage debate about the way in which globalization affects the production and consumption of services and products—among them, water.

Additionally, there is a section on **Taking action** and what one can do to help preserve civil rights such as water. And as in previous Common Threads projects, there is a DVD that thoroughly introduces the material—in this case, both Bolivia and the topic of water privatization. This documentary explores the issues through the eyes of an Ontario high school student. It can be viewed as a powerful introduction or used in Lesson 5.

Please feel free to reproduce and modify any of these materials to fit your classroom needs. And let us know what works best for you, or how you have adapted the resource. Your input will help us in future Common Threads projects!

All of the printed materials are available on line at www.commonthreads.ca

Introduction

Water as a resource

Water is our most precious natural resource. It is essential to life on Earth, for human populations and all other living organisms, for the survival of natural environments and ecosystems. It is also vital to human economic activity and industry. It is a finite resource insofar as there is a fixed amount of cycling and recycling on planet Earth. And this set amount is under constant threat of mismanagement, overuse and pollution, effectively reducing its availability, while worldwide demand for it increases. Like other natural resources, water is unevenly distributed around the globe, thus leading to unequal access to it and competition for it.

Poor management of this resource allows rivers and lakes to become squalid dumping grounds for wastes ranging from untreated sewage, mine leachate, chemicals and other industrial discharges to the contaminated fecal, pesticide and herbicide run-off from agriculture. Groundwater supplies are also subject to contamination, overuse and mismanagement. Global warming threatens regional water supply, but increases the demand for this resource. There is a world water crisis.

According to Canadian water-activist Maude Barlow, "There are two options. Either we have a competition for scarce resources–rich versus poor, public versus private, humans versus nature–or we come together as a human species and allow water to teach us all how to better live with one another."

The UN Department for Policy Co-ordination and Sustainable Development believes that water should be seen as: 1) a vital element, necessary for survival; 2) a natural resource, of economic value; 3) an environmental resource, of common heritage to all, and 4) a cultural and spiritual resource.

About 1.2 billion people in the world do not have access to clean water, including about 200,000 residents of El Alto, Bolivia.

Water and health

According to the Council of Canadians, the statistics are staggering. Every eight seconds a child dies of a water-borne disease. More than 2,000,000 people per year, mostly children, die from water-related diseases such as diarrhea and cholera. In Bolivia, nearly one out of every 10 children born, dies before he or she turns five and water-related diseases are a leading cause of these deaths, reports Bolivia's human rights organization, The Democracy Center.

According to World Vision, "Human health is dependent on clean and sufficient amounts of water and safe sanitation. In affluent countries, water services are largely taken for granted, but in developing countries they are much rarer. It is estimated that at any given time nearly half the people living in developing countries are suffering from water-related diseases. These diseases can be either infectious, such as cholera and malaria, or non-infectious such as flourosis. Poor hygiene and inadequate sanitation quickly spread diseases. Of nearly 2 million children who die from diarrhoeal and other water-related diseases, almost all are under five."

"Water-borne diseases are caused by drinking water contaminated with feces. These include diarrhoeal infections, cholera, typhoid, poliomyelitis and hepatitis A. Water-related diseases are caused by insect vectors that feed or breed in water (flies and mosquitoes). These include malaria, with 400 million sufferers a year, and onchocerciasis (river blindness) with 17 million sufferers. Water-based diseases are caused by parasites which spend part of their life cycle living in water. These include guinea worm and schistosomiasis. Water-washed (water scarce) diseases caused by poor personal hygiene and skin or eye contact with contaminated water, include scabies, trachoma, and fleas, lice and tick-borne diseases." (World Vision)

Water and globalization

Globalization refers to the increasing integration and interdependence of countries—particularly in terms of trade and economic ties. While countries align themselves through free trade agreements, multinational corporations bind countries and economies within their corporate webs. Globalization affects the production and consumption of products and services, culture, security, the environment and the exchange of ideas. It also has important implications for water resources.

"Local water management issues are increasingly tied to events and people distantly located. For example, some private water utility headquarters are located thousands of miles away from the municipalities they manage; environmentally minded citizens halfway around the world mobilize to oppose the construction of dams; and multinational banks promote full cost recovery for water investments." reports water encyclopedia website. Globalization has opened up the water sector to significant competition and external influences like privatization, resulting in the 'commodification' of water, that is, turning an essential necessity of life into a commodity, a 'good,' to be commercially exploited for profit. Educator pension plans are complicit through their investments.

Globalization and privatization of water also have many implications for both water quantity and quality. According to the Polaris Institute, the unregulated taking of natural resources can also lead to rapid depletion and contamination.

As globalization transforms the world, the quantity of the Earth's water resources remains the same. While globalization increases the stress put on these limited resources, the supply of clean water dwindles.

In the face of globalization, a backlash has grown from the grassroots up. People have taken to the streets to rail against globalization trends such as water privatization and the commodification of water resources by multinational corporations. Protestors and anti-globalization activists have staged mass demonstrations and protests at major world trade summits and other global platforms. Anti-globalization organizations have held their own, concurrent international meetings around the corner from where the private sector or world leaders have held their talks. These parallel events have garnered their own media attention. Indigenous communities from around the world have marched in protest to the takeover of resources by multinationals taking advantage of globalization's liberalized trade and finance.

In the past decade, many anti-globalization activists have emerged to worldwide recognition. In Bolivia, Oscar Olivera a labour leader and environmentalist rose to international prominence in his successful leadership of the Cochabamba social movement to oust the San Francisco-based multinational corporation, Bechtel, in its attempt to privatize the city's water services. The mainly indigenous population of Cochabamba brought the city to a standstill in the first months of 2000 with their mass demonstrations against Bechtel's water bill increases of up to 300 percent. Media footage of police snipers firing on the crowds and the coffin of a teenage victim being carried through the streets by mourners brought the world's attention to the fight of these Bolivian citizens. From this melee, the diminutive activist Olivera came forth to court international pressure against Bechtel in its ensuing civil suit against Bolivia in a World Bank court. Again, Olivera and the people of Bolivia won a victory in that fight against the forces of globalization when the court awarded to Bechtel nominal damages amounting to less than a dollar.

Another Bolivian activist, Abel Mamani, who fought against the French water firm Suez in Bolivia's El Alto water war, is now the country's water minister. In March 2006, Mamani released a ministerial declaration at the 4th World Water Forum in Mexico City that could easily be adopted by water activists worldwide as their credo. In brief, it declares that water is a fundamental human right which belongs to the Earth and all living organisms; that it is a public good that should be managed by communities, not private companies based on profit; and that water resources should be withdrawn from all free trade agreements.

In Canada, social activist Maude Barlow leads the anti-globalization campaigns of the NGO she heads, the Council of Canadians. Her speeches against water privatization and multinationals can be heard from podiums and poor communities around the world. She warns us of Canada's vulnerability to American demands for Canadian water with the inclusion of water as a good in NAFTA (the North American Free Trade Agreement). Together with fellow-Canadian water activist and Polaris Institute director Tony Clarke, Barlow is author of *Blue Gold: The Battle Against Corporate Theft of the World's Water*.

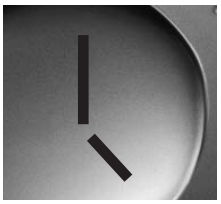
Inspiring leaders have sprung from water wars and struggles around the world. And, the civil movements by the world's grassroots "water warriors" have been meeting with success in many countries throughout South America, Asia and Africa, the three continents whose poorest countries are most vulnerable to water exploitation by multinationals. There, the main goals of water activists are to 'decommodify' water, that is, to stop its commercial exploitation for profit as an 'economic good' and to improve access to water by poor people. Citizen activists fight local and international campaigns on water issues.

Other campaigns around the world include environmental protests against megadams and destructive irrigation projects, bulk water withdrawals, diversions and exports, privatized water management schemes known as public-private partnerships (P3 agreements), bottled water extraction by multinational corporations, the inclusion of water in international trade agreements and the World Bank's unpopular Structural Adjustment Programs (SAPs) which make privatization a condition in third-world loans and undermine the sovereignty of poor nations.

Who are these water warriors? They are the poor peoples of the world, students and academics, workers and homemakers, indigenous communities, consumers, environmentalists, non-governmental and labour organizations, politicians and their political parties. They are you and me.

LESSON 1

The world water crisis in focus



Estimated time required:

Four classes of approximately 75 minutes.
Works effectively over a two-week period but much of this time is spent at home, calculating water usage.

Overall expectations

By the end of this activity, the students will be able to:

- carry out research and analysis on one of the factors contributing to the world water crisis
- make a graphic and oral presentation on one of the factors contributing to the world water crisis
- understand the complexity of factors giving rise to the world water crisis
- discern connections between various factors giving rise to the world water crisis
- relate the Canadian experience to the world water crisis

Enduring (key) understandings

Students will understand that the world is in a water crisis because of factors that increase demand for water resources while useable supplies decrease. They will appreciate that solutions to the water crisis can only result from changes in human behaviour in terms of water consumption, conservation practices and sustainable water resource management.

Prior learning

This activity can stand alone as an introduction to the world water crisis.
Have students estimate their daily and weekly consumption of water in litres using BLM 1-1: Water log, also available for printing out at Environment Canada's website: www.ec.gc.ca/water/en/info/pubs/nttw/e_nttwia.htm

Getting ready

Duplicate the black line master for students:

BLM 1-1: Water log
BLM 1-2: The world water crisis–Canada and selected countries

Book a computer lab for research purposes for at least two periods

Preview the Water Consumption Calculator on school computers to ensure it works (it requires the use of javascript) at www.csgnetwork.com/waterusagecalc.html

Preview Environment Canada's Freshwater website on school computers at www.ec.gc.ca/water/en/info/pubs/nttw/e_nttwi.htm and www.ec.gc.ca/water/en/info/facts/e_contnt.htm (it requires Adobe Acrobat)

Select a due date two weeks following the introduction of this activity.

Resources

Internet access
Common Threads III: Tapped Out: The World Water Crisis DVD

Teaching and learning strategies – Period 1

1. Brainstorm on the board or in small groups, all the places that water is used in the home, at school, in businesses and industries. You may want to introduce the framework of a concept map/mind map or web to help students organize their ideas.

2. Discuss those areas that students think use the largest quantities of water and those areas that they feel they may be able to reduce their use.

3. Distribute BLM 1-1: Water log or have students print out a copy at Environment Canada's website: www.ec.gc.ca/water/en/info/pubs/nttw/e_nttwia.htm

Have students estimate their average daily and weekly consumption of water in litres. If time permits, this lesson is effectively conducted over a two-week period. For the first week, have students tally the amount of water used in their household by various activities. Stress to them that they should not try to conserve water but simply go about their regular business.

At the end of the first week of water consumption, have students tally the total amount of water used and compare their household use to others within the class (be sure to divide the total amount of water used by the number of people within the household to have numbers that can be easily compared).

As a class, discuss ways that water consumption can be reduced in their homes, in the school and in their larger community.

At the beginning of the second week, students should inform/educate their parents and other family members about not only the importance of water consumption but of some of the easy ways they can reduce the amount of water used in their daily activities. Students should then conduct the same tally as the first week but with water consciousness in mind.

Re-group as a class at the end of the second week to discuss if they were able to conserve more water by implementing some of the water-saving strategies as discussed in class.

Alternatively:

Have the students calculate their water use using the Water Consumption Calculator available at www.csgnetwork.com/waterusagecalc.html

Explain to students that there are defaults (preset averages) that can be used or changed according to their personal water usage patterns at home. Also, the water calculator gives water use in gallons, not litres, because it is an American-based tool but they can easily convert the volumes using the following online converter: www.france-property-and-information.com/quick_metric_converter.htm

The students' calculated annual consumption of water is compared to that of the "Desert water agency," a water service provider in the dry Palm Springs area of California.

Students should be given the opportunity to discuss the results of the Water Consumption Calculator activity and come up with ideas on how to be less wasteful by reducing their personal water consumption.

Distribute BLM 1-2: The world water crisis—Canada and selected countries

Introduce the concept of a world water crisis and have a class reading of the above hand-out to familiarize students with some of the problems faced by countries lacking access to clean water and sanitation.

Compare Canada's water situation with that of other countries to initiate a discussion of water consumption and student consumption of water through their daily activities.

If time remains, students should access Environment Canada's freshwater web pages *Water: No Time to Waste—A Consumer's Guide to Water Conservation* at www.ec.gc.ca/water/en/info/pubs/nttw/e_nttwi.htm

Also see: www.ec.gc.ca/water/en/info/facts/e_contnt.htm to view the 30 water Infographics, *Did you Know?* and *Quickfacts* sections.

Teaching and learning strategies—Periods 2 and 3

Have the students brainstorm why there are increasing water demands and declining world supplies. Then distribute BLM 1-3: *The world water crisis—Focus on Factors*.

Have a class discussion of the handout to familiarize students with concepts of increasing water demand and declining water supply.

Students are to select one factor from the list to research in relation to the world water crisis, as instructed on the handout. Each topic should be assigned to only one student.

Each student will be expected to report back to the class on their selected factor with both a graphic and oral presentation, as instructed on the handout, on a scheduled date.

Provide the class with a period or two internet/library research time. The project should then be completed as homework.

Teaching/learning strategy—Period 4

On a selected date, each student will present his/her research findings to the class.

Following the presentations, students should be given the opportunity to assimilate or consolidate their learning through class discussion.

Show the *Common Threads III: Tapped Out: The World Water Crisis* DVD
(Alternatively, this DVD, or parts of it, could be shown as an introduction to the topic of the world water crisis).

BLM 1-1
Water log

What you do	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Total times	Average	Actual	Total
In the bathroom											
Flushing toilet									x 18L		
Washing hands (1 min.)									x 14L		
Showers									x 100L		
Baths									x 60L		
Brushing teeth									x 10L		
Shaving									x 20L		
TOTAL											
In the kitchen											
Cooking									x 20L		
Dishes by hand									x 35L		
Dishwasher									x 30L		
Washing food (1 min.)									x 14L		
Drinking (glasses)									x 0.5L		
TOTAL											
In the laundry room											
Washing clothes (1 load)									x 225L		
TOTAL											
Around the home											
Washing the car									x 400L		
Watering the lawn									x 35L per min.		
Watering the plants											
Washing the dog											
Other:											
Other:											
TOTAL											
									Grand total		

BLM 1-2
The world water crisis—Canada and selected countries

Country	Access to safe drinking water (% of population with access to safe drinking water, 2000)	Freshwater withdrawal (total per capita freshwater withdrawal in m^3/person/year)	Total renewable freshwater supply (annual renewable water resources in km^3/year)
Afghanistan	13	1020	65
Austalia	100	945	398
Bolivia	79	145	623
Canada	100	1431	2901
China	75	431	2830
India	88	497	1908
Kenya	49	68	30
Mexico	86	787	457
Nigeria	57	28	280
USA	100	1688	2478

Source: Pacific Institute: www.worldwater.org/data.html

Canada and the world water crisis

Statistics can be deceiving. Although it's true that all Canadians had access to safe drinking water in the year 2000 (as shown in the table on the previous page), it was that same year that seven people died from drinking town-supplied water, contaminated by E.coli bacteria, in Walkerton, Ontario. Another 2,300 Walkerton residents and visitors became ill and many of them will suffer lasting health effects. And if the name Walkerton evokes images of tainted water, so has the First Nation reserve Kashechewan entered our Canadian consciousness as a community ravaged by bad water. In October 2005, the Ontario government evacuated 1,100 residents of this James Bay Cree reserve after the water supply was contaminated by E.coli from raw sewage. One year later, as many as 30 aboriginal communities in Ontario were living with boil water advisories. The Sierra Legal Defence Fund has called the state of drinking water in First Nation communities a national disgrace.

Yet Canada is rich in water resources. Our country is the envy of the world for its clean and abundant freshwater supply. Most Canadians don't have to give a second thought to problems of water supply. Their taps run freely. And therein lies a problem: Canadians are wasteful users of water. The average Canadian uses 335 to 350 litres of water per day, much more than a person in Sweden where domestic consumption of water amounts to 200 litres per person per day. Worse, per capita water use in Canada has increased substantially over the past quarter century, while Sweden's has decreased.

According to Environment Canada, Canadians face a number of challenges in managing fresh water. Water quantity differs from place to place and from time to time. Some regions of the country have suffered both catastrophic floods and serious droughts. There are areas where water supply and economic activities have been constrained by water availability or problems of pollution. For example, a government report by the Geological Survey of Canada warns that Calgary will soon face water shortages. The city is headed for a water crisis that can only be averted by reductions in water use.

So Canadians must reduce their water consumption. Water conservation must become a priority. But Canadians are not alone...a world water crisis is looming. As Canadian activists Maude Barlow and Tony Clarke wrote in their book, *Blue Gold: The Battle Against Corporate Theft of the World's Water*, "The hard news is this: humanity is depleting, diverting and polluting the planet's fresh water resources so quickly and relentlessly that every species on Earth—including our own—is in mortal danger. The Earth's water is finite. Not only is there the same amount of water on the planet as there was at its creation; it is almost all the same water."

"The world's water crisis is having a devastating impact on quality of life for billions of the world's citizens caught between the twin realities of water scarcity and water pollution...It is estimated that in less than 20 years worldwide demand for water will exceed availability by more than 50 percent," they write. Already, countless children and adults die of waterborne diseases every day because they have no access to clean water. Water is life, and yet it's a human right unfulfilled. About 1.2 billion people in the world do not have access to clean water. It has become a scarce commodity, fought over by people, their nations and their corporations.

Will wars be fought over water? "There are two options," says Maude Barlow, "Either we have a competition for scarce resources—rich vs. poor, public vs. private, humans vs. nature—or we come together as a human species and allow water to teach us all how to better live with one another."

BLM 1-3
The world water crisis—Focus on factors

Student instructions:

Select one of the factors listed on the following page to research more fully using a combination of print and internet sources. You may not do the same topic as another member of the class.

Find information on your selected factor specifically in relation to:

a) its impact on water resources: increasing demands or decreasing supplies
b) examples and case studies from the real world
c) possible solutions to the problem and what must be done to slow or reverse the trend

Prepare a written and graphic presentation to be presented orally to the class on the due date; e.g. a bristol board display, PowerPoint slide show, game board, model or report.

Factors of increasing water demand

world population explosion

increasing global demand for water

increasing per capita water consumption

increasing urbanization of world population leads to increase in stress on local water resources

growth of industrial water use

free trade zones (e.g. in Mexico along U.S. border) mass producing goods for world consumer elite = increasing stress on limited local water resources

growth of water-intensive industries (e.g. automobiles, computers)

growth of agribusiness demand for water (high levels of water use compared to traditional farms)

growth of agriculture in arid regions increases demand for irrigation water

populating of arid regions and water imports

growth of bottled water industry

water-for-profit corporations and the encouragement of increased consumption

bulk water export schemes

increasing unsustainable freshwater demand on Athabasca River and Mackenzie basin by Alberta oil sands project

Factors of decreasing water supply

massive pollution of world's surface water

pollution of groundwater/aquifers

global deforestation impacts on water resources

wetland destruction and loss

dumping of sewage, wastewater, pesticides, fertilizers into waterways

global warming impacts on water resources

damming & diversion projects which reduce river flow

over-tapped river systems; reduction of flow

lowering lake levels

lowering of water tables

alteration of the water cycle as water retentive landscapes are paved over

aerosol particles in the atmosphere suppress rain

massive groundwater over-pumping & aquifer depletion

aquifer collapse and subsidence

seawater intrusion of aquifers

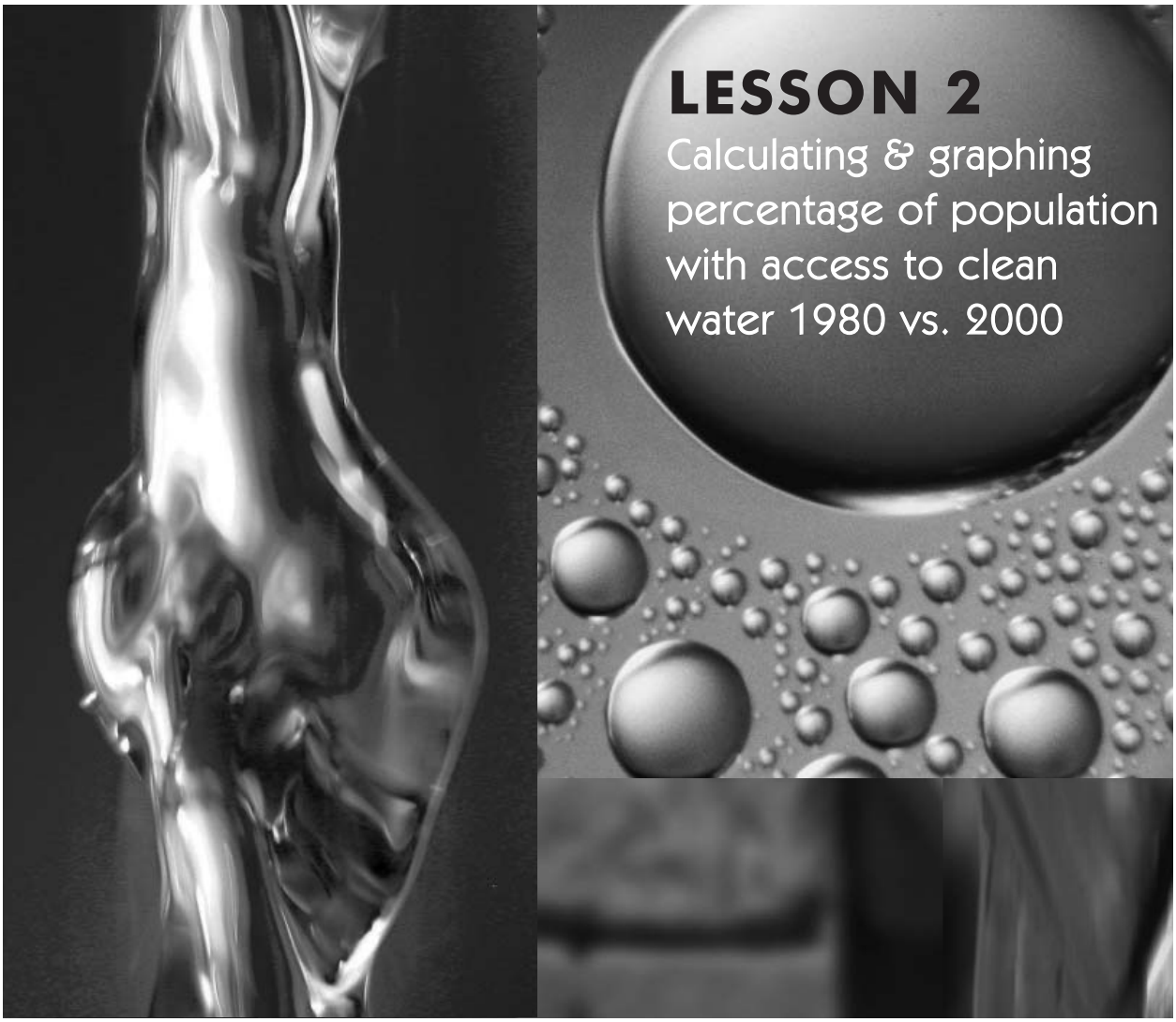
threat of invasive species: non-native/exotic plant and animal species contaminating water supplies

crumbling infrastructure: disintegrating old city water delivery systems

contamination of freshwater supplies by hormone-mimicking chemicals

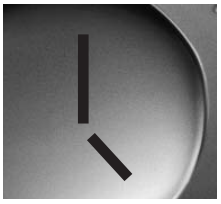
contamination of urban freshwater supplies by pharmaceuticals/prescription drugs and personal care products in recycled wastewater

biodiversity deficit- ecosystem destruction at rate faster than nature can create new ones



LESSON 2

Calculating & graphing percentage of population with access to clean water 1980 vs. 2000



Estimated time required:

This activity will take approximately one period of 75 minutes plus homework time to complete.

Prior learning

This lesson can be used as an assignment to evaluate students' ability to calculate percentages and graphing skills.

Students should be familiar with standard graphing techniques and how to create a chloropleth map.

Getting ready

In preparation for this activity, ensure that enough blank outline political maps of the world are photocopied so that each student has two copies. Additionally, students will need one copy each of BLM 2-1.

Resources

Students will require a calculator, pencil, paper, graph paper, two blank outline political maps of the world, an atlas and coloured pencils for this exercise.

Teaching and learning strategies

1. Review method for calculating percentages and proper graphing conventions.

2. Hand students the attached worksheet (BLM 2-2) and instructions.

BLM 2-1
Calculating and graphing percentage of population with access to clean water 1980 vs. 2000

Student instruction sheet

Use the information in the following chart to complete the following assignment.

Country	Population 1980	# of people with access to clean drinking water	Population 2000	# of people with access to clean drinking water
Afghanistan	15 500 000	1 240 000	29 928 987	389 076
Angola	7 019 000	1 824 940	11 000 000	4 180 000
Bolivia	6 100 000	2 196 000	7 000 000	5 530 000
Canada	24 516 278	24 516 278	32 771 886	32 771 886
Chad	4 477 000	1 164 020	9 826 419	2 653 133
Chile	11 145 000	9 361 800	15 498 930	14 568 994
Haiti	5 353 000	1 017 070	8 300 000	3 818 000
Mexico	69 655 000	50 848 150	106 202 903	91 334 497
USA	226 545 800	226 545 800	295 734 134	295 734 134

Source: United Nations

1. Calculate the percentage of people with access to clean drinking water in each country for 1980 compared to 2000. Show all of you calculations on the calculations sheet. Place your answers in the chart on the student answer sheet.

   Example:
   Afghanistan 1980 = # of people with access to clean drinking water x 100
   divided by the Population 1980

   $$= \frac{1\ 240\ 000}{15\ 500\ 000} \times 100$$
   $$= 8\ \%$$

Calculation sheet

Afghanistan 1980 (answer provided as an example)	Afghanistan 2000
Angola 1980	Angola 2000
Bolivia 1980	Bolivia 2000
Canada 1980	Canada 2000
Chad 1980	Chad 2000
Chile 1980	Chili 2000
Haiti 1980	Haiti 2000
Mexico 1980	Mexico 2000
USA 1980	USA 2000

2. Using graph paper, graph your data in a bar graph format to compare the percentage of people with access to clean drinking water in 1980 compared to 2000.

3. Using political maps of the world, create two chloropleth maps to illustrate the differences between access to clean drinking water in 1980 and 2000. Use an appropriate colour scale to represent the different levels of access.

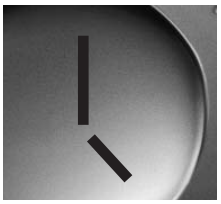
BLM 2-2
Calculating and graphing percentage of population with access to clean water 1980 vs. 2000

Student answer sheet

Country	Population 1980	Percentage of population with access to clean drinking water	Population 2000	Percentage of population with access to clean drinking water
Afghanistan	15 500 000	8%	29 928 987	
Angola	7 019 000		11 000 000	
Bolivia	6 100 000		7 000 000	
Canada	24 516 278		32 771 886	
Chad				
Chile	4 477 000		9 826 419	
Haiti	5 353 000		8 300 000	
Mexico	69 655 000		106 202 903	
USA	226 545 800		295 734 134	

LESSON 3

Common water diseases



Estimated time required:

This activity will take two 75 minute periods to research, plan, and create the presentation. One additional period is needed for the presentations.

Getting ready

Students will be working to create a group presentation about water-borne diseases. The presentation is designed to encourage students to think about the importance of clean water for human health.

Resources

- common water diseases information sheets (BLM 3-1)
- recycled paper

Teaching and learning strategies

1. Before class, write the names of the following waterborne diseases on pieces of recycled paper: guinea worm disease, helminths (intestinal worms), schistosomiasis, trachoma, typhoid, and cholera. Allow each student to randomly select a piece of paper. This will determine the groups in which the students will work.

2. Have the following water-borne disease facts posted on the blackboard:
    a) More than 5 million people die each year from diseases caused by unsafe drinking water, lack of sanitation and insufficient water for hygiene. In fact, over 2 million deaths occur each year from water-related diarrhea alone.
    b) In developing countries, 80% of illnesses are water-related.
    c) 1.1 billion people, about 20% of the world's population, remain without access to safe drinking water.

3. Read the facts out loud to the class. Ask the students for their reactions to the statements they just heard. Were they surprised? How did hearing these facts make them feel?

4. Have resources on hand in the classroom, or have the computer lab booked for the students to use. Have the common water diseases handout available to get the students started. Explain to the students that the disease they picked divides them into groups. Once in their groups, they will have the rest of class to gather as much information as possible on the disease that they have been assigned and discuss their class presentation, which needs only be five minutes long, and they have the freedom to present their information in any appropriate way they like. Tell them to be creative. (Options for presentation include: play, public service announcement, radio announcement, etc).
5. In the next class, inform students they should finish researching, plan and finalize their presentation. Groups should be prepared to present the following day.

Extension:

Have the students create a disease occurrence map or chart in Excel.

BLM 3-1
Common water diseases—Student handout

Guinea worm disease
People contract this disease when they drink water contaminated with dracunculus larvae. The larvae then mature into adult guinea worms up to a metre long. The worms leave the body after about a year, causing painful, debilitating ulcers. The incidence of guinea worm disease is decreasing steadily due to concentrated international efforts. However, there were still 50,000 cases reported in 2002 in 13 different African countries.

Intestinal worms (Helminths)
People become infected with intestinal parasitic worms through soil that has been contaminated with human feces from an infected person, or through contaminated food. Intestinal worms infect close to 10% of the population of developing countries. They can lead to malnutrition, anaemia, and stunted growth in children. Children are particularly susceptible and usually have the largest number of worms. Approximately 400 million children are infected with roundworm, whipworm, and hookworm.

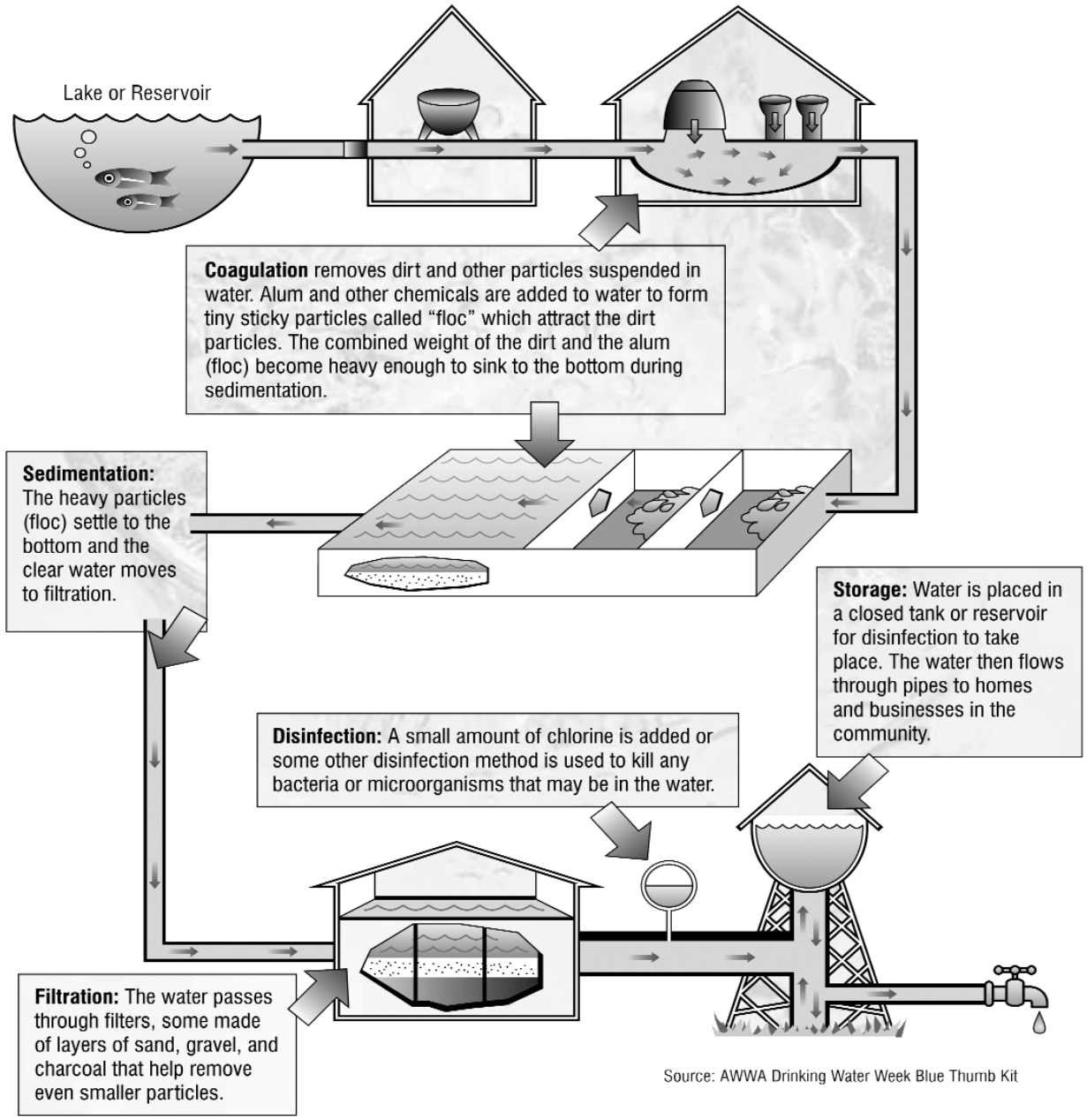
Schistosomiasis
Schistosomiasis is a disease caused by parasitic worms. In certain stages of their life cycle, worms and eggs can live in various hosts, including water (for up to 48 hours) and humans. They penetrate the skin of people swimming or washing in contaminated water. They then cause an infection that can eventually damage the liver, the intestines, the lungs, and the bladder. Approximately 200 million people are infected with schistosomiasis. Twenty million of these cases will be severe.

Trachoma
Trachoma is an eye infection spread mainly because of poor hygiene associated with inadequate water supplies and sanitation facilities. About 6 million people are blind today because of trachoma. Children are particularly susceptible, and women are infected two to three times more often than men.

Typhoid
Typhoid is a bacterial infection caused by digesting infected food or water. Symptoms are characterized by headaches, nausea, and lack of appetite. About 12 million people are infected by typhoid every year.

Cholera
Cholera is an acute bacterial infection of the intestinal tract. It causes severe attacks of diarrhea that can lead to dehydration and death if left untreated. In 2002 over 120,000 cases of cholera were reported worldwide.

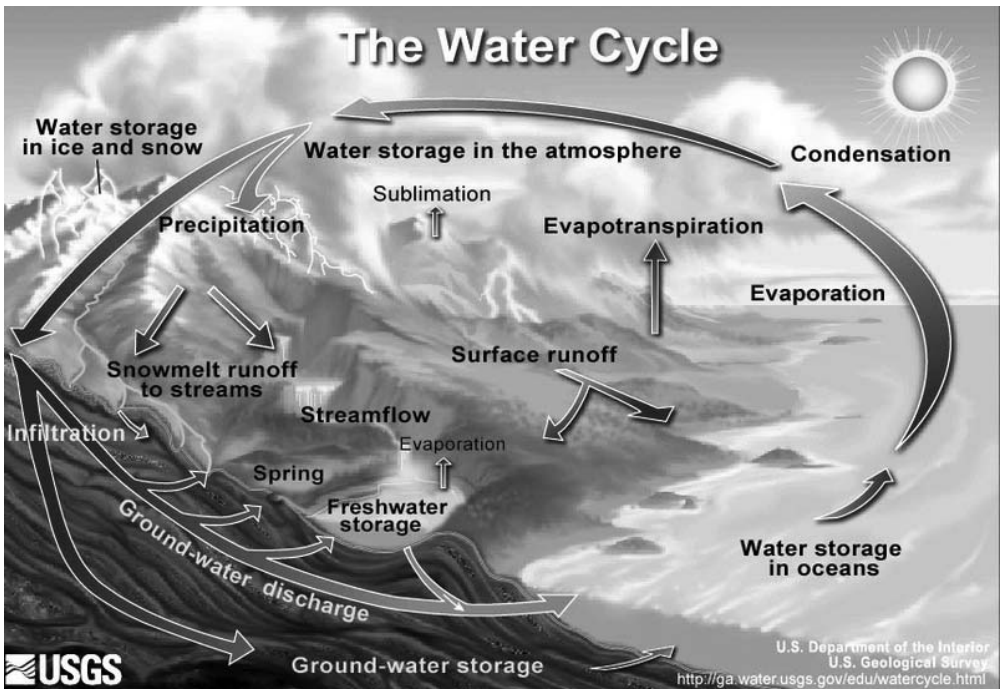
BLM 3-2
A water treatment plant



Source: AWWA Drinking Water Week Blue Thumb Kit

BLM 3-3
(Background information)
The hydrologic cycle—An incredible journey

The water cycle (a.k.a. the hydrologic cycle) is the continuous movement of water on, above, and below the Earth's surface. Since the water cycle is truly a cycle, there is no beginning or end. The Earth's water is always in movement and is always changing states, from liquid to vapour to ice and back again.



Evaporation - the process by which water changes from a liquid to a gas or vapour. Evaporation is the primary pathway that water moves from the liquid state back into the water cycle as atmospheric water vapour.

Transpiration - the evaporation of water from plant leaves. Transpiration accounts for about 10 percent of the moisture in the atmosphere.

Evapotranspiration - the combined effect of evaporation and transpiration.

Sublimation - in terms of the water cycle, sublimation describes the process of snow and ice changing into water vapour in the air without first melting into water.

Condensation - is the process by which water vapour in the air is changed into liquid water. Condensation is responsible for the formation of clouds.

Precipitation - is water released from clouds in the form of rain, freezing rain, sleet, snow, or hail. It is how water is delivered from the atmosphere to the Earth.

Surface runoff - precipitation runoff that travels over the ground to the nearest stream or river.

Infiltration - the downward movement of water through the soil or porous rock.

Storage - water is stored for a period of time underground, in lakes, and oceans until it goes through the cycle again.

BLM 3-4
An introduction to the water table

Making connections

When students think of the water cycle, they often imagine a circle of water, flowing from a stream to an ocean, evaporating to the clouds, raining down on a mountain, and flowing back into a stream. Role-playing a water molecule helps students conceptualize the water cycle as more than a predictable two-dimensional path.

Background

While water does circulate from one point of state to another in the water cycle, the paths it can take are variable. Heat energy directly influences the rate of motion of water molecules. When the motion of the molecule increases because of an increase in heat energy, water will change from solid to liquid to gas. With each change in state, physical movement from one location to another usually follows. Glaciers melt to pools which overflow to streams, where water may evaporate into the atmosphere.

Gravity further influences the ability of water to travel over, under, and above Earth's surface. Water as a solid, liquid, or gas has mass and is subject to gravitational force. Snow on mountains melts and descends through watersheds to the oceans.

One of the most visible states in which water moves is the liquid form. Water is seen flowing in streams and rivers and tumbling in ocean waves. Water travels slowly underground, seeping and filtering through particles of soil and pores within rocks. Although unseen, water's most dramatic movements take place during its gaseous phase. Water is constantly evaporating, changing from a liquid to a gas. As a vapour, it can travel through the atmosphere over Earth's surface. In fact, water vapour surrounds us all the time. Where it condenses and returns to Earth depends upon loss of heat energy, gravity, and the structure of Earth's surface.

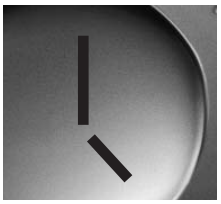
Water condensation can be seen as dew on plants or water droplets on the outside of a glass of cold water. In clouds, water molecules collect on tiny dust particles. Eventually, the water droplets become too heavy and gravity pulls the water to Earth. Living organisms also help move water. Humans and other animals carry water within their bodies, transporting it from one location to another. Water is either directly consumed by animals or is removed from foods during digestion. Water is excreted as a liquid or leaves as a gas, usually through respiration. When water is present on the skin of an animal (for example, as perspiration), evaporation may occur.

The greatest movers of water among living organisms are plants. The roots of plants absorb water. Some of this water is used within the body of the plant, but most of it travels up through the plant to the leaf surface. When water reaches the leaves, it is exposed to the air and the sun's energy and is easily evaporated. This process is called transpiration.

All these processes work together to move water around, through and over Earth.

LESSON 4

What is pollution? Point and non-point sources? How does pollution affect water quality and the neighbourhood?



Estimated time required:

This activity will take approximately 2.5 hours to complete.

Prior learning

Ensure that students are familiar with common water pollution terms listed below. In order to increase their familiarity with these terms, have students define them for homework by consulting their textbook or the Internet. Answers are found in BLM 4-1.

- Combined sewer
- Inorganic pollutant
- Organic pollutant
- Non-point source pollution
- Pollution
- Point source pollution
- Storm sewer

Getting ready

In order to familiarize yourself with the concepts of point and non-point pollution sources, you may want to refer to BLM 4-2.

Resources

In order to conduct this experiment, you will need the following supplies:

- a large aquarium
- several litres of water
- common household products such as juice, soap, toilet paper, detergent, baby powder, food scraps, mouthwash, and shampoo
- common garbage and natural products such as candy wrappers, leaves, sand and seeds
- a large wooden spoon

Teaching and learning strategies

1. The aquarium tank will be used to simulate a sewer. Since all sewers have some water in them all of the time (from rain and household uses), pour two to three litres of water as "rain" and another two to three litres of water as "household use" into the aquarium.

2. Have each student select one of the household, natural or garbage products. Give them a few minutes to think about how this product could wind up in the sewer and have brief presentations about their object and its journey to the sewer. After each student tells a story, he or she will pour a small amount of the product (or a small piece of the object) into the "sewer." Stir the resulting mixture with the wooden spoon.

3. Each student should then explain what happened to their product. Did it float? Sink? Dissolve? What does the sewer look like once everything has been added?

4. Ask students to think of how other forms of pollution may have entered the sewer in using the products. For example, mouthwash could also bring germs and pathogens, shampoo and soaps can bring dirt and body oils, and we all know what comes with using toilet paper!

5. At the end of the lesson, scoop out the 'pollution' and put as much of the garbage into the garbage can or recycling box. The rest of the wastewater can go to the treatment plant—just pour it down the sink.

6. Either lead students in a further discussion about pollution using the questions below as a guideline or assign the questions for homework as a reflection of what they have learned.
   What is pollution?
   What is the difference between point and non-point source pollution?
   How does pollution get into our rivers and streams?
   How many ways do you use water?
   What happens to water when you use it?
   Where does it go?
   How does a sewer work?
   How can you reduce pollution?
   How can your family reduce pollution?
   How can your neighbourhood reduce pollution?

Taking action!

Educate others about the dangers of dumping garbage and pollutants down the drain. Take part in the Yellow Fish Road campaign. Thousands of people have learned about how their actions can impact the local water supply. This organization works with local groups to paint yellow 'reminder' fish on sewers and storm drains. When people see these, they are reminded that anything that enters the drain will eventually end up in their local lake, river or stream. Visit www.yellowfishroad.org for more information.

Visit a wastewater treatment plant and get up close and personal with your waste water!

BLM 4-1
Glossary of watershed project terms

Combined sewer - sewage system that carries both sanitary sewage and stormwater runoff

Inorganic pollutant - a pollutant of mineral origin and not of basically carbon structure

Organic pollutant - a plant- or animal-produced pollutant containing mainly carbon, hydrogen and oxygen

Non-point source pollution - pollution that cannot be tied to a single, identifiable source; nitrate pollution from agriculture is non-point-source pollution, since a single source can't be identified

Pollution - undesirable state of the natural environment being contaminated with harmful substances as a consequence of human activities

Point source pollution - water pollution sources that may be traced to a specific source, such as a sewer line or a discharge pipe of an industrial facility

Storm sewer - a system of pipes (separate from sanitary sewers) that carry only water runoff from building and land surfaces

Watershed - the entire geographical area drained by a river and its tributaries; an area where all water runoff converges and eventually flows into the same outlet (lake, ocean or sea)

BLM 4-2
Background information—Point and non-point pollution

Point source pollution

All water used is polluted. In a big city, large amounts of wastewater are produced each day, which presents a real health hazard to the people that live there. Historically, cities built sewers to collect polluted water and carry it away—usually to a lake or river, which in turn carried it to the ocean. In time, the fish died because pollution robbed the water of dissolved oxygen which fish need to live. People who worked along the rivers also became sick from the gases generated by the polluted water. Since the rivers were also the cities' sources of drinking water, this meant that people were drinking polluted water. People who drank the river water became sick and many died because of water-borne diseases such as typhoid and cholera. Back then, we did not fully understand the connections between our health and that of our natural resources.

Sewers and other pipes that empty directly into rivers and streams are known as point sources, as the end of their pipes, known as outfalls, are located in one spot and the source of the wastewater can be identified. Sewer plans will show all of the connecting sewer pipes which ultimately feed into the pipe that is seen emptying into the river. Because the source of this wastewater is known—discharging from a wastewater treatment plant or a storm sewer system in a neighbourhood, it can be more easily tested for pollutants and better managed.

Today, thanks to wastewater treatment plants we are able to clean and disinfect our polluted water and return it to the lakes and rivers cleaner than when we took it out. Also, laws make it illegal for industries and communities to dump their wastewater directly into the rivers. Since point source pollution is coming from a specific source, it must be cleaned according to the standards set by these laws to protect our water resources.

Non-point source pollution

However, pollution in our rivers and streams is still a problem because of stormwater runoff. Every time it rains, water runs over the land and into a waterway. It carries with it trash and pollutants which drain directly into rivers and streams, or into storm drains which carry the polluted water to our waterways. This type of pollution is called non-point source pollution because the pollution is not coming from a specific source, but from many sources which are difficult to pinpoint. Motor oil, soda cans, cigarette butts, fertilizers, and dog wastes are all examples of non-point source pollution because they are often lying all over the watershed, just waiting to be swept away with the next rain storm.

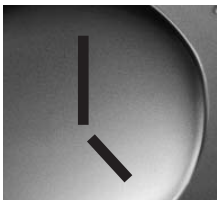
We are all responsible for non-point source pollution and we must all do our share in making sure we take care of the land. When we keep the land clean and throw trash in its proper place, we help keep the water clean. When we pick up after our dogs, or place a tray under our car when we change the oil, we are helping to keep our water and our neighbourhood clean. The cleaner the stormwater that enters our sewer system, the cleaner our rivers and streams will be, and the more inviting our waterways will be to the many plants and animals that rely on our lakes, rivers and streams for homes and food.

Water quality in the neighbourhood

Sewers that collect wastewater from our houses are called sanitary sewers. Sewers that carry rainwater and other items that wash off the streets are called storm sewers. In neighbourhoods with a combined sewer system one sewer performs the duty of two, collecting in one pipe both wastewater from properties and businesses and stormwater runoff from the storm drains in the streets. Sanitary sewers and combined sewers carry the wastewater to a wastewater treatment plant. Because sewers are built to follow the natural topography of the watershed, gravity carries the wastewater to the plant. During a rain storm, the sewer can become so full of water that it cannot carry any more water. In order to prevent sewers from backing up into peoples houses and into the street, there are outfalls that act as release valves on the combined sewers which allow the excess wastewater to overflow into lakes, rivers, and ditches. This also protects the wastewater treatment plant from flooding and enables the plant to still clean the majority of the wastewater it receives. Because of these overflows, it is important to keep your neighbourhood as free from pollutants as you can. The wastewater from homes and businesses is already polluted, so the easiest improvements to the quality of the water entering our sewers can be made by reducing the amount of non-point source pollutants.

LESSON 5

Bechtel vs. Bolivia
An international court simulation



Estimated time required:

Three classes of approximately 75 minutes each.

Overall expectations

By the end of this activity, the students will be able to:

- demonstrate an understanding of the water privatization debate from two opposing points of view from a real-life case study
- form critical opinions about the issues of water privatization, human rights, citizen revolt and global activism
- roleplay in a decision-making forum to develop skills of argument, debate, critical thinking and conflict resolution
- develop skills of outlining and drafting an argument or decision on the issues presented
- develop critical thinking skills in prioritizing principles of law
- develop an awareness of the role of international law in the resolution of disputes

Enduring (Key) understandings

Students will understand the ramifications of an unpopular international privatization agreement between a multinational conglomerate and a developing country. They will appreciate the impact of such an agreement on people as a cause of citizen revolt and global activism. Students will also be made aware of the forces of globalization at work in relation to World Bank loans and Structural Adjustment Programs (SAPs).

Prior learning

- This activity is enhanced by prior learning of the issue of water privatization, which can be taught using BLM 6-1: The privatization debate—public vs. private water services: A municipal council decision-making simulation, or alternatively, by using the black line masters as background material.
- Students should be aware of the opposing sides in a civil suit, i.e. The claimant (plaintiff or wronged party) vs. the respondent (defendant).
- Students should also be advised of the principles of international law (as outlined in BLM 5-2: Background to Bechtel vs. Bolivia); the supremacy of a nations sovereignty; protection of human rights and common heritage resources; respect for international agreements, treaty obligations, world peace and security; international law includes the concepts of law in national legal systems—status, property, obligation and tort, as well as the concepts of substantive law—procedure, process and remedies; conventional international law comes from international agreements made by the contracting parties

Getting ready

Periods 1 and 2

- The teacher should be familiar with the issue of water privatization background information which is provided in BLM 6-1 and BLM 6-2 from Activity 6: The privatization debate—public vs. private water services: A municipal council decision-making simulation
- Duplicate the following black line masters for students:
  - BLM 5-1: *The World Water Crisis and Bolivia's Water War*
  - BLM 5-2: *Background to Bechtel vs. Bolivia*
- Duplicate or make transparency of BLM 5-3: *Bechtel awarded 30 cents to drop $50 Million Claim,* for activity debriefing
- Determine an appropriate method to divide students into five role-play groups

Period 3

- View DVD *Tapped Out: The World Water Crisis* (BLM 5-4)

Resources

Common Threads III: Tapped Out: The World Water Crisis DVD

References consulted

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Teaching and learning strategies—Period 1

1. Review the issue of water privatization covered in Activity 6: The privatization debate—public vs. private water services: A municipal council decision-making simulation, particularly to familiarize students with concepts of water service delivery and public vs. private sector provision (see BLM 6-1 in that activity) and the arguments for and against privatization (provided in BLM 6-2). The issue of cash-strapped governments being unable to finance water services is especially relevant to the case of developing countries which must apply for loans for infrastructure development from the World Bank and the International Monetary Fund (IMF).

2. Distribute BLM 5-1: the world water crisis and Bolivia's water war. Have a class reading of the above hand-out to familiarize students with the story of Bolivia's water war, known as "La guerra del agua", which led to the Bechtel vs. Bolivia law case.

3. Distribute BLM 5-2: background to Bechtel vs. Bolivia. Have a class reading of the above hand-out to familiarize students with principles of international law and the Bechtel vs. Bolivia law case, officially known as Aguas del Tunari, S.A., Claimant/Investor vs. Republic of Bolivia, Respondent/Contracting Party (The International Centre for Settlement of International Disputes Case No. ARB/02/3, available from www.worldbank.org/icsid/cases/AdT_decision-en.pdf).

4. Divide the class into five role-playing groups.
    a) Members of the tribunal (the judges) including a president. This group should have an uneven number of members in order to arrive at a majority decision
    b) Executives of the Bechtel corporation: representing the claimant
    c) Legal representatives of the Bechtel corporation: lawyers for the claimant
    d) Members of Bolivia's minister of services and public works including the Minister: representing the respondent
    e) Legal representatives of Bolivia: lawyers for the respondent

5. Assign each group their tasks as indicated on the role-playing cards below.

Members of the tribunal (the judges)

Your first task is to elect a speaker (called the president) who will address the group. All members of the tribunal have an equal voting right, the president is simply the person who does the speaking. You should all become familiar with the background facts of the case and work together to prepare an opening statement which briefly describes the case and its participants. After listening to the presentations of the other groups, the tribunal of judges will leave the room, discuss all presentations and vote on a decision. The majority decision wins. Each judge must then give reasons for his or her decision in a position statement. Damages may or may not be awarded as a remedy.

Executives of Bechtel corporation

Your group represents the claimant.

Your job is to research and learn as much as possible about not only your side of the case but also that of your opponent. You should work together with your legal representatives to write an opening statement and arguments to be presented to the tribunal. Also think about what questions/arguments your opponent might ask so that you can have an answer prepared and aren't caught off-guard. Each member of your group should have a specific speaking role in arguing your case before the tribunal judges. Once you have prepared a written statement to present to the tribunal, you should rehearse your presentation. Following the court's decision, your group should polish your written submission while the judges meet to decide the case and draft their decisions.

Legal representatives of Bechtel corporation

You are the lawyers for the claimant.

Although your primary job is to research and learn as much as possible about your side of the case, you should also be aware of the arguments that may be raised by your opponent. You should work together with the executives of Bechtel Corporation to write an opening statement and arguments to be presented to the tribunal. Also think about what questions/arguments your opponent might ask so that you can have an answer prepared and aren't caught off-guard. Each member of your group should have a specific speaking role in arguing your case before the tribunal judges. Once you have prepared a written statement to present to the tribunal, you should rehearse your presentation. Following the court's decision, your group should polish your written submission while the judges meet to decide the case and draft their decisions.

Members of Bolivia's Ministry of Services and Public Works including the Minister

Your group represents the respondent.

Your job is to research and learn as much as possible about not only your side of the case but also that of your opponent. You should work together with your legal representatives to write an opening statement and arguments to be presented to the tribunal. Also think about what questions/arguments your opponent might ask so that you can have an answer prepared and aren't caught off-guard. Each member of your group should have a specific speaking role in arguing your case before the tribunal judges. Once you have prepared a written statement to present to the tribunal, you should rehearse your presentation. Following the court's decision, your group should polish your written submission while the judges meet to decide the case and draft their decisions.

Legal representatives of Bolivia's Ministry of Services and Public Works

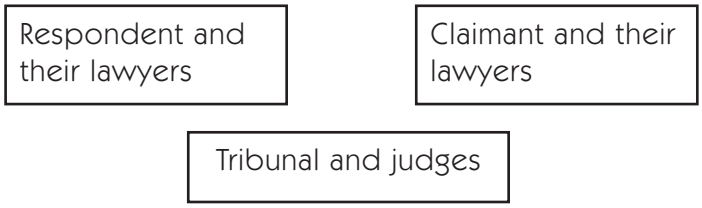
Lawyers for the respondent.

Although your primary job is to research and learn as much as possible about your side of the case, you should also be aware of the arguments that may be raised by your opponent. You should work together with the members of Bolivia's Ministry of Services and Public Works to write an opening statement and arguments to be presented to the tribunal. Also think about what questions/arguments your opponent might ask so that you can have an answer prepared and aren't caught off-guard. Each member of your group should have a specific speaking role in arguing your case before the tribunal judges. Once you have prepared a written statement to present to the tribunal, you should rehearse your presentation. Following the court's decision, your group should polish your written submission while the judges meet to decide the case and draft their decisions.

Teaching and learning strategies—Period 2

1. Role-play groups will re-group briefly to ready themselves for the simulated session of the international court.

2. Arrange desks in court form, with the tribunal of judges at a head position, facing the representatives and lawyers of the claimant and respondent on opposite sides.



3. The tribunal president should call the court to order and give an opening statement.

4. The hearing proceeds:
   First on the agenda, representatives of the claimant (Bechtel executives and counsel) present their case, delivering a three to five minute summary of their main arguments. Following these statements, the judges may ask the representatives of Bechtel questions on the content of their case.

   Following the arguments of the claimant, the ministerial and legal representatives of Bolivia, the respondent, will present their arguments against the claimant in a three to five minute summary of their main arguments. Again, the judges may ask the representatives of Bolivia questions on the content of their position.

5. The hearing concludes:
   While the claimants and respondents work on the final copies of their written submissions, the judges meet to vote. A majority vote decides the case and then the judges must draft their decisions, giving an explanation of their position. Judges opposed to the majority decision should draft their own explanation of their minority decision. Damages may or may not be awarded as a remedy.

   At the conclusion of the period, the judges deliver their decision to class and the explanations of their positions.

6. Teachers should debrief students by telling them the actual outcome of the Bechtel vs. Bolivia case, as outlined in BLM 5-3: Bechtel Awarded 30 Cents to drop $50 Million Claim, which provides news releases outlining two perspectives.

7. It is also recommended that, at the conclusion of the activity, teachers show students the DVD which accompanies this resource package, in particular the activism segment on Bolivia's water privatization revolt, "La guerra del agua." Distribute BLM 5-4.

BLM 5-1
The world water crisis and Bolivia's water war

Water is our most precious natural resource. It is essential to life on Earth, for human populations and all other living organisms, for the survival of natural environments and ecosystems. It is also vital to human economic activity and industry. It is a finite resource insofar as there is a fixed amount cycling and recycling on planet Earth. And this set amount is under constant threat of mismanagement, overuse and pollution, effectively reducing its availability, while worldwide demand for it increases. Like other natural resources, water is unevenly distributed around the globe, thus leading to unequal access to it and competition for it.

Poor management of this resource allows rivers and lakes to become polluted dumping grounds for wastes ranging from untreated sewage, mine leachate, chemicals and other industrial discharges to the contaminated fecal, pesticide and herbicide run-off from agriculture. Groundwater supplies are also subject to contamination, overuse and mismanagement. Global warming threatens regional water supply, but increases the demand for this resource. There is a world water crisis.

Nowhere is the world water crisis more acute than in some of the poorest countries of the world where governments lack the financial resources to provide growing populations with basic water services: access to clean water and sanitation. These countries must depend on loans from the World Bank and International Monetary Fund (IMF) to finance their development efforts, including the construction and maintenance of water infrastructure like potable water treatment plants, pipelines, sewage systems and wastewater treatment facilities. However, as part of their development loan practices, the World Bank and IMF have required that these countries adopt Structural Adjustment Programs (SAPs) which have included demands to 'globalize,' to open their economies to foreign investment and export, and to turn over public utilities, like water services, to multinational corporations.

Bolivia is one such country. In the late 1990s, the World Bank made water privatization a condition of further aid to Bolivia. The city of Cochabamba, which had chronic water shortages and large areas of the city lacking any water services, would only receive a U.S. $14 million loan to expand and upgrade its water system on the condition it make the public water system private, that is, contract it out to a corporation. Furthermore, the World Bank would provide Bolivia with international debt relief of U.S. $600 million only if Cochabamba turned over its water services to a private company. Thus, late in 1999, Bolivia turned over Cochabamba's water in a 40-year lease to a new company named Aguas del Tunari, which was a subsidiary of the California-based engineering goliath, Bechtel, its Spanish co-investor Abengoa, and international shareholders Befesa and Edison.

Nestled between the Andes and the Amazon, Bolivia is a country of stark, untouched natural beauty with a distinctive population of 9,009,000. The majority of Bolivians are indigenous peoples, mainly Quechuan and Aymaran, while the minority are of mixed Spanish and indigenous Mestizo race. Though blessed with a wealth of natural resources, the legacy of colonialism has left Boliva the poorest country in South America. In 2004, its Gross National Income (GNI) was a paltry $960 U.S. per capita, compared to Canada's $28,390. Like many other lesser developed countries, Bolivia is experiencing a water crisis and according to UNICEF statistics, 55 percent of Bolivia's population lacks adequate sanitation facilities. Every year, nearly 18,000 Bolivian children under the age of five die, largely as a result of water-borne diseases.

What distinguishes Bolivia from other poor nations pressured to privatize their water resources, delivery and disposal, however, is that it is a rare case study in the reversal of privatization due to citizen protest: people power. When the American corporation, Bechtel, took over water services in Cochabamba, the people took to the streets in what was to become known as "la guerra del agua"—the water war.

As the new millennium dawned in January 2000, the people of Cochabamba faced huge increases in their now-privatized water bills. Overnight, water rates had increased by an average of 50 percent and, according to Bolivia's Deputy Minister of water, by as much as 300 percent for some. Bechtel's water lease guaranteed a 16 percent yearly profit to the corporation and the World Bank had insisted that the city could not subsidize the water tariffs of its citizens, including the poorest of residents eking out an existence on a minimum wage of $60 per month. Suddenly, water cost some people one-third of their income. They simply could not afford it.

According to Jim Shultz of The Democracy Center, "local resistance to the water price hikes was fierce." The citizens of Cochabamba staged a number of street protests demanding that the water rate increases be reversed. In February 2000, the government of Bolivia sent more than 1,200 police to break up the protests but the people persisted and the government offered to temporarily rollback the price hikes. Then the people upped their demands, calling for the company's contract to be cancelled and the town's water to be returned to the public sector. By the first week of April, the city came to a standstill as Cochabamba's protesting citizens shut down the streets in a widely-supported general strike demanding that Bechtel leave the country. Bolivia's president declared martial law and sent in more police and armed forces. The people continued to fight, keeping up the citywide strike and street protests in which many were injured and several killed, including a school boy. Seventeen-year-old Victor Hugo Daza was shot in the face, killed by an army sharpshooter as the people of Cochabamba, so-called 'water warriors,' battled police and soldiers in this unrelenting civic revolt.

Finally, on April 10th, Bechtel officials fled the country and the water company was returned to the people of Cochabamba.

BLM 5-2
Background to Bechtel vs. Bolivia

Eighteen months after 'la guerra del agua,' Bolivia's water war, the Bechtel Corporation's subsidiary, Aguas del Tunari, launched a U.S. $50 million legal action against the government of Bolivia in the World Bank's trade court, the International Centre for Settlement of Investment Disputes (ICSID). Bechtel sued Bolivia for both its losses and a portion of the profits it was unable to make.

What follows is a synopsis of the opposing perspectives in the case Aguas del Tunari, S.A. (Bechtel), Claimant/Investor vs. Republic of Bolivia, Respondent/Contracting Party.

In developing opening statements and arguments to be presented in this international tribunal simulation, students should also consider and weigh the principles of international law outlined below.

Principles of international law

- the supremacy of a nation's sovereignty must be inspected and honoured
- human rights must be protected and honoured
- common heritage resources must be protected and conserved
- international agreements must be respected and honoured
- treaty obligations must be respected and honoured
- world peace and security is to be honoured
- international law includes the same basic concepts of law as in national legal systems: status, property, obligation and tort
- international law includes the same basic concepts of law as in substantive law: procedure, process and remedies
- conventional international law comes from international agreements as agreed upon by the contracting parties

Perspective of Aguas del Tunari, S.A. (Bechtel), Claimant/Investor

The Bolivian government turned to the private sector in the late 1990s to operate the city's water and wastewater system because the local utility had rendered it a shambles. The utility's financial losses had led to mounting debts and declining service. Service was unavailable to 40 percent of the city's population. What water came out of the tap wasn't healthy and typically wasn't available for much of the day.

Most of those without connections resorted to buying unclean water from the operators of tanker-trucks at exorbitant rates several times higher than what they'd pay if they could hook up to the system.

Residents who had connections suffered an inequitable rate system. Low-volume, poorer users paid more per unit than high-volume, wealthier users. High-volume users had little incentive to conserve scarce water resources.

Aguas del Tunari began operating the city's water and wastewater system November 1, 1999. The consortium did not buy and did not own Cochabamba's water utility or water resources.

The government raised water rates in Cochabamba by an average of 35 percent, effective in January 2000. Half the rate increase was necessitated by such government requirements as paying down more than $30 million in debt accumulated by the public utility that had previously operated the system so poorly. Rate increases were also needed to finance proper maintenance and expansion of the water system. Even these rates were comparable to those in other major Bolivian cities.

To minimize the impact on the poor and improve efficiency, the consortium had convinced the government to adopt a rate structure that had most of the increase fall to larger, wealthier users.

Aguas del Tunari only charged for water provided through the network it operated. It did not charge for water from private or cooperative wells. It did not lease or own the aquifer. The contract was for potable water supply and sewage within urban Cochabamba not for agricultural areas.

Aguas del Tunari managed to increase the availability of water by 30 percent in its short time managing the system. For billings in the month of January (2000), increased water usage amplified for many customers the effect of higher rates.

The higher rates didn't last long. Responding to public criticism, the government rolled back rates in February. Customers who had paid the higher rates were refunded the difference.

Subsequent unrest in Cochabamba was sparked by multiple causes, including unrelated national groundwater legislation that left even citizens outside the service area believing incorrectly that their water resources might be expropriated by a concessionaire. The unrest peaked in April 2000, two months after rates had been rolled back to preconcession levels.

In April, the Bolivian government rescinded its contract with Aguas del Tunari. For months afterward it was unwilling or unable to engage Aguas del Tunari in substantive discussions about resolving their contract dispute.

Aguas del Tunari pursued arbitration through the International Centre for Settlement of Investment Disputes (ICSID) to seek compensation for the Bolivian government's having illegally terminated its contract and expropriating the concession.

*Bechtel owns 50 percent of International Water, and International Water owns 55 percent of Aguas del Tunari; hence Bechtels 27.5 percent interest in Aguas del Tunari.

Source:

Quoted directly from: Bechtel. 2005. Bechtel perspective on the Aguas del Tunari water concession in Cochabamba, Bolivia. *Bechtel.com.* retrieved 15/08/2006 from www.bechtel.com/newsarticles/65.asp

Perspective of the Republic of Bolivia, Respondent/Contracting Party

In November 2001 the Bechtel Corporation launched round two in the Cochabamba water war, filing a demand of $25 million* against Bolivia in a secret trade court operated by the World Bank, the same institution that forced the Cochabamba privatization to begin with.

Bechtel's aim, it says, is simply to get back what they invested. We're not looking for a windfall from Bolivia. We're looking to recover our costs, explains Michael Curtin, the head of Bechtel's Bolivian water company.**

Bechtel didn't invest anything close to $25 million in Bolivia in the few months it operated in Cochabamba. Bechtel officials paid for its rental cars and five star hotel rooms with funds from the public water company it took over and Bechtel left behind an unpaid electric bill of $90,000.

Just as the water revolt became an international symbol for the abuses of privatizing basic services, Bechtel vs. Bolivia has become an international symbol for everything wrong with rigged international trade law.

Bechtel's use of the World Bank's secret trade court, The International Centre for the Settlement of Investment Disputes (ICSID), is a case study of globalization run amok. Bechtel is masquerading as a Dutch company, shifting its Bolivian registration to an Amsterdam post office box in hopes of getting covered by a Bolivia-Holland treaty that makes the bank the arbiter of their investment disputes.

The stakes in the Bechtel vs. Bolivia case are high. Bechtel earns $25 million in half a day. In Bolivia that is the annual cost for hiring 3,000 rural doctors, or 12,000 public school teachers, or hooking up 125,000 families who don't have access to the public water system.

In August 2002 more than 300 citizen groups from 41 different countries—environmentalists, peasants, labour leaders, womens groups, indigenous leaders, and others—launched their own round two in the Bolivian water revolt, filing an International Citizens Petition with the World Bank, demanding that the doors of its secret trade court be opened up to public scrutiny and participation. "The actions of Bechtel in Bolivia left a city of more than 600,000 people in turmoil for four months," wrote the groups. "They left hundreds injured and one young boy dead, and jeopardized thousands of people's access to the most fundamental element of life."

"The Bolivian water revolt has had an enormous impact on the global fight for water rights," says (Canadian activist) Maude Barlow. "Many people feel that if some of the planet's poorest and disenfranchised people could stand up to the World Bank and Bechtel, so can all of us. The personal stories of heroism and struggle of the Bolivian people are very powerful and have been recited over and over all around the world." By any measure imaginable, the water price hikes imposed by Bechtel and other private water companies, and the government decisions that allowed them, were a clear and deliberate step backwards in terms of making water affordable and accessible for the poor. In fact, those government and corporate actions directly made water less affordable and accessible and in some cases, such as in South Africa, have been enforced with actual cut-offs of water altogether.

Water privatization has not only led to the violation of people's economic rights, but their political and civil rights as well. The failure of the World Bank's privatization theology lies not in faulty implementation, as Bank officials are quick to suggest, but in the shaky assumptions upon which the Bank's theory is built, notions which are not compatible with the notion of a universal right to water.

The power of Cochabamba's story is not just as a tale of popular resistance but in how clearly it demonstrates the schism (divide) between the theory of water privatization and how that theory actually plays out on the ground in the lives of real people.

If Bechtel had not raised rates so dramatically so soon after taking over (within just a few weeks) it is unlikely that it would have sparked such a public uprising. If the water revolt had not taken place during the same week that tens of thousands were gathering in Washington, D.C. to protest the policies of the World Bank and International Monetary Fund (in April 2000) it is unlikely that Cochabamba would have captured such broad global attention. In the end water and affordable access to it was something so basic that average people, both poor and middle class, were willing to fight for it at great personal risk.

As for national sovereignty, the governments of the world are already bound to international human rights law and economic agreements signed between nations should be no less attentive to those human rights agreements.

Sources:

Adapted from: Shultz,J. 2003. Bolivia's war over water. *The Democracy Center On-Line*. Retrieved 13/08/2006 from http://democracyctr.org; and Shultz, J. 2004. From the forthcoming book…*The Democracy Center On-Line*. Retrieved 13/08/2006 from www.democracyctr.org/bolivia/investigations/water/righttowater.htm

* Bechtel later increased its lawsuit to U.S. $50 million: $25 for costs and $25 for loss of future profits.

** Bechtels actual costs were estimated to have been less than U.S. $1 million.

BLM 5-3
Bechtel awarded 30 cents to drop $50 million claim

Excerpted news release from *CorpWatch: Holding Corporations Accountable*. Available from www.corpwatch.org/article.php?id=13144

Bolivia: Bechtel Drops $50 Million Claim to Settle Bolivian Water Dispute
Environmental News Service January 19th, 2006

Bechtel, a global engineering and construction company based in San Francisco, today reached agreement with the government of Bolivia, dropping a legal demand for $50 million after a revolt over privatizing water services in the city of Cochabamba forced the company out of Bolivia in April 2000.

Bechtel and its chief co-investor, Abengoa of Spain, had been seeking $25 million in damages and $25 million in lost profits in a case filed before a World Bank trade court, the International Centre for Settlement of Investment Disputes (ICSID).

Following four years of international public protest aimed at the companies, Bechtel and Abengoa agreed to abandon their case for a token payment.*

"Multinational corporations want to turn everything into a market," said Oscar Olivera, a leader in the Bolivian water revolt. "For indigenous people water is not a commodity, it is a common good. For Bolivia, this retreat by Bechtel means that the rights of the people are undeniable."

Bechtel said today in a statement that the corporations were held blameless in the dispute. "The government of Bolivia and the international shareholders of Aguas del Tunari declare that the concession was terminated only because of the civil unrest and the state of emergency in Cochabamba and not because of any act done or not done by the international shareholders of Aguas del Tunari, which include the Bechtel, Befesa, Abengoa of Spain, and Edison corporations," the company said.

In November 2001, Bechtel and its associates filed their case with ICSID at the World Bank. The ICSID process bars the public and media from being present at its proceedings or disclosing who testifies.

The company filed the case with ICSID under a bilateral investment treaty between the Netherlands and Bolivia. Although Bechtel is a U.S. corporation, its subsidiary established a presence in the Netherlands in order to make use of the treaty. The rules in the Dutch-Bolivian treaty are similar to those in the North American Free Trade Agreement (NAFTA) and the proposed Free Trade Area of the Americas.

For four years, citizen groups waged a global campaign to pressure Bechtel to drop the case. Protesters closed down Bechtel's San Francisco headquarters twice. Company officials were bombarded by critical e-mails. Citizen groups from 43 nations endorsed a legal petition to the World Bank demanding that the case be opened to public participation.

"This settlement demonstrates the power of public participation," said attorney Martin Wagner of Earthjustice, a nonprofit, public interest law firm based in Washington, D.C.. Wagner drafted the 2002 legal petition on behalf of Bolivian civil society leaders demanding public participation in the Bechtel case.

"Unfortunately, hundreds of foreign investor challenges against developing countries remain pending and more will be filed as the United States and others continue to force governments to give foreign corporations special privileges," Wagner said. "We must continue to tear down the walls of secrecy and exclusivity in international commercial arbitrations like this one."

"This is the first time that a major corporation like Bechtel has had to back down from a major trade case as the result of global citizen pressure," said Jim Shultz, executive director of The Democracy Center in Cochabamba, and a leader of the global effort.

"It should signal to corporations contemplating similar legal actions that they should be prepared to defend those actions in the court of global public opinion," Shultz said, "not just behind closed doors at the World Bank."

Sarah Anderson, of the Washington, D.C. Institute for Policy Studies, who helped coordinate U.S. civil society pressure on Bechtel to settle the lawsuit, has her eye on preventing similar confrontations in the future. "The challenge now," she said today, "is to build on this momentum to press for new trade and investment rules that promote democracy and sustainable development rather than the narrow interests of large corporations."

* Bechtel dropped the case in return for a nominal settlement of two Bolivianos, worth U.S. 15 cents each, a token payment in a ruling favourable to Bechtel, yet also a victory for Bolivia.

News release from Bechtel available at www.bechtel.com/newsarticles/487.asp

Cochabamba water dispute settled (1/19/2006)

The government of Bolivia and the international shareholders of Aguas del Tunari S.A. ("Aguas del Tunari") have settled their dispute over the concession for the supply of water services and related contracts to the city of Cochabamba.

The government of Bolivia and the international shareholders of Aguas del Tunari declare that the concession was terminated only because of the civil unrest and the state of emergency in Cochabamba and not because of any act done or not done by the international shareholders of Aguas del Tunari (Bechtel, Befesa, Abengoa and Edison).

As a result of the settlement, the claims against Bolivia currently before The International Centre for Settlement of Investment Disputes will be withdrawn. There will be no compensation paid by the Government of Bolivia or Aguas del Tunari for the termination of the concession and the withdrawal of the claim.

The concession agreement dates from 3 September 1999, when the Government of Bolivia approved Aguas del Tunari as the concessionaire to provide water services to the City of Cochabamba. On April 10th 2000, the concession was terminated for the above stated reasons, giving rise to a dispute between Bolivia and Aguas del Tunari.

BLM 5-4
Tapped Out: The World Water Crisis film Q & A assignment sheet

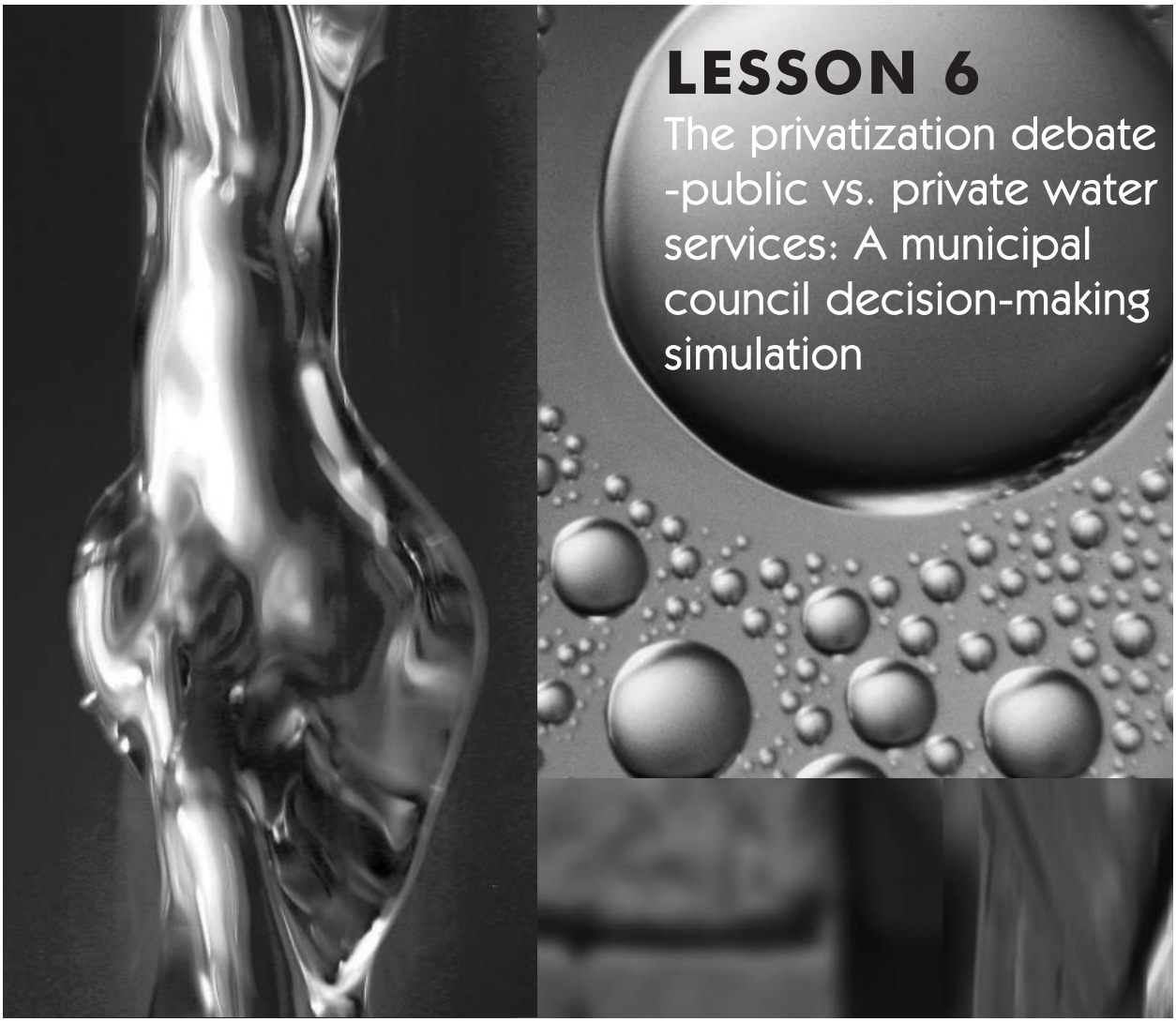
During film screening

1. To which country did François go to research water? Why did he choose it?
2. What percentage of the world's overall water supply is available for drinking?
3. What percentage of people around the world do not have access to clean water?
4. List some of the communities in Canada that have constant water problems?
5. What chemical does Gull Bay First Nation Reserve use to make their water sanitary? Why?

After film screening

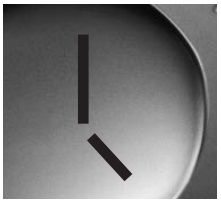
6. Why are there problems surrounding fresh water supplies around the world?
7. Why did the people of Cochabamba, Bolivia rise up against the Bechtel Corporation?
8. What do you think "the privatization of freshwater" means?
9. What are some advantages/disadvantages of buying bottled water?
10. How do YOU conserve water?

Use the back of this sheet to answer the above questions.



LESSON 6

The privatization debate -public vs. private water services: A municipal council decision-making simulation



Estimated time required:

Two classes of approximately 75 minutes.

Overall expectations

By the end of this activity, the students will be able to:

- develop an understanding of the water privatization debate from two opposing points of view
- form critical opinions about the issue of water privatization
- develop an ability to apply conflict-resolution and informed decision-making strategies to a public issue
- understand the functions of municipal governments and role of municipal councils
- role-play in a decision-making forum to develop skills of argument, debate, critical thinking and conflict resolution

Enduring (Key) understandings

Students will understand two opposing points of view in the water privatization debate. They will learn to debate and weigh conflicting and often contradictory information in coming to a decision about a public issue. Students will also appreciate that water privatization is both a local issue that may affect them and a global issue which affects millions.

The task: Municipal government decision-making simulation

The debate, public vs. private water services, is the subject of this municipal government simulation. Students will take on roles to debate and vote on the question of whether or not to privatize the previously public provision of water services of the fictional community of D'eauville.

Through this mock city council meeting, students will come to understand the complexities of the water privatization issue and its implications for people, the economy and the environment. They will also appreciate the roles and functions of municipal governments, corporate and citizen groups, and technical experts assessing information and contributing to the civic debate.

Prior learning

- this activity can stand alone or follow lessons on municipal government, natural resource management, global issues and human rights
- the BLMs provided define key terms associated with the water privatization debate, supply background information and the main arguments to be presented, discussed and debated by students

Getting ready

- the teacher should be familiar with the issue of water privatization background information which is provided in BLM 6-1 and BLM 6-2 (also available at websites listed below)
- duplicate the black line masters for students—BLM 6-1: The privatization debate—public vs. private water services: A municipal council decision-making simulation—BLM 6-2: The privatization debate: Arguments for and against water privatization
- determine an appropriate method to divide students into six roleplay groups

Resources

- on-line resources listed below
- *Common Threads III: Tapped Out: The World Water Crisis* DVD

On-line resources about the water privatization debate

Opponents of water privatization:

Blue Planet Project: www.blueplanetproject.net
Canadian Centre for Policy Alternatives: www.policyalternatives.ca
The Centre for Public Integrity: www.publicintegrity.org
The Council of Canadians: www.canadians.org
The Democracy Centre: http://democracyctr.org
Polaris Institute: www.polarisinstitute.org
Public Citizen: www.citizen.org
Womens Environment & Development Organization (WEDO): www.wedo.org

Proponents of water privatization:

Global Water Partnership (GWP): www.gwpforum.org
Reason Foundation: www.reason.org & privatization.orgUnderground Infrastructure Management (UIM): www.uimonline.com
U.S. Coalition of Service Industries (USCSI): www.uscsi.org
Veolia Water: www.veoliawaterna.com
Water Partnership Council: www.waterpartnership.org
World Water Forum: www.worldwaterforum.org
World Water Council (WWC): www.worldwatercouncil.org

Teaching and learning strategies—Period 1

1. Distribute BLM 6-1: The privatization debate—public vs. private water services: A municipal council decision-making simulation.

2. Introduce the issue of water privatization and have a class reading of the above handout to familiarize students with concepts of water service delivery and public vs. private sector provision.

3. Divide the class into six role-playing groups. The groups are:

The mayor, city clerk and councilors	Initially neutral; interested in making a decision for the greatest good; the mayor will moderate the council meeting
Expert witnesses	Initially neutral; civil engineering consultants hired by D'eauville who after assessing the economics and environmental impacts of Public, private, partnerhips take a position and make a recommendation to Council
Stakeholders	Opposed to privatization; public employee union representatives who want to protect public sector jobs
Stakeholders	Proponents of water privatization; representatives of the Association of Multinational Waterworks, a lobby group for private water companies
Concerned citizens	Proponents; for water privatization; some may be members of neo-conservative business groups
Concerned citizens	Opponents; against water privatization; some may be members of anti-privatization activist groups

4. Distribute BLM 6-2: The privatization debate-arguments for and against water privatization. Review the various arguments and concepts with the class.

   Have the groups meet to prepare their positions for the municipal council simulation based on the arguments given in the above handout.

The group consisting of mayor, clerk and councilors will meet to explore both sides of the issue, without coming to a consensus; they will withhold coming to a decision until after hearing the arguments of the other groups the following day. The council member group should assist the mayor in preparing an opening statement explaining the reason for the meeting and its agenda, including order of presentations (expert witnesses, stakeholders, concerned citizens).

Encourage the other groups to assign specific tasks to each group member: chair, recorder, presenters and, if feasible, case-study researchers.

Once the group has prepared a written statement to present to council, they should rehearse their presentation.

All group members should be encouraged to carry out additional research for homework, to bolster their position.

Teaching and learning strategies—Period 2

1. Role-play groups will re-group briefly to ready themselves for the council meeting. Any additional research points completed for homework can now be incorporated.

2. Arrange desks in city council form, with the mayor at a head position, flanked by councilors in a semi-circle, at the front of the room. All the other guest participants should be seated facing the council.

3. The mayor should call the meeting to order and give an opening statement.

4. First on the agenda are the expert witnesses, followed by the stakeholders, then concerned citizens. After each group presents, the councilors and clerk may ask questions for clarification.

5. After every group has presented their ideas and arguments, the meeting will proceed as an open-ended discussion so that all students are given a chance to express themselves and contribute to the informal debate. It is the mayor's job to maintain order.

6. Near the end of the period, the council members must take a vote for or against privatizing D'eauville's water services. The mayor votes only in the event of a tie.

7. Following council's decision, all students should be given a free vote, based on the arguments given and their individual conclusions rather than on the point of view of their original group.

8. You may choose to debrief students by giving more information on actual cases of water privatization. For example, on July 11, 2006, the Municipality of Brockton, Ontario, which includes the town of Walkerton, announced that it had turned over the management of operation and maintenance of the municipality's water and wastewater systems to Veolia Water under a five-year contract valued at about $470,000 per year. On the other hand, on June 19, 2006, Whistler, B.C. councilors voted 5-3 against privatizing their wastewater plant after encountering months of opposition by citizens and community groups. For more recent examples, see the website references provided.

9. If you have not already done so, now would be a good time to show students the DVD which accompanies this resource package, in particular the globalization and activism segments on Bolivia's water privatization revolt, "La guerra del agua."

BLM 6-1
The privatization debate—public vs. private water services: A municipal council decision-making simulation

The issue: public vs. private water services

In Canada, the delivery of water services is the responsibility of municipal governments. Traditionally, municipalities have looked after the supplying of water, wastewater collection and treatment and storm water management in the cities and smaller communities they govern. Water has been considered a public trust and, as such, has been managed and paid for by municipalities using the taxes and water fees collected from its citizens. This method of water service management, carried out by local governments, is known as public provision.

However, municipal water managers face daunting challenges in meeting a community's water service needs; not only are the provisions of a clean water supply and wastewater services costly, keeping a community's water infrastructure in good repair is often beyond the financial means of municipal budgets. A community's capital water infrastructure includes water reservoirs and towers, underground piping systems for clean water, sewage and storm water, domestic and industrial water hook-ups, potable (drinkable) water pumping and treatment (chlorination) facilities, wastewater treatment facilities and flood control installations. Municipalities must often go into debt borrowing money to pay for the provision and upkeep of water infrastructure to governmental standards.

One solution to the problem of financing public water provision is what is known as privatization, whereby municipalities hire private companies to look after a community's water and wastewater services. While some countries have a long history of water privatization, like the United States, United Kingdom and France, Canada does not. Here, and in many other countries worldwide, increasing private sector involvement in recent years has been controversial. Proposals to privatize water supplies or services have met with many opponents, from private citizens to non-governmental organizations. Still many municipal water managers facing serious financial limitations see privatization as a magic bullet, an answer to their problems of meeting increasing water service demands and keeping up with the repair of aging infrastructure, so the debate rages on.

Models of privatization

There are several different models and degrees of water privatization. Some governments have sold water systems outright to private corporations, such as has been done in the United Kingdom. Others have granted long-term leases, such as for 40 years, to private companies to take over facilities, deliver water services and collect fees, such as is common in France and South Africa. In Bolivia, one such water privatization scheme gave a multinational consortium (two or more corporations acting in a partnership) ownership rights over all a community's water, including wells on private land and rainwater.

Another model involves the contracting out of water management to corporations for a set fee, as was the case in Hamilton, Ontario when it awarded a 10-year contract to a private company in 1994. This type of agreement is commonly known as a P3, or PPP, short for public-private partnership.

The P3 model is gaining ground in Canada and the United States. More and more communities are debating whether or not to adopt this model of privatization and turn over the design, building, operation and financing of public infrastructure projects, such as water services, to a private company or consortium. There are many implications of public-private partnerships for communities to consider. For instance, where the public procurement of water services means the hiring of public employees to manage, maintain and operate the facilities and services, privatization involves paying a private company fees for its services for the duration of the contract, which might be several decades. The need for public employees in the local water sector would disappear.

BLM 6-2
The privatization debate: Arguments for and against water privatization

Arguments against water privatization

- human rights to water should come above commercial interests. Water is a basic human right and should not be delivered on a for-profit basis
- water is essential for life and should be considered a public trust and, hence, should be publicly managed by municipalities
- water is a fundamental and essential public good, and should not be treated like a commercial commodity, bought and sold in the market place
- private water companies commodify water, which is ethically, environmentally and socially wrong
- the profit motive of private companies leads to higher costs
- the City of Hamilton-Wentworth, Ontario reversed ten years of privatized water services in 2004 when it estimated that public provision would cost $27 million per year, much less than the $50 million per year proposed by a private operator
- turning municipal water supplies over to private companies will diminish local control over decision-making; e.g. contractors will answer to the private partner rather than to the ultimate clients, the public
- increased interest in public-private partnerships (PPPs or P3 agreements) between municipalities and private companies has not really led to widespread acceptance of them in North America; most water systems remain publicly owned
- it is not uncommon for municipalities to buy back privately-owned water utilities: this public purchase of investor-owned water services is known as municipalization and is the opposite of privatization
- researchers have found no clear evidence that private companies are more economically efficient than the public sector at delivering water services
- the very use of the term P3 (Public-Private Partnership) tends to mask the reality of privatization at work, and while people have positive reactions to words like partnership, they really dislike having public institutions privatized; presenting P3s as privatization would likely reveal greater public opposition
- privatization sometimes involves the transfer of ownership of physical assets, such as wells and the water pumped from them, along with operation responsibilities
- the most common form of PPP in Canada is one where the private partner finances, builds and operates a facility, like a water treatment plant, then leases it back to the government which is, in effect, private ownership at work
- private companies will do the bare minimum to meet environmental codes because they are profit-driven
- a municipality will be left with poorly maintained facilities and leaking infrastructure because profit-motivated private companies will not invest in maintenance
- profits can only result from higher charges for water or water treatment or from spending less on operations, usually from pay cuts or layoffs and reduced levels of service

- privatization will cost municipal employees their jobs
- the company which operated privatized water services in Hamilton-Wentworth in the 1990s was fined for environmental violations, specifically, sewage spills on city streets
- private companies raise water rates to levels that are out of reach for poorer households
- the metering of household water by private companies is based on the ability to pay which is a burden on poor people who cannot afford metered rates
- while the municipality of Moncton claims that the city saved millions by going with a privatized water treatment plant, the private investors are reaping large profits while the city's water consumers pay for the costs of debt financing
- since corporations try to maximize profits by encouraging increased consumption, they do not promote the conservation of natural resources like water
- companies are only accountable to shareholders, not customers, and long-term contracts mean there is little pressure on them to respond to customer concerns, especially since the customer is a captive and can't go to another provider
- since private partners are wary of competition and secrecy, P3s lead to the privatization of previously public information and, in turn, a reduction of transparency and accountability to the public
- conversely, the public sector is transparent, in that its decisions and expenditures are in the public domain
- the country of Bolivia is an excellent case of where a water corporation increased rates up to 300 percent and was chased out of the country by public protest
- there is a growing movement of global resistance to water privatization
- with public-private partnerships, only the shareholders win

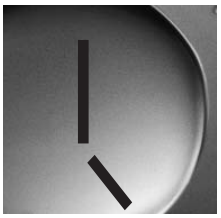
Arguments for water privatization

- water services should be supplied by businesses, just like food and other essential goods
- private water companies do not commodify water—they do a good job of managing public water resources
- the private sector can deliver more or better services per dollar of cost
- private companies are more economically efficient than public operations since they are subject to competition
- municipalities lack the budgets of private corporations to finance the building of new water systems and upgrading of old facilities, equipment and infrastructure
- private partners can deliver a higher quality product than cash-strapped municipalities
- the number of private water contracts awarded by municipalities to private companies, known as public-private partnerships (PPPs or P3 agreements), have tripled in North America in recent years, attesting to their growing popularity
- P3s now operate in more than 2,000 North American communities
- it is a myth that private companies own the water in P3 agreements; the public maintains ownership of all assets
- it is a myth that P3 private companies control water rates; rate-setting decisions remain with the municipality
- in most public-private partnerships, water costs actually decrease, not increase
- private-sector companies do not lay off employees; they let the municipalities give their preferences for employees and keep them on to take advantage of their local know-how
- in most P3s, jobs are only terminated for good causes; staff reductions are usually achieved through retirements and transfers
- private companies are often hired when municipalities have failed to meet environmental standards
- private companies are under contractual agreement to pay fines in the event of negligence meeting environmental standards
- some local municipal employees do not have the necessary experience and knowledge of a wide-range of technologies and management approaches offered by state-of-the-art private companies
- the private sector is better at maintaining and upgrading infrastructure and facilities because it has more capital to invest and is being monitored by the municipality
- maintaining assets (keeping facilities, equipment and infrastructure in good condition) is in the best interest of the private contractor since it would like to ensure the contract is renewed
- private companies do keep up with regular maintenance and upgrading of facilities, equipment and infrastructure because preventative measures are less expensive than emergency repairs
- the benefits of public-private partnerships include improved water quality and customer service
- Moncton, New Brunswick is an example of a P3 success story. It gained a new water treatment plant, improved water quality, and millions of dollars of savings by going with a private investor
- Buffalo, New York has had privatized water services since 1997 with two five-year contracts that guaranteed that no public employees would be laid off

- the metering of household water by private companies conserves water resources by encouraging people to waste less water
- private-sector companies are not just motivated by profit for shareholders; customer satisfaction is important to the economic health and reputation of the corporation
- whenever a P3 contract doesn't work out or has an environmental violation, it tends to grab the headlines and be used by detractors to denounce private water services; however, the thousands of successful P3s are ignored by anti-privatization activists
- the country of France is an excellent case of where water corporations, not municipalities, have traditionally delivered water services very successfully
- there is a global movement towards water privatization because few countries have the financial capital and public-sector know-how to build, maintain and operate water systems
- with public-private partnerships, it's a win-win situation for the company and the municipality

LESSON 7

Things you can do to make a difference



Estimated time required:

One class of 75 minutes

Getting ready

Now that students have spent time learning about the world water crisis, they may be more motivated to take action. Divide students into 4 groups. Ask them to brainstorm ideas about what they can do to improve the world's water supply and increase conservation. Ask them to report back to the whole class and record some of the suggestions.

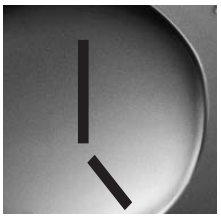
Ideas may include:

- Vote with your wallet: don't buy bottled water
- Use a refillable glass or safe plastic bottle for water
- Teach a friend about the water crisis and why water should be considered a human right • Teach a teacher about bottled water issues and ask that they spend some time in class discussing water concerns in the world and your local community
- Let others in your school know that the water in your tap is or should be just as safe as bottled water; a lot cheaper and way better for the environment!
- Make your home a bottled-water-free zone. Keep a pitcher of water in the fridge and offer ice water to guests
- Form an environmental action club at your school. Among other things have a water reduction week.
- Be sure to get the custodial staff on board and work with them to help reduce the amount of water that is wasted in the school
- Make your school a bottled-water-free zone. Talk to your principal about not selling bottled water in the cafeteria
- Pressure your school board to become bottled-water-free
- Take action on World Water Day! Every March 22nd—hold an environmental rally, a music concert or other event to raise water awareness

- Write a letter to the editor of your local newspaper letting other people know about both global and local water issues
- Lobby your local politicians to recognize World Water Day
- Talk to the librarian in your school and help create an environmental display of books and resources on water issues and green living
- Write a letter to our Prime Minister asking that bulk water not be exported from Canada to other countries
- Write a letter to our Minister of the Environment expressing your concern over the waste that occurs with Ontario's water
- Join a local or international environmental group
- Support a charity that digs wells in developing countries. Even better, volunteer to go overseas and help a developing country first-hand
- Ask your favourite restaurant to stop selling bottled water
- Write to the Prime Minister and ask that Canada be in support of an international treaty on the right to water
- Advocate for adequate funding and good public management of municipal water systems
- Fight against water privatization everywhere
- Host a screening of a water issue film.
- Do a blind taste test to see if students can tell the difference between free tap water and expensive bottled water
- Find out what happens to the plastic bottles once discarded in your community. Can you track where they actually go?

LESSON 8

Crossfire ethical panel



Topic for discussion: were the acts of civil disobedience that took place in Bolivia with regards to water privatization justified?

Estimated time required:

The research component and preparation portion of this activity will take three or four class periods plus homework. The mock debate will take one class period of approximately 75 minutes.

Overall expectations

By the end of this activity, students will be able to:

- effectively use a variety of print and electronic sources and telecommunications tools in research
- effectively communicate the results of their inquiries
- summarize main philosophical concepts and theories from information gathered from encyclopedias or surveys (e.g., by using the Internet to access appropriate electronically recorded philosophy resource material, such as surveys, journal articles, bibliographies, and listserves)
- apply logical and critical thinking skills to problems that arise in jobs and occupations (e.g., What obligations do employees have to the public, to their employers, and to themselves? When resources are scarce, how should decisions be made about their allocation?)
- evaluate the responses of major philosophers (e.g., Wollstonecraft, Confucius, Rousseau) and major schools of social and political philosophy (e.g., individualism, communitarianism, feminism) to some of the main questions of social and political philosophy (e.g., What is justice? What is the proper boundary between public policy and private morality?), making reference to classic texts (e.g., Hobbes' *Leviathan*, Rousseau's *Social Contract*, de Beauvoir's *The Second Sex*)
- analyse how theories of social and political philosophy (e.g., libertarianism, egalitarianism) are adopted and realized in contemporary political policy making (e.g., concerning the distribution of wealth), and how the adoption of a particular theory makes a difference to political and social practices
- compare the problems, principles, methods, and conclusions of different philosophers (e.g., how Aristotle made use of Plato's theory of forms, how Kant replied to Hume's scepticism)
- clearly explain their own views in philosophical discussions in class and in other types of exchanges (e.g., electronic, intra- and interschool) with peers
- evaluate the strengths and weaknesses of the responses to the main questions of social and political philosophy defended by some major philosophers and schools of philosophy, and defend their own responses

Prior learning

To provide a context to this exercise it will be necessary to read the backgrounder on Bolivia as well as watch the Common Threads DVD.

Resources

The *Common Threads III: Tapped Out: The World Water Crisis DVD*, access to the Internet, DVD player and a television.

Teaching and learning strategies

Topic for discussion: were the acts of civil disobedience that took place in Bolivia with regards to water privatization justified?

1. Place students into groups of five or six.

2. Instruct students that they will be a panel of experts (philosophers) and will stage a mock crossfire panel discussion on the topic of the day. The group may choose to have one of its members act as a moderator to introduce and facilitate the discussion.

3. Students will assume the persona of various social and political philosophers from the following list:

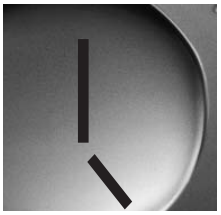
   John Stuart Mill (www.mtholyoke.edu/courses/ebarnes/242/242-sup-mill1.htm)
   Socrates (http://en.wikipedia.org/wiki/Socrates)
   Thomas Hobbes (http://en.wikipedia.org/wiki/Thomas_Hobbes)
   Jean Jacques Rousseau (http://en.wikipedia.org/wiki/Jean-Jacques_Rousseau)
   John Locke (http://en.wikipedia.org/wiki/John_Locke)
   Plato (http://en.wikipedia.org/wiki/Plato)
   Martin Luther King (http://en.wikipedia.org/wiki/Martin_Luther_King,_Jr.)
   Niccolo Machiavelli (http://en.wikipedia.org/wiki/Niccol%C3%B2_Machiavelli)

   Representatives should also be included to express the concerns of the people of Bolivia.

4. Students must conduct research using the materials provided within this resource as well as others to learn about what happened during the water wars in Bolivia. Additionally, students will research their particular philosopher and his or her views on civil disobedience and the role of the state.

5. Within their groups, students will prepare and stage a mock debate on the topic. Students must demonstrate a thorough knowledge of the issues at hand as well as "their" philosopher's ethical point of view.

LESSON 9
Anatomy of a news article



Estimated time required:

One class; approximately 75 minutes.

Overall expectations

By the end of this activity, the students will be able to:

- identify the main ideas and supporting details in a news article
- identify the five Ws in a news story: Who?, What?, When?, Where?, Why? and sometimes H for How?
- understand the inverted pyramid structure of a news article
- deconstruct a news article into its component parts
- discern the impact of water scarcity on women in developing countries
- discern the ramifications of drinking bottled water

Enduring (Key) understandings

Students will understand the inverted pyramid structure of a news article by deconstructing a story related to the world water crisis impact on third world women. They will appreciate that literacy practice is an interdisciplinary pursuit, not just confined to English or language class. They will identify and evaluate the main ideas in a news story and further analyse how details support the main ideas. As a literate learner, the student will use the knowledge of organization and characteristics of the news story form of writing to assist in reading comprehension and issue analysis.

Prior learning

This activity can stand alone as an exercise in literacy practice or it can stand alone as an exercise in issue analysis.

Getting ready

Duplicate the black line masters for students (select either BLM 9-2 or BLM 9-3 as the reading):

- BLM 9-1: Anatomy of a news article: The inverted pyramid
- BLM 9-2: Clean water in Kenya is a rare luxury
- BLM 9-3: Bottled water: The industry, the marketing and the ruse

Teaching and learning strategies

1. Put BLM 9-1: Anatomy of a news article: The inverted pyramid onto an overhead and discuss with class.

   Introduce the concept of the inverted pyramid structure of a news story, where the lead answers the five Ws: Who?, What?, When?, Where?, Why? (and sometimes H for How?).

2. Review the instructions for the activity: students are to read the news article, then make point-form notes to record the five Ws, supporting details of the story, and least important points left to the end.

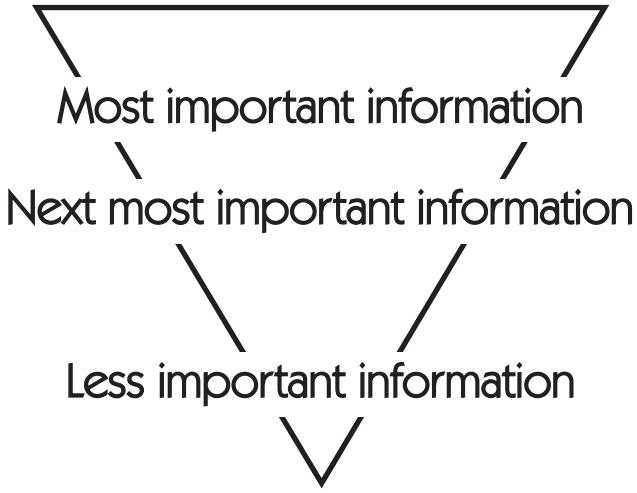
3. Distribute BLM 9-2: Clean water in Kenya is a rare luxury, or BLM 9-3: Bottled water: The industry, the marketing and the ruse, for students to read and complete the assignment. For some classes, it may work well to assign reading pairs or have half the students read one article and the other half read the other then get together as partners or small groups to discuss.

4. Once students have finished the activity, promote discussion of the issue in greater depth.

BLM 9-1
Anatomy of a news article: The inverted pyramid

The five Ws—Who?, What?, When?, Where?, Why? (and sometimes H for How?).

The five Ws are the major questions that should be answered in the lead of a well-written news story using the traditional inverted-pyramid structure. This structure puts the most important information in the first paragraph(s) and the least important in the last paragraph. Paragraphs in newspaper articles are shorter than those found in essays or formal reports, so the leading five Ws sometimes continue into the second and third paragraphs.



Anatomy of a news article

Part 1: The lead (the introduction)

For the lead of the newspaper article, answer the five Ws below in point form.

Who is this story about? (Not necessarily a person: may be a person, place or thing)

What is happening?

When is it happening/when did it happen?

Where is it happening?

Why or How is it happening?/**How** can the situation be changed/fixed?

Part 2: Next most important information

In the space below, record all the important points of factual information (not included above) and details to support the main idea of the news article. Use point form.

Part 3: Less important information

In the space below, briefly state any less important information that has been left to the end (this is the part that the editor may cut out if it is too long for the space allowed in the newspaper). Use point form.

BLM 9-2
Clean water in Kenya is a rare luxury

May 11, 2006
Craig and Marc Kielburger

Each day begins with a three-hour hunt for water. On this summer day in Kenya's Masai Mara, we decide to accompany Layla. She is one of the 1.1 billion people without sustainable access to clean water. Layla straps her seven-month-old baby to her back and sets off into the mountains.

The river is only two kilometres away, but the water is dirty and gives her three children diarrhea, so she sets off for the cleaner spring.

She can't always get spring water, she tells us in Swahili. It depends on the season. If crops need planting or harvesting, she has no time to go the extra distance another five kilometres past the river. It also depends on how lucky she is on her daily search for firewood, which is becoming scarcer.

Her husband does not help. Period. We ask Layla why, although we already know the answer. Like millions of other uneducated men in rural Africa, he follows defined gender stereotypes. He usually sits around all day at his regular spot under a large, shaded tree with the other men, seemingly waiting for something or someone important. Not much transpires as the hours go by, other than maybe finding a new stick to wave as a prop to show the force of his opinion during a heated conversation about local politics.

She says he is faithful "at least," a necessity here as HIV/AIDS is rampant in the country, with one in 26 infected.

As we walk the dusty route, we are especially careful of the acacia thorns, which litter the path in the more wooded areas closer to the river. Often more than an inch long, acacia thorns are hard to remove once the tip becomes embedded in the skin.

Drought has hit this region badly. The skin of Layla's feet are cracked and calloused, despite ingenious sandals made from used tires.

We pass the river on the way. Half a dozen women are collecting water or washing clothes. A handful of children are playing by the river bank. A couple of men bathe in the distance.

Two large industrial farms grow wheat and soy beans about 30 kilometres upstream towards the tarmac road that connects these villages to the outside world. The river is used as a source of irrigation for the farms and is a convenient runoff for the chemicals. Crop dusting planes spray the plants during growing season to prevent insects from destroying the yield.

We keep walking, having to stop three times to sip water from the bottles we brought with us. It is already 27 degrees and it is only 8 a.m. Layla refuses our offers of water.

We make it to the spring to find the water is not flowing freely today. The drought has made it worse. Each woman (there are about eight lined up) spends five minutes filling up their water containers. Some carry a large tin jug like Layla; others carry heavy plastic jerricans. The waiting women chat away, complaining about the lack of water, laughing about their husbands and gossiping.

Once Layla fills her jug, she takes out a foot-long scarf, swiftly winding the fabric and then placing it on her head in one easy movement. The jug goes on top. Now, the long journey home begins. The water is very heavy; we can see her perspiring as she struggles to carry it, with the baby on her back.

We offer to help, each of us taking a turn. But we don't carry it on our heads because of the realistic concern it might topple off, wasting a days work. Instead, we hold the jug in front, using both arms.

We never make it more than 60 paces or so without needing a break. She gently laughs at our ineptitude. Back at the boma, she starts a fire and then uses the water to make a maize meal to give to her children. The rest will be used for cooking and drinking. Tomorrow, she will begin the journey all over again.

Meanwhile, we begin our journey back to Canada. When we arrive at the Toronto Airport, we are parched from the long flight. A mountain of bottled water awaits us in the food court and in vending machines. Water imported from the French Alps. Water from the Canadian Rockies. Water with bubbles. Water without bubbles. Water with vitamins added. Regular tap water, which has been purified three times. Sports top. Twist top. Regular top. Most bottles cost about $3: Laylas income for three days.

Several tables in the food court are littered with half-consumed water bottles, all left for the garbage. Nearby there is an untouched drinking fountain, where as much clean drinking water as we want can be consumed for free.

Our world will spend $35 billion on bottled water this year. It will only cost approximately $11 billion a year to achieve the United Nations millennium development goal of cutting in half the number of people without sustainable access to safe drinking water, according to UNICEF.

These are the economics of water.
Layla's the one paying the price.

With permission of Free the Children

BLM 9-3
Bottled water: The industry, the marketing and the ruse

August, 2006.
Andrea Harden and Karl Flecker, Polaris Institute

Everyone knows that water and air are equally precious to life on Earth. Yet globally, more than a billion people don't have access to enough water. The worldwide demand for water is doubling every 20 years to the point where two-thirds of the people on this planet may be facing severe water shortages by the year 2025. Simultaneously, the bottled water market has been exploding in North America. Today close to one-fifth of the population relies exclusively on bottled water for their daily hydration. Strange to consider that just ten years ago most people living in Canada took their drinking water directly from the tap!

Few consumers stop and think about the price they are paying for their single serve bottle of water ranging in price from $1.00 To $2.00 Cdn. Would it shock you to realize that the U.S. Natural Resources Defense Council has estimated that bottled water is between 240 and 10,000 times more expensive than tap water? When you consider that in some cases the water is actually drawn directly from municipal taps, the price mark-up is astonishing. It is even more shocking in the case of one food and beverage company because they pay little or next to nothing for the water they take out of groundwater streams and aquifers.

The Canadian Bottled Water Association often suggests that tap water is inferior to bottled water, yet the City of Toronto tests its water quality every six hours. Meanwhile, bottled water plants receive government inspections on average once every three to six years. It is also interesting to highlight that the same companies that sell dehydrating colas use slogans like 'get hydrated' or die to sell their bottled water products.

The bottled water industry leaders are becoming increasingly present in Canada, including in our schools. In response to concerns about healthier lifestyle choices, and seeing a drop in consumption of their colas, the beverage companies are quickly switching gears and products in their vending machines in schools. However, swapping a cola for bottled water, fruit juice or a sports drink—also made by these junk food giants—may not necessarily be a healthy or environmentally wise choice.

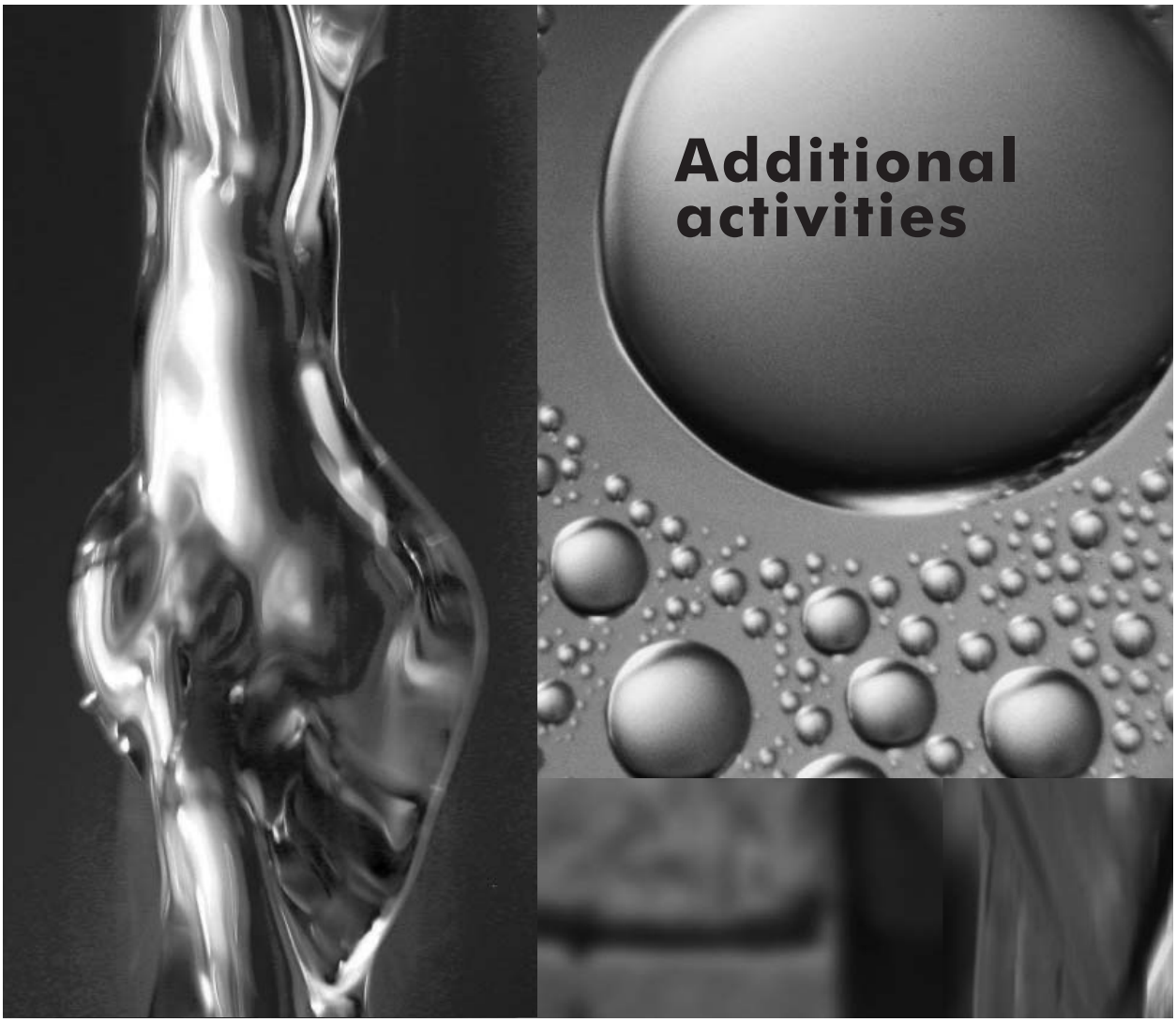
Many are beginning to question this idea that bottled water is safer than tap water. Several peer-reviewed scientific studies have found disturbing concentrations of toxic ingredients such as arsenic and mercury in their bottled water samples. When a large beverage company launched its bottled water product in the UK in March 2004, it had to withdraw nearly half a million bottles due to bromate contamination. Despite the bad rap being given to tap water by this industry, with few exceptions, it is widely regarded as a safe form of drinking water in Canada and the USA.

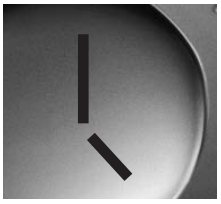
The bottled water industry also misleads consumers with sparkling advertising campaigns. Bottled water is often depicted as coming from pristine natural environments. Yet that is often not the case. Take, for example, a couple of bottled water brands from one of the world's largest food and beverage company. The label on one of the brands claims that it is pure glacier water from the last unpolluted frontier. In fact, the water used for this one brand is municipal water drawn from the public water system in Juneau, Alaska, [pipe # 111241]. Similarly, the other brand is not spring water drawn from a pristine and protected source, as its label tries to portray, but is usually water supplied by borehole wells located near their bottling plants. This company also sells reprocessed distilled tap water labelled as coming from springs in Poland.

Moreover, the plastic bottles are rapidly becoming a major threat to the environment and our health. They are the fastest-growing form of municipal solid waste in the U.S. and Canada. These containers also release highly dangerous toxic chemicals and contaminants into the air and water when they are manufactured, and again when they are burned or buried.

So next time you're thirsty, think twice about reaching for a bottle of water. Instead, grab a glass of tap water or head for the nearest water fountain. There is a new brand in town and it is catching on. It's called ethics. Crack it open, try it on, the fit is for you to decide.

Abridged from *Education Forum* (Winter 2006)


Additional
activities



Additional activity: Drama activity

Estimated time required:
One and a half to two class periods of 75 minutes.

Getting ready

Augusto Boal is a renowned political activist and dramaturge. His work often explores relationships of empowerment and disempowerment. His form of street theatre is called *Theatre of the Oppressed*. The following exercises come from the Boal book, *Games Actors and Non-Actors*, and from Chris Johnston's book, *House of Games*. These warm-up exercises can help students feel empathy towards others, exploring issues of oppression and empowerment.

Be sure that the classroom or area that you are using is clear of chairs, tables and other tripping obstacles.

Teaching and learning strategies

Select one or more of the following warm-up activities to get students thinking, moving and active.

Boal warm-up: Colombian hypnotist
This activity, from introduction to discussion will take approximately 30 minutes.

1. Have students select a partner. One student will take on the role of a hypnotist, the other is the subject. The hypnotist holds his or her right hand palm out, about four inches from the partners face. Focusing only on the hand, the subject is led slowly and safely around the space. Both should remain silent and safety should be stressed. The hand should be in constant motion, but never fast. After a couple of minutes, have students reverse roles.

2. Have a discussion or 'debriefing' afterwards. You may wish to ask, "What did you prefer being, a hypnotist or a subject?" Have students explain their reasoning. Those playing the part of the hypnotists may state that they liked being in control. They felt powerful. Some may say they felt an urge to startle their partner. On the other hand, those who played the role of the subjects will say they could relax and give over responsibility. Talk about trust. Discuss what the exercise felt like. What did it reveal about themselves? About their partner?

Warm-up: Status

This activity will take approximately 20 minutes.

1. For this activity, you will need a deck of playing cards.

2. Place the cards, face side down with a rolled piece of tape on the back of the card. Do not allow the students to see the cards.

3. Without allowing students to see their card, stick the card, face out onto their forehead. Explain to students that their social status or wealth is revealed by their card, with two being low and ace being high. Have students walk around the room and interact verbally and socially with their classmates, remaining aware of the cards.

4. After three or four minutes, ask students to form a circle, and without looking at their card, ask them what they think the value of the card is. How accurate was their guess? How did it make them feel? What does this reveal about social interactions? What does this reveal about stereotypes? About bias?

5. Discuss the idea of chance or luck. What if they had been born in a poor developing country, rather than Canada? A poor mining community in Bolivia?

Boal's image theatre

This activity will take approximately 45 minutes.

One simple form of *Theatre of the Oppressed* is called Image Theatre.

1. Break the class into groups of 5 or 6 students.

2. Each group should select a social problem or issue (see list of possible topics below).

3. Within their group, students must work to create an image, or statue that is a collective perspective of that theme. In drama that 'snapshot,' image is called a Tableau. Boal calls this the Real image.

4. Collectively, the group then recreates what Boal refers to as the ideal image. This is a positive representation of the ideal situation, with the problem overcome or the conflict resolved.

5. The group then returns to the Real image. They must take turns 'resculpting the image,' finding a way to resolve the issue. Boal calls this the 'Image of Possible Transition.'

6. Each participant is then asked to change the oppressive 'Real image,' by slow motion or a short series of freeze-frames, reform the collective image into the ideal image. Each group can then present to the larger group.

7. The opening (Real image) and closing (Ideal image) should be held for around 10 to 15 seconds each. The transition should be smooth and seamless. There should be no talking and the tableau should be completely still. The students will astound themselves at what a strong dramatic image they will create.

8. Again after each presentation, discuss with the class. Ask if they can identify the theme or issue explored. Discuss the choices the participants made. You might ask each group to reform any tableau and invite spectators to revise the picture.

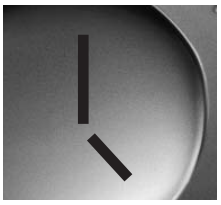
9. Although image theatre is usually done with the participants selecting their theme or situation, you may wish to provide some examples from the Bolivian water struggles after they have been introduced to the topic. Here are some possible scenarios:

10. Discuss the feelings and the decisions that each group made. Give ample time for the students to respond. Encourage full, student-centred dialogue.

You are a poor farming family and you depend on one well that your great-grandfather had dug. The government has declared that a private company now owns it and have put a meter on the water flow. This will greatly decrease your family's meager earnings.

Your family lives in a crowded community on the outskirts of a city. You and your neighbours have no running water and no municipal services. You collect rain water, or must have a barrel filled by a truck that comes once a week. The company that controls water has now informed your neighbours and you that collected rain water will now be forbidden or must be paid for.

Your family lives on the outskirts of a city and have no running water or services. Your father is ill and your mother has three young children, so you have little income. Water costs more than you can manage. There is a highly polluted river that runs nearby that you know does not have potable water.



Additional activity: What else is inside the bottle?

Estimated time required:
One and a half to two class periods of 75 minutes.

Expectations:

Students will engage in an interactive manner to think critically about the ways in which the effective marketing on the part the bottled water industry has established a particular image of bottled water as pristine and pure, the healthy choice. The successful marketing of bottled water can then be related to topics of consumption patterns and problems, consumer behaviour, health, societal trends, environmental impact and governmental regulation.

Required materials:

One bottle of water. It can be a reused bottle in order to avoid purchasing a bottle for this purpose.

Activity:

Step 1

- Put the bottle of water at the front of the classroom so that it is visible to all students.

- Begin by asking the students what they see. When they respond, a bottle of water, ask them what this bottle of water brings to mind, can they describe it? Does it bring to mind certain images, for example, of the water's source or its purity? Where do they think the water comes from? What are some of the brand names?

- Write bullet-point summaries of their responses on the board. Once this interaction is slowing down, start at the top of the list of the student descriptions and begin to 'decode' them. The diagram below offers useful bullet-point information that corresponds with likely questions. It can also be a helpful 'reminder' handout after the activity is finished.

Decoding the image: Teacher notes

Purity/Health

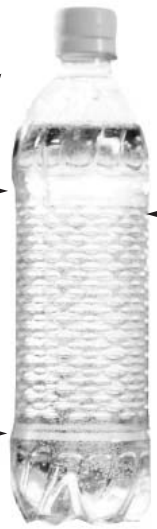
Is bottled water inherently purer than tap water? Consider these points.

- Bottled water is often tap water that has gone through a particular process.
- Consider that bottling plants in Canada are inspected, on average, once every 3 years. Compare this to the City of Toronto that tests its tap water every six hours!
- The very processes meant to 'purify' bottled water can produce dangerous by-products. Ozonation can produce bromate, which is a carcinogen.
- One study of 25 bottled water brands in the U.S. conducted by the University of Tuskegee, Alabama, found that some bottled water contained toxic chemicals. After examining samples from five bottled water brands – the study found 11 samples containing arsenic concentration exceeding the U.S. Environmental Protection Agency limit for drinking water.
- There are increasing concerns of bacterial contamination in bottled water. One study based out of the Netherlands that included Canadian bottled water, found, "high levels of bacterial contamination in commercially bottled mineral water."

Environment/Recycling

Ever notice the amount of empty water bottles hanging around?

- Recycling rates for plastic bottles has been in steady decline since 1995. Not only has the industry promoted the shift from glass to plastic containers, and failed to live up to promises about using more recycled material, they actively oppose legislation aimed at improving recycling rates for plastic bottles, and requiring beverage container deposits.
- Some companies use a deceptive logo on bottled water containers that misleads consumers into thinking the product can be recycled, when the opposite is often true.



Environment/Corporate Control of Water

When the label on the bottle says 'pure spring water,' where does the water really come from, who owns it, and how is it regulated?

- In the U.S., bottled water companies are not required by law to disclose the source and geographical location of their water takings on their labels. In Canada they are, but only for takings from underground water.
- Water takings are also largely unregulated in both countries where there are more laws governing surface waters than there are for groundwater. Where groundwater regulations do exist, they differ, often dramatically from state to state and from province to province. As a result of the lax regulatory environment, bottled water labels are often very misleading.
- Do you think there is something wrong with how water bottle labels mislead the consumer? Why?

Health/Environment

The containers used for bottled water release dangerous toxic chemicals and contaminants into the air and water when they are manufactured, and again when they are burned or buried. These same plastics are becoming the fastest-growing form of municipal solid waste in the U.S. and Canada.

Beverage Exclusivity Contracts in Schools

- Sometimes known as pouring or exclusivity contracts, these contracts give beverage companies exclusive rights to sell their products on school or district grounds thus excluding all competitors including local business or healthy alternatives.
- Contracts typically include conditions on the number of products that must be sold, extensive corporate logo placement within the school, and strict confidentiality around the contract itself.
- Schools have found vending machine placement often impacts access to, or even the presence of, water fountains. Schools are also getting stuck with the energy costs for refrigerated vending machines, which can be tens of thousands of dollars each year!

Marketing

- Images that evoke images of 'activity,' 'health,' 'relaxation,' 'purity' and 'replenishment' are used to convince consumers to buy something that largely exists in an imaginary environment.
- Industry slogans like 'get hydrated or die' expose internal corporate contradictions such as the fact that the same companies that sell dehydrating soft drinks are promoting bottled water as a solution to dehydration.

Step 2

The purpose here is to connect the issues identified in the 'decoding' activity to specific topics within subject areas. Here are a few suggested topics of discussion or further research.

Social Science:

Changing Culture: Refer to the 'trend' of bottled water. Ten years ago, most people relied on their municipal system for all their drinking water. Today close to one-fifth of the population in Canada and the U.S. drinks bottled water exclusively—demonstrating how extraordinarily successful the industry has been in luring people away from tap water. Is a 'trend' part of culture? What does this suggest about consumer behaviour and culture? What might be the impact of exclusivity contracts in schools on the future consumer choices of students?

Nature of citizenship/human rights: The trend of bottled water can be related to responsibilities of citizenship. First of all, do citizens have responsibilities? Do these responsibilities include maintaining a healthy environment? If so, is our responsibility only to ourselves or to future generations as well? With this topic, the concept of a right to water can be introduced: Do citizens have rights? Is water a basic human right, accessible to all? Should water be a human right? Does the right to water conflict with the idea of water for profit? How does this 'commodification' of water impact on the right to water?

Environment:

The bottled water trend has definite environmental consequences. Refer to the above "Decoding the Image" diagram for several examples. Is the 'convenience' of bottled water worth the ecological footprint it leaves? What does convenience truly mean to us? Are there other ways that people could fulfill their hydration needs without this sort of impact? What could be done in your school to encourage kids to drink more water from the fountains and less water from bottles?

There is also the issue of groundwater depletion by bottled water companies. Students could be encouraged to research this environmental topic on the Internet.

Health:

Healthy Living: Students require knowledge to make healthy choices about nutrition. Bottled water is being marketed to youth as a healthy alternative to other beverages, but is this really the case? As seen in the above diagram, "Decoding the image," there have been questions about bacterial content in bottles and contamination by toxic chemicals such as arsenic, a carcinogen. Here are some more facts about bottled water in order for students to make healthy choices.

There are concerns that touted alternatives to soda beverages (marketed in light of increasing concerns about rising obesity rates) can damage dental enamel, the hard outer coating of our teeth. The University of Maryland found that the most damaging of these beverages was lemonade, followed by energy drinks, sports drinks, citrus-flavoured 'fitness' water, ice tea and finally cola. This study was published in *General Dentistry*.

There are also health reasons to be concerned over the trend of youth to drink bottled water instead of tap water. In Australia, following a state review of the nutritional value of food sold in school cafeterias, it was brought to the attention of the government that bottled water and soft drinks were contributing factors to an alarming rise in tooth decay among children. Dentists state that this is due to a lack of fluoride.

The Australian Dental Association said its members were seeing the first real increase in cases of tooth decay since the introduction of fluoride to Western Australia's drinking water in 1968. The association said that while it supported calls to limit the consumption of sugary food and drinks in school canteens, it was equally concerned about the growing popularity of bottled water and sports drinks among children.

Western Australia's branch chief executive officer Peter McKerracher said it was clear that children needed to be drinking more freely available tap water because it guaranteed they obtained the fluoride their growing teeth needed. "Bottled water and sports drinks do not contain the fluoride which has been so successful in reducing decay," he said.

Furthermore, additional studies conducted at the University of Maryland found the beverage industries' juice products are not necessarily healthy alternatives. A study of 10,000 preschoolers in the U.S. found that children who regularly drank juice drinks doubled their risk of becoming seriously overweight. Additionally, studies showed juice drinks did the opposite of quenching thirst and left children tired, irritable and even thirstier than before.

When presented with this information, does it make students reconsider preconceptions they had about bottled water versus tap water pertaining to their health? Is there anything holding them back from drinking tap water?

Politics/Canadian and World Studies/Civics:

Responsible Citizenship: What does responsible citizenship entail? Do we have responsibilities as citizens to the environment: locally, nationally and globally? Do we have a responsibility to be an informed consumer? Are there ways in which we as a society can work towards becoming responsible as consumers and citizens? Are the two divisible?

Governmental Regulation:

What level of government is in charge of regulating the various water sources: groundwater, surface water, aquifers? (Health Canada regulates the labelling of Canadian bottled water, but groundwater is regulated by provincial governments which differ with regards to the limits imposed on daily water takings). Do they have to make public the source location for the water? Are there certain classifications of bottled water (spring vs. mineral vs. processed tap water) that do not have to make public the location of where their water is sourced? Should there be a fee for taking this resource like other raw resources such as timber? Are there inconsistencies in the ways in which bottled water is regulated? Students could be assigned the task of reading the labels of a wide assortment of bottled water to catalogue information on its source to report back to class.

Assignment ideas:

1 Assign an interactive homework assignment in which students are encouraged to report on the results of interviews with four people, (at least two above the age of 25.) Interviewer might ask if they remember when bottled water began to be marketed on a large basis? Do they drink bottled water regularly? When did they start drinking bottled water, and why? Are they concerned with the quality of tap water? Mirroring the in-class activity, students can think critically about these answers and write them into a 2-5 page report which includes their own conclusions or perspective. They should compare and contrast the attitudes of their older and younger respondents.

2 Assign student research on a topic related to bottled water consumption: bottled water regulation, bottled water marketing, water as a human right, water issues in Canada, environmental impact of the growth of the bottled-water industry.

3 Have students carry out primary research on bottled water in the school or community. What brands are available? Which companies own these brands? Does the school have an exclusivity contract which affects brand availability and consumer choices?

Suggested resources:

For more information on the analysis challenging the image of bottled water, see Tony Clarke's publication, 'Inside the Bottle, an Exposé of the Bottled Water Industry,' which is available from: www.insidethebottle.org. There are also two informative brochures, 'Ever Wonder What Else is Inside the Bottle,' and 'Dasani or Aquafina. Coca-Cola or Pepsi. What Choices do you Really Have? A Look Inside Exclusivity Contracts,' also available at www.insidethebottle.org.

For information on the licensing of groundwater extraction by the government of Ontario, see "Aquafarms 93 Exposed: The private company behind the bottled water at Wal-Mart, Shoppers Drug Mart and Loblaws," available at www.insidethebottle.org.

Adapted from The Polaris Institute

Additional activity: The Millennium Development Goals (Secondary)

The eight Millennium Development Goals (MDGs)—which range from halving extreme poverty to halting the spread of HIV/AIDS and providing universal primary education, all by the target date of 2015—form a blueprint agreed to by virtually all the world's countries and all the world's leading development institutions. They have galvanized unprecedented efforts to meet the needs of the world's poorest.

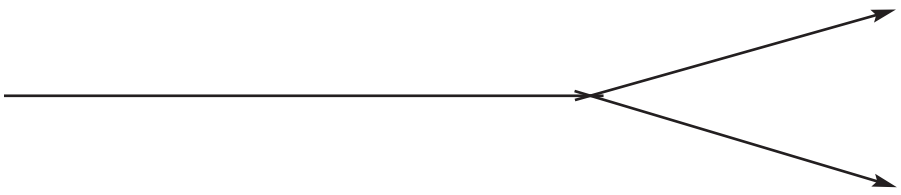
The following arrangement of teaching strategies is designed to introduce students to the Millennium Development Goals and to have students consider the implications of these goals for the individual and for the collective society.

Imagining the future we want
Connecting the dots
Getting there
Who does what?
Anticipating consequences
You be the judge
Additional resources

Imagining the future we want

Procedure

- Discuss with students what they understand by the suggestion that much of what we study in school can be equated with "driving down the road at 100 km/hr with our eyes fixed on the rearview mirror." What arguments could they make for "future studies" in addition to "past studies" (history)?
- Have students discuss the difference between *predicting* the future and *forecasting* the future. *Predicting* suggests something of the idle speculation associated with crystal ball gazing, while *forecasting* implies that one has looked at trends and is trying to see where we might be going based upon those trends.
- Ask students to draw a time line in which they include a number of key items from the past. Continue the line with two branches—one representing the *preferred* future and the other the *probable* future, and each extending 10 years in the future. The preferred future line should include reference to the type of society or world the student would like to see. On the probable line, have students list key items that represent the type of society or future they expect to see.



- Have students indicate what might be done to close the gap between the two lines by moving the probable line towards the preferred line. What are the obstacles and how might they be overcome?
- Ask students (working in groups) to identify eight goals that one might set in order to create a better world—the preferred future. The goals should establish specific targets. See chart below for appropriate verbs one might use. To help students arrive at their list, provide each group with a copy of the **CIDA Developing World Map** and ask them to note the global issues and inequities indicated in the map.

Our goal is to:

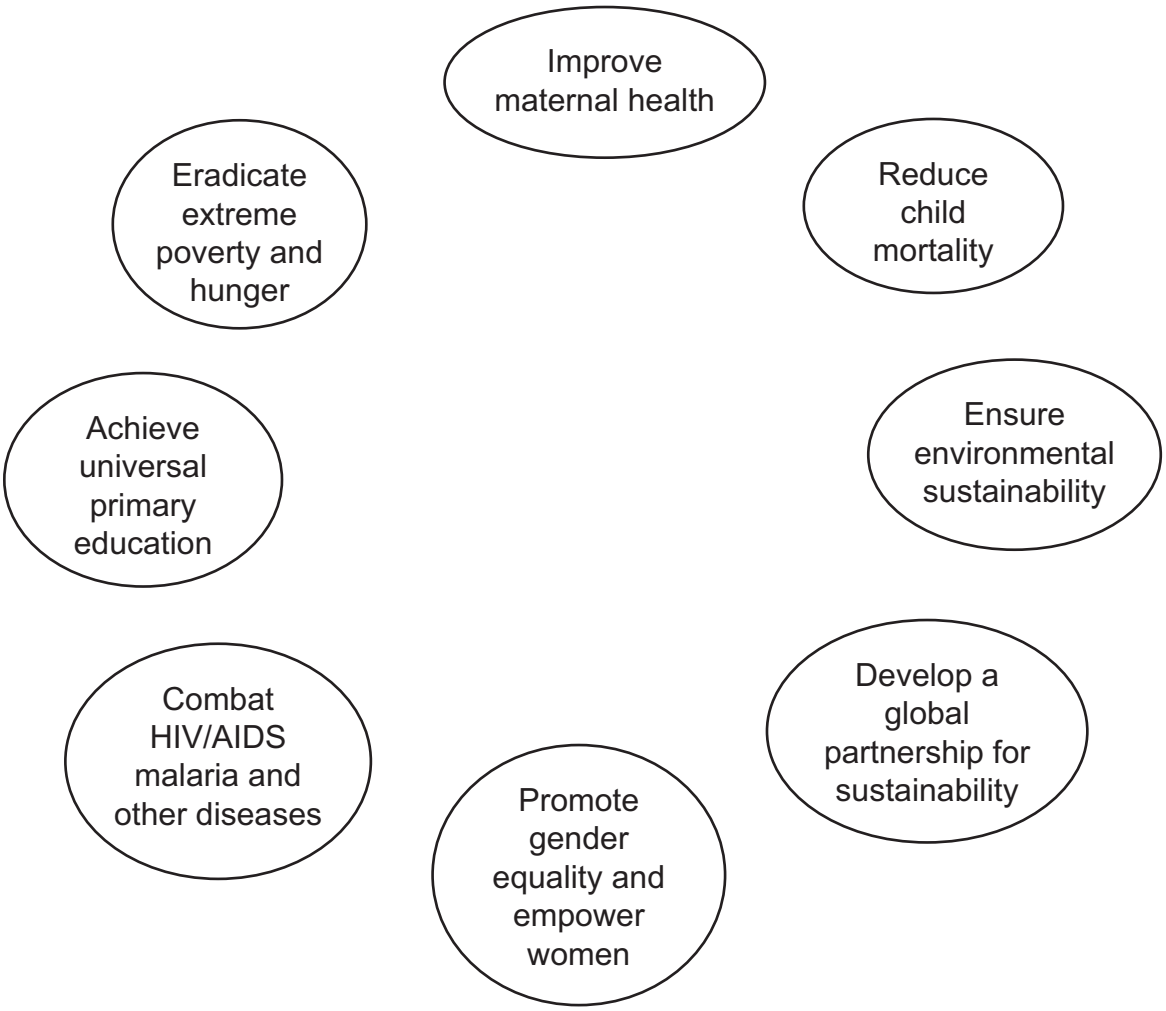
Reduce/lessen/decrease	Eliminate/abolish/eradicate/erase	Enlarge/expand/increase

- Have student groups meet with other groups and compare their respective lists, with the goal of arriving at a list of goals acceptable to all.
- Review and discuss the students' lists of goals.
- Introduce the Millennium Development Goals and compare these to the student lists. Identify items that are similar. Debate the merits of those items included in one list but not the other.

Connecting the dots

Procedure

- Arrange the Millennium Development Goals in a web-like design and have students discuss the possible connection or link between those that appear to be related. For example, it might be argued that if we were to empower women, one consequence may be a reduction in child mortality or a reduction in the spread of HIV/AIDS (See diagram below) Record such connections on the diagram using arrows and appropriate shorthand.



Alternative approach—Negotiating the connections

- Alternatively divide students into teams representing each of the MDGs. Write each MDG on a large piece of paper and post it on a section of classroom wall. Members of each team meet with their counterparts on other teams and "negotiate" a connection. Once both sides are agreed on the legitimacy of a connection, record it on their respective paper posters.
- Once the negotiating session is complete, have students return to their teams and ask each team to report on the connections established.

Alternative approach—Connecting the string

- Arrange students in a circle and assign one of the MDGs to each student.
- Ask students to suggest a connection between their particular MDG and any other MDG in the circle. If the connection is agreed upon, run a piece of string or yarn between the two students to "record" the connection. Continue the process until the students have established a web of connections.

Getting there

Procedure

- In order to reach a goal, one must take a number of steps and overcome obstacles on the path. Arrange students in teams and assign one of the MDGs to each team. Each team must identify the steps needed to reach its particular goal and the obstacles that might need to be addressed.
- In order to give visual reference to the process, students create an appropriate poster. The poster may, for example, be in the form of a running track where a relay is being run and each section of the track represents a required step on the road to the goal and the hurdles represent the obstacles that must be overcome. It may be in the form of a board game like Snakes (hurdles/obstacles) and Ladders (steps), or any format that has some visual impact.
- Students complete the poster and each team makes a presentation based on their poster. Attach completed posters to classroom walls.

Who does what?

Procedure

- Ask students in a brainstorming session to suggest what may be done individually or collectively to promote and help realize the MDGs.
- Once the class has generated a list of possible actions that might be taken to advance the MDG agenda, have them arrange the individual ideas into different categories such as the following.

Living (Daily actions)	Educating (Raising awareness)	Lobbying (Exerting pressure)

- Review the list and identify those undertakings that individuals might pursue and those that the class/school club/entire school might undertake.
- Examine the list of possible actions outlined below and consider which actions, if any, your class or school might undertake.

Possible Actions

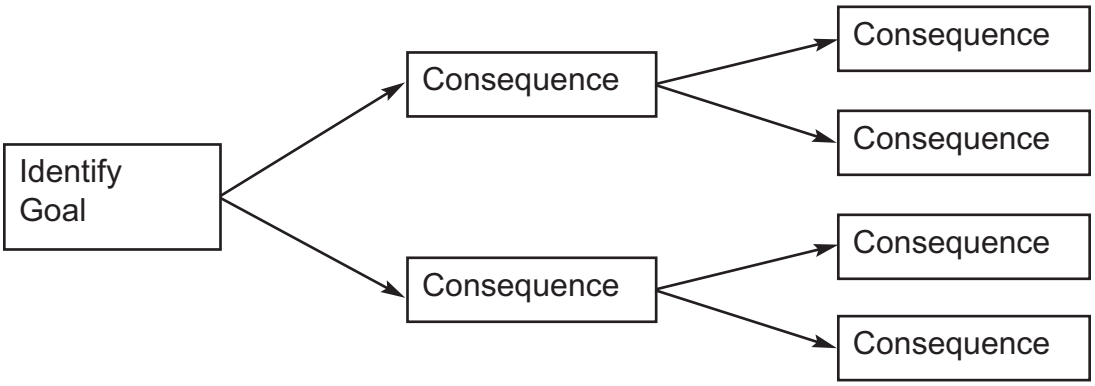
- Create a variety of posters to be displayed in your school, each of which focuses on one of the MDGs.

- Write an article for your school or community newspaper with the goal of raising awareness of the MDGs.
- Investigate and report on a particular success story related to the MDGs.
- Organize a "Day Without...." in order to draw attention to the plight of many children in the developing world.
- Organize a school assembly in order to raise student awareness of the MDGs.
- Conduct a model United Nations Assembly meeting aimed at addressing the issue of the MDGs.

Anticipating consequences

Procedure

Have students select one of the MDGs and imagine that the goal was accomplished. Consider the possible impact or consequences of this achievement and record these using a web-like design such as illustrated below.



You be the judge

Procedure

- In order to have students recognize that positive changes are possible, arrange the students in teams and provide each team with a copy of the **CIDA Developing World Map**. Direct the students to identify evidence of positive change in the last 10 years. Ask them to imagine that they were journalists and were asked to write headlines that reflect these positive changes. How would they write these headlines? Write the first paragraph that would follow the headline.
- Arrange a debate on the topic: "Resolved that major gains have been made in international development in the last 10 years." Complete the following chart to prepare for the debate.

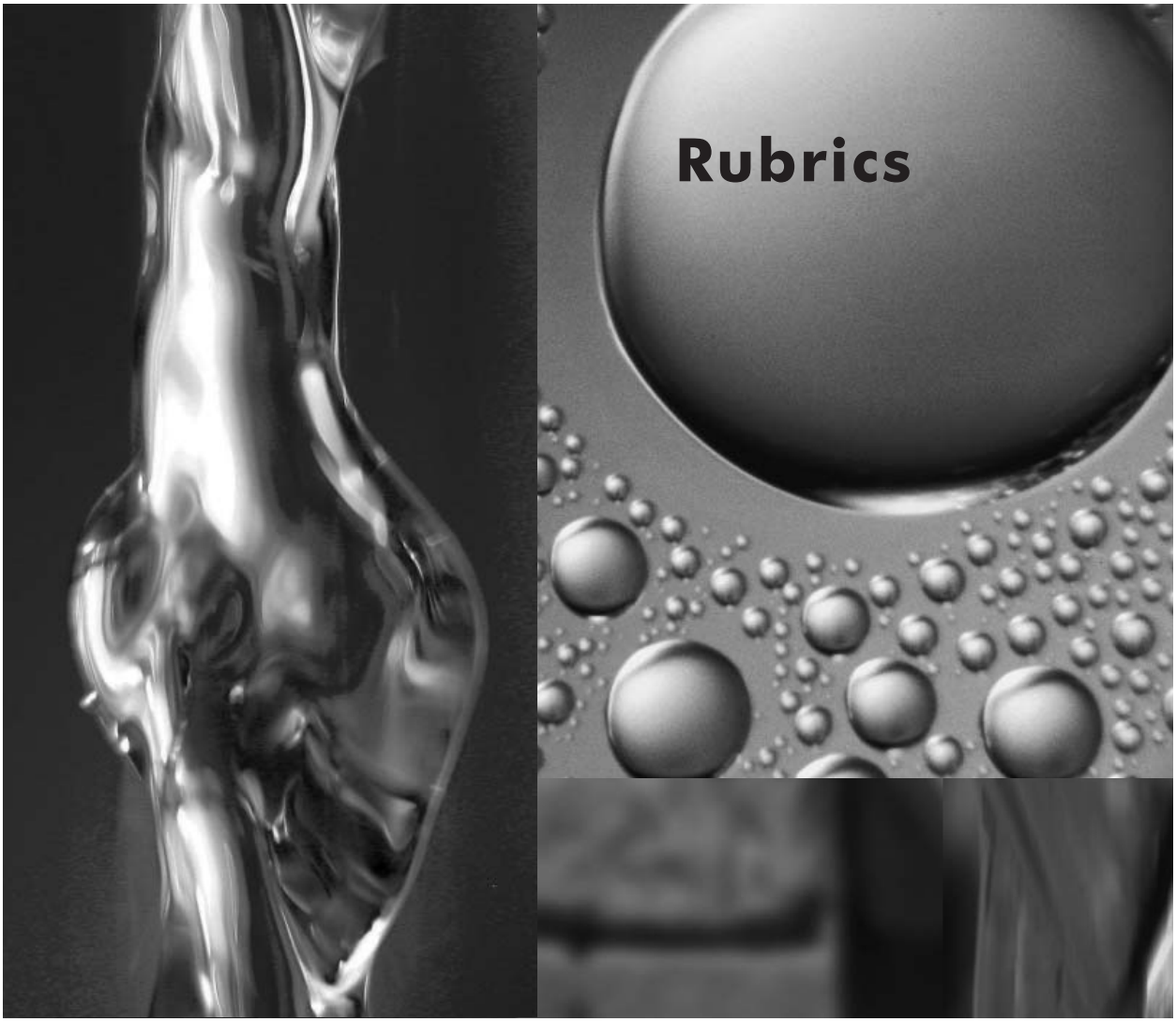
Gains—improvements—successes	Evidence to support claim

Inequities—growing gaps	Evidence to support claim

Additional resources

Internet

- Unicef and MDGs www.unicef.org/mdg/
- The Millennium Development Goals Report www.un.org/summit2005/MDGBook.pdf
- The UN Cyberschoolbus http://cyberschoolbus.un.org/mdgs/index.asp
- Change the World in 8 Steps (Oxfam) www.oxfam.org.uk/coolplanet/teachers/mdg/index.htm
- CIDA Developing World Map www.canadiangeographic.ca/worldmap/
- Make Poverty History (Canada) www.makepovertyhistory.ca/


Rubrics

Class discussion Rubric

Criteria	Level 1 50-59%	Level 2 60-69%	Level 3 70-79%	Level 4 80-89%
Quality of Comments	—Struggles but participates; occasionally offers a comment when directly questioned —Simply restates questions or points previously raised; adds nothing new to the discussion	—Volunteers comments but lacks depth —May or may not lead to other questions from students	—Volunteers comments, most are appropriate and reflect some thoughtfulness —Leads to other questions or remarks from student and/or others	—Appropriate and thoughtful comments; responds respectfully to other student's remarks —Provokes questions and comments from the group
Lesson Content/ Reference	—Does not understand the content and cannot sustain any reference to it in the course of discussion	—Has understood the content; lacks thoroughness of understanding or insight	—Has understood the content with some thoroughness, may lack some detail or critical insight	—Clear reference to content, connects to other reference points from previous readings and discussions
Active Listening	—Drifts in and out of discussion, listening to some remarks while clearly missing or ignoring others	—Listens to others some of the time, does not stay focused on other's comments —Shows some consistency in responding to the comments of others	—Listens to others most of the time, occasionally does not stay focused on other's comments —Shows consistency in responding to the comments of others	—Posture, demeanour and behaviour clearly and consistently demonstrates respect and attentiveness to others

Writing discussion Rubric

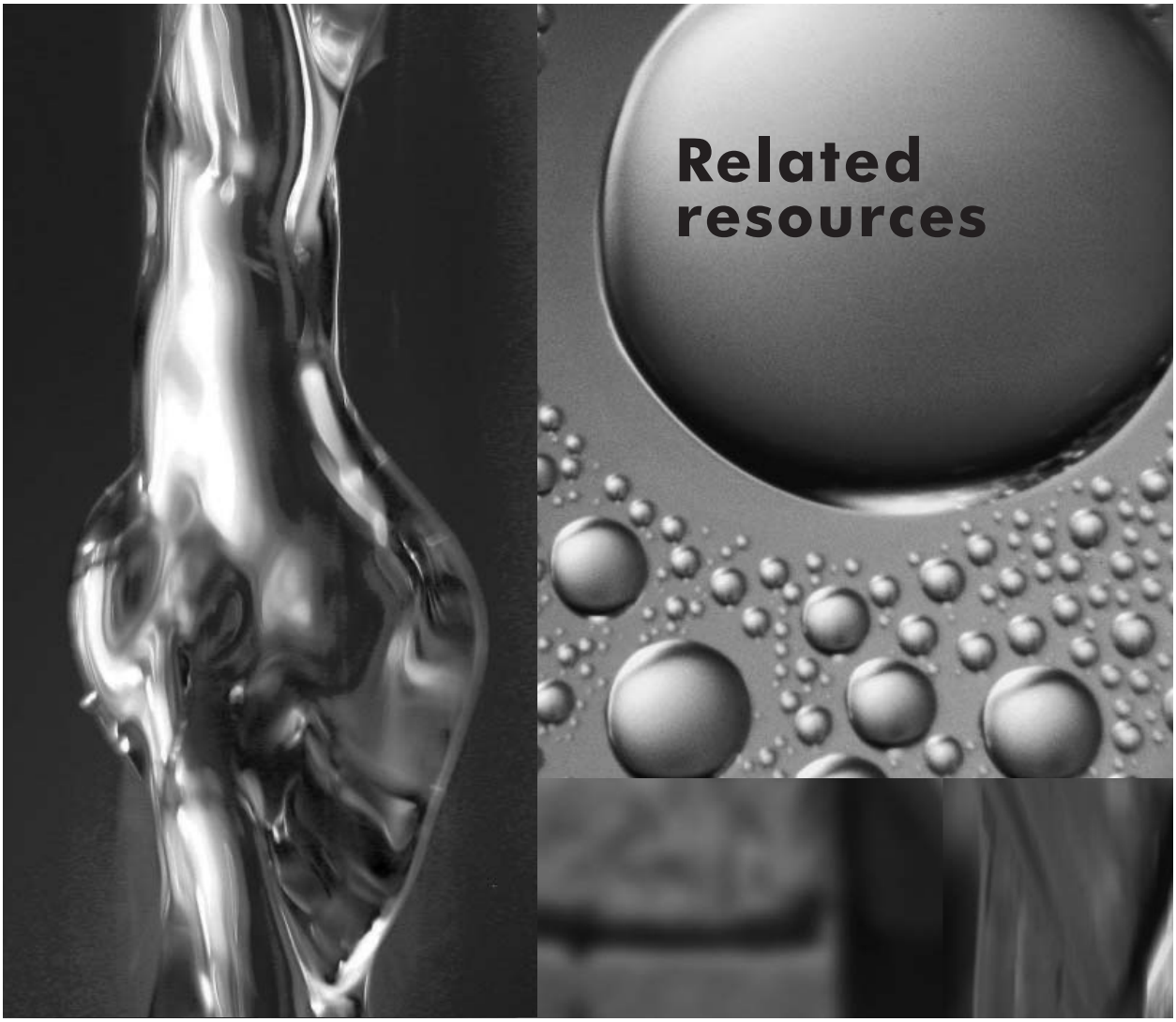
Criteria	Level 1 50-59%	Level 2 60-69%	Level 3 70-79%	Level 4 80-89%
Voice	—Not successful in capturing readers attention —Text lacks sincerity —Little or no evidence of tone	—Not very successful in capturing and maintaining readers attention —Text not very convincing and sincere —Minimal tone	—Fairly successful in capturing readers attention —Text is convincing and sincere —Tone is generally effective i.e. creates mood	—Successful in capturing and maintaining readers attention —Text consistently convincing and sincere —Tone consistently effective i.e. creates mood
Organization	—Minimal logical plan and sequence; interferes with comprehension —No clear introduction and/ or conclusion —Transitions are omitted —Paragraphs: no evidence	—Overall logical plan and sequence present but weak —Introduction and/ or conclusion weak —Transitions are not always used —Paragraphs are sparse	—Adequate overall logical plan and sequence —Introduction and conclusion are adequate and related —Transitions are used where needed —Paragraphs may not appear throughout text	—Very good overall logical plan and sequence —Introduction and conclusion are strong and effective —Transitions are used appropriately and skilfully —Paragraphs are appropriate
Ideas & Content	—Unclear main idea/purpose —Text wanders —Simplistic —Inaccuracies in information	—Main idea/purpose recognizable —Focus somewhat flawed —Predictable —Supporting details repetitive, unrelated	—Main idea/purpose reasonable clear —Text shows focus, some lapse —Fairly interesting —Supporting details fairly accurate	—Very clear main idea/purpose —Text focused —Interesting, original, insightful —Supporting details accurate
Conventions	—Weak command of grade appropriate conventions —Grammar and spelling used with limited accuracy and effectiveness	—Fair command of grade appropriate conventions —Grammar and spelling used with some accuracy and effectiveness	—Good command of grade appropriate conventions —Grammar and spelling used with considerable accuracy and effectiveness	—Excellent command of grade appropriate conventions —Grammar and spelling used with a high degree of accuracy and effectiveness-(no errors)
Effective use of language	—Many lapses in fluency —No variation in sentence length —Word choice is limited —Figurative language rarely used	—Lapses in fluency —Little variation in sentence length —Word choice somewhat limited —Figurative language occasionally used	—Fairly fluent, smooth and natural —Some sentences vary in length —Word choice is generally appropriate —Figurative language used fairly successfully	—Fluent, smooth and natural —Sentences vary in length —Word choice is appropriate —Figurative language used successfully

Oral presentation Rubric

Criteria	Level 1 50-59%	Level 2 60-69%	Level 3 70-79%	Level 4 80-89%
Introduction	Introduction is not engaging	—Introduction is minimally engaging	—Interesting introduction; engages audience	—Introduction captivates audience with interest and/or intrigue
Focus	—No clear focus	—Presentation lacks clear direction	—Topic of presentation is clear; content consistently supports the purpose	—Purpose of presentation is clear; supporting ideas maintain exceptional focus on the topic
Organization	—No clear organization of ideas present —There are no clear transitions between thoughts and ideas —No conclusion is evident	—Poorly developed organization of ideas; illogical sequence —Transitions between thoughts and ideas are inconsistent, weak or missing —Conclusion demonstrates an attempt to summarize main points	—Information/ideas are presented in a logical sequence with few lapses —Transitions between thoughts and ideas are adequately made —Conclusion somewhat effectively summarizes the main points	—Information/ideas are presented in a consistently logical sequence. —Transition between thoughts and ideas are effectively and consistently made —Conclusion effectively summarizes the main points
Speech	—Audience hears with great difficulty —Reads notes and seldom establishes eye contact	—Can be heard by most members of the audience. —Relies too heavily on notes and rarely establishes eye contact.	—Can be heard by all members of the audience —Minimal reliance on notes and generally maintains eye contact	—Can be easily heard by all members of audience —Commands audience attention through consistent use of eye contact —Uses visual aid as guide or outline for speaking but no notes used
EffectivVisual Aid(s)e use of language	—Visual aid(s) undecipherable —Graphic detracts from message; messy or inappropriate visual	—Visual aid(s) not completely accessible to all audience members —Graphic may be messy; may not be most appropriate to support presentation	—Visual aid readable from all parts of the room —Graphic is neat; appropriate subject chosen to depict message	—Visual aid readable and attractive from all parts of the room —Graphic is clear and professional looking, enhancing the message
Questions and Answers	—Could not answer questions and/or answers are irrelevant	—Response not clear and/or did not add to comprehension of the listener	—Thoughtful, concise response. Conveys knowledge of subject	—Speaker expands upon previous statements. Cites additional examples to answer question

Debate panel discussion Rubric

Criteria	Level 1 50-59%	Level 2 60-69%	Level 3 70-79%	Level 4 80-89%
Opening & Closing Statements	—Somewhat organized presentation of arguments and evidence —Opening statement minimally outlines arguments; closing argument briefly restates the ideas offered in the opening statement	—Organized and generally complete presentation of arguments and evidence —Opening statement outlines or lists arguments and evidence but does not generate interest; closing statement does not reflect remarks made during debate.	—Well-organized and complete presentation of arguments and evidence —Opening statement successfully frames the issues; closing statement summarizes many arguments made in the debate	—Extremely thorough, well-organized presentation of arguments and evidence —Opening statement engages the interest of audience; closing statement leaves no unanswered issues and resonates with the audience
Rebuttals	—Seems to be caught off-guard by opponents; offers tentative, somewhat accurate, but possibly vague or illogical responses —Attempts to challenge arguments of opponents	—Responds to most of the issues raised by opponents with generally accurate answers —Offers arguments, but no evidence, to counter the arguments made by opponents	—Responds to issues raised by opponents with accurate and generally concise answers —Challenges the arguments made by opponents; challenges are generally effective	—Responds to issues raised by opponents with concise, accurate, logical answers —Effectively challenges the arguments made by opponents with argument and evidence
Effective use of evidence / content knowledge	—Demonstrates a generally accurate understanding of issues, events and facts, but may exhibit minor confusion or misunderstandings —Demonstrates limited ability to connect facts and concepts	—Demonstrates a basic and accurate understanding of the issues, events and facts relevant to the topic —Demonstrates the ability to make basic connections between facts and concepts	—Demonstrates a sophisticated understanding of the issues, events and facts relevant to the topic —Demonstrates solid understanding of details and the ability to make original connections and interpretations	—Demonstrates a superior understanding of the issues, events and facts relevant to the topic —Demonstrates thorough and accurate understanding of details and consistently makes original connections and interpretations
Use of persuasive appeals	—Makes minimal use of persuasive appeals	—Uses some appeals to make argument more persuasive, but may not include a mix of logical, emotional and ethical appeals	—Uses logical, emotional and ethical appeals to enhance effectiveness of argument	—Makes deliberate and effective use of logical, emotional and ethical appeals in order to persuade justices
Performance	—Lacks confidence —Use of preparation materials distracts from quality of performance	—Appears nervous, yet somewhat confident —Use of preparation materials does not distract from performance	—Exhibits confidence and energy —Uses preparation materials effectively	—Exhibits confidence, energy, and passion —Accesses preparation materials with ease


Related
resources

Related resources include:

Water tragedy in Walkerton: The facts

From Canada to Bolivia: The Kashechewan Crisis and other Aboriginal Water Issues

Canada opposes recognizing water as a basic human right
By Kathleen Ruff

Canada and Development Cooperation in the Americas – Bolivia: Canada's Commitment
CIDA

International Development Research Centre (IDRC) in Bolivia

A UN Convention on the Right to Water – An Idea Whose Time Has Come
By Maude Barlow

Declaration on the Right to Water
Lesson Plan provided by the Council of Canadians, January 2007

Bulk water transfers of Canadian water: Grand schemes up for debate

Documentary films

Bibliography

Water tragedy in Walkerton: The facts

In mid-May, 2000, Canada's worst ever water tragedy unfolded in the town of Walkerton after a record-breaking storm drenched this Ontario community near the southern end of agricultural Bruce County – beef country. Within a few days of the fiercest downpour seen in decades, people were falling sick from drinking the town's water. But early on, no one knew what was causing them to feverishly double over with abdominal pain and experiencing bloody diarrhea. In the end, seven people would die from E.coli poisoning and a few hundred more would suffer the ill effects of drinking E. coli-contaminated water, perhaps for a lifetime. What makes this tragedy even more devastating is that it was completely avoidable. A judicial inquiry into Walkerton's E. coli outbreak, headed by Justice Dennis O'Connor, revealed a web of unfortunate events leading to the fatal outbreak. Here are the facts.

- Between May 8 and 12, several days of extremely heavy rainfall flooded the Walkerton area, causing lethal E. coli and campylobacter bacteria from manure spread on a nearby farm to get into Well 5, one of the three wells feeding the town's public water system.
- Staff employed by the Walkerton Public Utilities Commission (PUC) failed to take required tests of chlorine levels in water from Well 5 between May 13 and 15.
- Water samples from town tap water on May 15, fraudulently labeled as well water samples, were sent by Walkerton PUC personnel to A&L Laboratories, a private testing facility.
- Two days later, the lab informed the PUC in writing that the samples showed massive pollution of the water with possibly lethal E. coli and campylobacter jejuni bacteria, but the report went unread by Stan Koebel, general manager, for a few days.
- On May 18 Walkerton residents and others who had consumed the town's water three to four days earlier started getting sick with virulent diarrhea and extremely painful stomach cramps; by May 19 many developed bloody diarrhea.
- On both May 18 and 19 the PUC was contacted when health professionals suspected water contamination, but all three times they were wrongly assured it was not the water.
- On May 19, when PUC's Koebel suspected that his running of Well 7 without a chlorinator against regulations was causing the water contamination, he tried to cover up his violation of policy by heavily chlorinating and flushing the town's water system.
- Over the next two days, Koebel continued to claim the water was fine and lie about test results to the regional health unit, as well as the Ontario Ministry of Environment, even when positive tests for E. coli were confirmed in patients.
- Because test results did not have to be sent to the Ministry of Environment or to the health unit by the lab, since the provincial government had privatized testing four years earlier, they could not be independently double-checked.

- Finally, on May 21, the health unit took its own samples of Walkerton's water for testing and issued a boil-water advisory to town residents, many of whom did not hear it.
- The next day, a full week after the first test of contaminated water had been taken, 66-year-old retired library worker and grandmother Lenore Al died.
- Eventually six more people would die, including a toddler from neighbouring Hanover, and 2,300 would become sick.

What caused the Walkerton E coli crisis? Findings of the Walkerton Inquiry.

- The factors contributing to the Walkerton water tragedy can be categorized as environmental, human, technological and governmental.
- The spreading of cattle manure by a local farmer could not in itself be faulted for the crisis; it was carried out properly and would not ordinarily have a damaging effect on groundwater.
- Very heavy rains combined with another environmental factor, that at 15 metres deep Well 5 was a shallow well drilled in fractured and porous bedrock with an inadequate overburden of soil, thereby limiting the natural filtration capacity of the ground – thus, contaminated surface runoff could easily infiltrate the permeable water table.
- Well 5 did not have a continuous chlorine monitor which would have automatically stopped the pump in response to contamination.
- Well 7's chlorinator was not working, a factor which led to PUC manager Stan Koebel's furtive actions to hide test results and cover up his violation of provincial regulations.
- The Walkerton PUC management, including Stan Koebel and his brother Frank Koebel, foreman, had inadequate technical training for their jobs and failed to understand the danger of under-chlorinated water and the implications of E. coli contamination.
- Numerous operating practices at the Walkerton PUC had been systematically sloppy and negligent for over 20 years, including.

  1) failure to take daily chlorine residual measurements
  2) logging fake chlorine measurements on the daily operating sheets
  3) falsely reporting well test locations
  4) taking too few water samples for testing
  5) using inadequate doses of chlorine
  6) ignoring equipment failures
  7) submitting falsified annual reports to the Ministry of Environment (MOE)
  8) failure to act on the recommendations of MOE inspections that detected E. coli problems in the late 1990s

- The elected commissioners of the Walkerton Public Utilities Commission were negligent in their overseeing of the facility, trusting the expertise of poorly trained managers.
- The local municipal government did a poor job of calling attention to the health unit's first boil-water advisory on May 21– only half the town's residents heard it and some continued to drink the water for two more days– and this inaction led to more illnesses.
- The provincial Ministry of the Environment also contributed to the E. coli crisis by

  1) having grossly inadequate training and certification programs for PUC management
  2) not taking action in response to repeated treatment and monitoring violations and deficiencies of the Walkerton PUC detected by MOE inspections in 1991, 1995 and 1998 thus negating their importance
  3) not requiring that all municipal water testing results also be submitted to the MOE in order to monitor water quality across the province
  4) failing to apply updated monitoring and treatment standards retroactively to dangerous wells like Walkerton's Well 5
  5) failing to keep active records of which public wells in Ontario had previously been found to be vulnerable to contamination, like Well 5, which would benefit from new monitoring technology
  6) closing government water monitoring laboratories and 'privatizing' the testing of municipal water in 1996 without legislation to ensure proper supervision and early crisis detection and response by the government – labs were not required to submit bad test results like Walkerton's to the MOE or public health officer
  7) provincial government budget cutbacks of almost 50% and employee downsizing of the MOE by more than 30% in the mid-1990s severely restricted the ministry's ability to supervise public water quality through inspections and led to high stakes risks in Ontario's public water management and safeguarding of public health

Aftermath of a tragedy: Walkerton today

At the time of the Walkerton E. coli tragedy, the world's media turned its attention to this small town's plight. Reporters, camera crews and satellite trucks descended upon this rural community from all corners of the globe. The name Walkerton became synonymous with bad drinking water. Though the town has now returned to its quiet, unassuming ways, the tragedy continues to affect lives.

Today, many of the townspeople and former residents of Walkerton still suffer from intestinal and kidney problems and other ill effects from drinking contaminated water in May, 2000. A special medical centre has been created there to monitor their ongoing health issues.

More than $9 million was spent by the provincial government in overhauling the water delivery system in the town. Well 5 was shut down, new wells drilled, and the incompetent Public Utilities Commission was disbanded. The Ministry of the Environment temporarily took over water services in Walkerton.

The victims of the E. coli tragedy and their families received monetary compensation from the provincial government which put an end to a class action civil suit. Stan and Frank Koebel both pleaded guilty to criminal charges of common nuisance for their role in the tragedy and served sentences of one year in jail and nine months house arrest, respectively.

Recommendations made by the Honourable Justice R. O'Connor's inquiry have had a lasting impact in improving Ontario's water services. The provincial government resumed monitoring water testing laboratories in March, 2003. The Walkerton Clean Water Centre, a state-of-the-art training and education facility for the owners and operators of drinking water systems in Ontario, was opened to much fanfare in 2004. It is almost a certainty that Walkerton will never suffer from bad water again.

If there is one irony in this sad affair, it is that the municipality of Brockton, which includes the town of Walkerton, has now opted for privatization of its delivery of water services, despite its earlier fatal brush with privatized water testing. In July, 2006, Veolia Water, a French conglomerate which calls itself the largest environmental services company in the world, issued a press release from its corporate headquarters in Houston, Texas, announcing a public-private partnership (P3) with Brockton. Veolia will operate the town of Walkerton's wastewater plant and drinking water system, which consists of three water collection and treatment facilities and distribution infrastructure, for about $470,000 per year under a 5-year renewable contract.

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From Canada to Bolivia: The Kashechewan Crisis and other Aboriginal water issues

At any one time in Ontario, about 30 Aboriginal communities must boil their tap water before drinking it. Across Canada, nearly 100 First Nations reserves had boil-water advisories in 2006. One community in British Columbia, the Kwicksutaineuk First Nation, has had to boil its drinking water for almost a decade. And, according to Dr. Sheela Basrur, Ontario's former chief medical officer of health, while the peak incidence of infectious diseases in Canada was in the early part of the last century, high rates of infectious diseases persist in native communities where basic improvements in sanitation and water quality have not occurred.

Perhaps the most shocking water crisis in an Aboriginal settlement in recent times happened in 2005, in Kashechewan, near the shores of James Bay in northern Ontario. About 200 of the community's 1,900 residents had to be evacuated out of this reserve after spring flooding of the Albany River caused its sewage system to back up and contaminate household water. Later that year, high levels of E. coli were again found in the town's drinking water, necessitating "shock" chlorination, which led to a worsening of skin infections and rashes like scabies and impetigo. In October, 1,100 people had to be airlifted south to a number of communities, including Timmins, Sudbury, Cochrane and Ottawa, because of the tainted water.

The decrepit water treatment plants, inadequate sewage disposal systems and substandard living conditions that plague native reserves in Ontario and across the country have led some observers, including world renowned human rights activist Bishop Desmond Tutu and Ontario's Minister of Natural Resources David Ramsey, to describe these communities as having Third World conditions.

More than a year after the Kasheshewan crisis, the reserve's water problems have not been fixed and no clear solution is in sight. A permanent evacuation of the community has even been suggested by the provincial government. In the meantime, the provincial and federal governments bicker over whose responsibility it is to ensure clean drinking water on reserves, because while water resources are a provincial responsibility, Aboriginal reserves fall under federal jurisdiction.

According to Wilfred King, Chief of the Kiashke Zaaging Anishinaabek Nation of Gull Bay, Ontario, "Nothing has generally improved across Native communities. Walkerton hit the mainstream communities (in 2001) but the First Nations have been dealing with water issues since as long as I can remember."

Aboriginal water rights and Indigenous peoples' role in water management

Along with the problem of poor water quality on reserves, Canada's indigenous peoples have been deprived of other traditional water rights over the centuries as new settlers altered the country's physical landscape. Today, surface and groundwater rights along with natural resource management figure prominently in the settlement of native land claims. Not only are native water rights key to the preservation of traditional ways of life like fishing, trapping and hunting, but they are also crucial to contemporary demands of economic development, for agriculture, energy, tourism and industry. The allocation of water is an increasingly important component of modern treaties and lawsuits over Aboriginal rights.

In Canadian law, the courts have respected Aboriginal 'sustenance rights' and upheld traditional rights to hunt, trap and fish, leading The Gordon Foundation to conclude, "an Aboriginal right to water likely exists."

In the realm of human rights, Aboriginal water issues are being recognized globally. A Ministerial Declaration to the 4th World Water Forum held in Mexico City in 2006 by Bolivia's Minister of Water said, "We state that water belongs to the Earth and all living beings including human beings. Our responsibility as human beings is to protect access to water for all forms of life and for the Earth itself. Water enables the integration of living beings, nature and human society. The principal means of preserving life and water is through the involvement and participation of all peoples, women, young people, indigenous people with their wisdom of centuries, and all those who live on the Earth."

The Council of Canadians has spearheaded an Indigenous Peoples' Declaration of Water and circulated it around the world. In 2006 the chair of this advocacy group, Maude Barlow, donated $5000 U.S. of prize money she had won to an indigenous neighbourhood of El Alto, on the outskirts of La Paz, Bolivia, to purchase and install water pipes and public taps. The Assembly of First Nations in Canada has joined with Barlow's group in taking a stand against bulk water exports from Canada. The Council of Canadians is also working with other social activist groups around the world to get water declared a human right by the United Nations.

In Bolivia, the Deputy Minister of Water, Cecelia Chacon, told the Common Threads III team of Ontario teachers that her country created the water ministry, "in response to the struggle of indigenous and (largely native) labour groups for water rights." She explained, "In Bolivia, water is life and there is a spiritual link between the indigenous people and water." This sentiment was repeated by many people interviewed by the teachers as they travelled across Bolivia researching water issues. In La Paz, Bolivia's capital, the leader of the Union of Indigenous People said, "Water is a sacred lifeblood of the people, it is a human right and it also belongs to future generations...water is a matter of life and death in Bolivia. Our right of self-determination must include control over natural resources...this indigenous struggle is hundreds of years old."

Of course, water is also sacred to indigenous peoples in Canada. Environment Canada has recognized that, "Water for Aboriginal peoples is the basis of all life. At the beginning of time, the Creator gave instructions to Aboriginal peoples to respect water, air and the Earth by keeping it pure. These original instructions are reflected in Aboriginal culture, beliefs and values...Canada's native populations are profoundly linked to water and waterways for both physical and spiritual health."

In the words of Gull Bay's Chief King, "First of all, water is a very sacred thing: it's the giver of life. At one time, our people used to go to the river or even to the lake and drink water in its purest form." Today, the Gull Bay First Nation copes with E. coli and fecal coliform bacteria and the elders are concerned about the runoff of toxic heavy metals from an open-pit platinum mine located upstream.

Chief King's reserve has what he calls, "a very rudimentary system" to treat the water. With "constant breakdowns, it's a constant battle…it's archaic to say the least." The chlorination process consists of pouring jugs of bleach into the system. No one wants to drink the tap water there, "yet they have to drink it, there are no other options."

"It's unfortunate to say that it's Third World conditions, with Canada being one of the richest countries…yet in First Nation communities, water is unsafe, it's deplorable."

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Canada opposes recognizing water as a basic human right

By Kathleen Ruff

Five million people die unnecessarily every year from lack of clean water. Each day, 6,000 children die from water-borne diseases. The United Nations estimates that, if current trends continue, more than two-thirds of the world's population by 2025 will not have enough access to water.

"No single measure would do more to reduce disease and save lives in the developing world than bringing safe water and adequate sanitation to all," says UN Secretary-General Kofi Annan. According to Friends of the Earth's report *Nature For Sale: The Impacts of Privatizing Water and Biodiversity*, access to clean water and sanitation would save an estimated $125 billion a year in direct medical expenses and other costs related to preventable water-related diseases.

At the UN Millennium Summit in September 2000, all 189 members of the UN agreed on eight goals to achieve drastic reductions in poverty, hunger, disease, illiteracy, environmental degradation, and discrimination against women. A key target of that plan is to halve the number of people without access to safe drinking water and basic sanitation by 2015.

"There is no chance of reaching the Millennium Development Goals...without a major redirecting of water infrastructure investments away from centralized mega-projects and toward low-cost, decentralized, and community-based schemes," says a 2006 report by the International Rivers Network. *Making Water Infrastructure Work for the Poor* argues that the goals can be reached if the needs of the poor are put front and centre, with the focus on local, environmentally sustainable technologies.

The needs of the poor and the environment are not, however, the focus of the huge transnational water corporations. As demands intensify on the world's finite supply of available clean water, they see an opportunity for immense profits. They view water as a potential multi-trillion-dollar annual business. At present, it is still mostly under public control, but these corporations aim to take it over as a marketplace commodity to be sold for profit.

"Water promises to be to the 21st century what oil was to the 20th," says *Fortune Magazine*.

Already, supplying water is a $400 billion profit-driven industry. And, using the clout of the World Bank and the World Trade Organization, the transnational water corporations are seeking to dominate world water policy so as to secure greater privatization and guarantee increased profits.

The World Water Forum, held every three years, is attended by government representatives from around the world. It is organized by the World Water Council and puts out statements and recommendations for world water policy. While appearing to be a bona fide UN organization, the World Water Council is, in fact, an entity set up by the World Bank and the transnational water corporations with a strong pro-privatization agenda.

While corporations want water to be treated as a commodity sold for profit, citizen groups around the world are working to have water recognized under national and international law as a basic human right. Canadians strongly believe that water must stay under public stewardship so as to meet the needs of people and the planet.

The UN Committee on Economic, Social and Cultural Rights agrees. It says that water is a human right and that governments have a responsibility to provide clean water to all citizens. "Water should be treated as a social and cultural good, and not primarily as an economic good," the UN Committee has declared. The World Health Organization, the Convention on the Rights of the Child, and the Convention to End Discrimination Against Women all recognize the human right to water.

The UN Committee, made up of independent human rights experts, monitors how well—or how badly—countries that have ratified the International Covenant on Economic, Social and Cultural Rights are implementing the rights in the Covenant. The Covenant covers basic rights essential for human life–such as food, shelter, and health care–and requires governments to progressively implement these rights to the maximum of their available resources.

Canada ratified this Covenant over five decades ago. The United States never did ratify it. Since 1995, the Committee has issued strong statements on the right to water:

- "Water is a limited natural resource and a public good fundamental for life and health. The human right to water is indispensable for leading a life in human dignity. It is a prerequisite for the realization of other human rights."
- "The continuing contamination, depletion and unequal distribution of water is exacerbating existing poverty."
- Governments have an immediate obligation to take "deliberate, concrete and targeted" steps towards the full realization of the right to water for all, particularly for vulnerable and disadvantaged groups.
- Governments must adopt effective legislative and other measures to restrain third parties, such as corporations or other entities, from denying equal access to adequate water and from polluting water resources.
- Governments must establish "an effective regulatory system...which includes independent monitoring, genuine public participation, and imposition of penalties for non-compliance."

- Governments have an obligation to recognize the right to water within their national political and legal systems and to adopt a national water strategy and plan of action.
- In order to ensure that there is sufficient and safe water for present and future generations, governments should adopt comprehensive and integrated strategies that address unsustainable extraction, diversion, and damming of water resources, contamination of watersheds, impacts of proposed development, assessing the impact of climate changes, deforestation, and loss of biodiversity.
- A country's policy on water should be developed through "a participatory and transparent process."
- Unaffordable increases in the price of water violate the Covenant and, "under no circumstances shall an individual be deprived of the minimum essential level of water."

But the Canadian government, without any public or parliamentary debate, has taken a position against the human right to water. Canada was the only country to take this stand at a 2002 meeting of the UN Human Rights Commission, saying: "Canada does not accept that there is a right to drinking water and sanitation."

This is bad news in the struggle for human rights in the world. If there is no human right to water, then the UN Covenant on Economic, Social and Cultural Rights, which protects the most basic rights necessary for human survival and dignity, is dangerously weakened. Canada's position also spells disaster for both Canadian and world water policy. It jeopardizes public ownership and oversight of water policy; and it voids government accountability for the well-being of people, the planet, and future generations, leaving this precious resource at the mercy of the predatory, destructive ambitions of profit-driven transnational corporations and the behind-closed-doors machinations of international trade deals.

Canada's track record on water, in fact, violates all of the standards set by the Human Rights Committee as listed above. When Canada appeared before the Committee in May of this year to explain its human rights record, the Committee specifically chastised Canada for its denial of the human right to water and "strongly recommended" that Canada change its position.

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At the same time as Canada opposes the human right to water at the UN, it has no problem at the World Bank supporting the forced privatization of water in developing countries—a policy that has caused immense suffering, illness, and deaths.

This policy violates the democratic rights of people in developing countries, as well as all the standards for water management spelled out by the UN Committee on Economic, Social and Cultural Rights. It makes a mockery of the sovereignty of these countries.

In South Africa, for example, under World Bank pressure, water services were privatized in Johannesburg and other cities, leading to astronomical price hikes which people could not pay. Over 10 million people were cut off from water. In 2000, in Kwa-Zulu Natal, the country's biggest cholera outbreak occurred as a result of changing the free communal tap system to a privatized, pre-paid metering system. Over 120,000 people were infected with cholera and more than 300 people died.

Since 1990, according to the Catholic organization Development and Peace, "a third of World Bank loans were conditional upon some form of privatization of water services. This trend is growing."

Independent research organizations, such as the Halifax Initiative, document how privatization schemes have been carried out in a climate of non-transparency and non-accountability, and have frequently involved bribes and corruption. "Water privatization in developing countries is an ongoing disaster," says the World Development Movement.

"The World Bank is the single most influential institution in setting water infrastructure investment priorities in developing countries," says the International Rivers Network. The World Bank's April 2002 private sector development strategy explicitly specifies public services such as water as "frontier" sectors for private investment. Its International Finance Corporation branch finances private corporate purchases of public assets, and its Multilateral Investment Guarantee Agency insures private purchasers against commercial and political risks.

If a privatization plan does not bring in the profits the corporation expected, the corporation can demand compensation from the developing country at the World Bank's International Centre for Settlement of Investment Disputes (ICSID). The Centre's role is to protect corporate profits; the public interest, the environment, and human rights are not protected.

The U.S. corporation Bechtel sued Bolivia for $25 million (then $50 million) at the ICSID after it was driven out of Cochabamba by a popular uprising against Bechtel's disastrous privatization of the city's water services. Enron and its water services subsidiary Azurix Corporation filed a claim at the ICSID against Argentina after the collapse of their privatization of Buenos Aires' water supply.

In contrast, no international body exists where corporations can be sued and fined for dangerous and irresponsible behaviour that violates human rights and environmental responsibilities.

Bad publicity over the disastrous record of water privatization projects has caused the World Bank to lessen the use of the term “privatization” in public documents. A survey, however, by the World Development Movement of 42 “Poverty Reduction Strategy Papers” approved by the IMF and the World Bank as of March 2005, found that 38 of the 42 plans included privatization provisions, and that 27 explicitly included provisions for private sector involvement in the provision of water services.

Through the leadership of Kairos, which represents 11 Canadian churches and church agencies, more than 230,000 Canadians have sent cards to our previous and present prime ministers calling on the government to recognize water as a human right and oppose its privatization. The Canadian government (both previous and present) has ignored them.

In addition to supporting water privatization through the World Bank, Canada is actively pursuing the privatization and deregulation of a broad range of water-elated services in the WTO negotiations on the General Agreement on Trade in Services (GATS).
In 1997 alone, as a result of World Bank and WTO pressure, some US$157 billion worth of publicly-owned resources were transferred to private corporations around the world—a 70% increase over the previous year.

Corporations have no human rights responsibilities under international human rights law. Governments do. By denying the human right to water, the Canadian government washes its hands of a legal responsibility to manage water for the well-being of the public and the environment.

Canada has no up-to-date national law or strategy for managing Canada’s water resources. No debate has taken place in Parliament, nor any public discussion or involvement of civil society. Canada’s sovereignty over its water resources is vulnerable under trade regimes, just as Canada threatens the water sovereignty of developing countries through the World Bank and the WTO.

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This climate of non-transparency and non-accountability extends beyond the issue of water. When Canadians are asked, they cite human rights as a top priority. They want action taken to end poverty and hunger and to protect the human right to water—both in Canada and around the world.

Unfortunately, Canadians are not being asked. Instead, key decisions, hostile to human rights, are being made behind closed doors. This is not the way it's supposed to happen in a democracy. Human rights don't belong in the dark, where they die. Openness and public participation are essential.

Here are other crucial decisions taken without parliamentary or public debate. The Canadian government has:

- argued that the interests of corporations under trade agreements should take priority over the human rights of Canadians; the government is arguing in court that rights in Canadian laws and in the Constitution do not apply to proceedings of NAFTA tribunals;
- told Canadian courts that, when deciding cases, they should not give force to provisions in international human rights laws that Canada has ratified;
- put the interests of agribusiness ahead of the rights of 1.4 billion people around the world who rely on farm-saved seed by seeking to end the ban on terminator seed (seed that is genetically engineered to become sterile after first harvest);
- sought to dilute a UN treaty to outlaw forced disappearances; and
- failed to take action on recommendations made to Canada by UN human rights bodies; instead of allowing for debate and follow-up, the government buried the recommendations down a black hole in Ottawa.

These decisions not only downgrade human rights, but also lack democratic legitimacy. When people's basic human rights are denied, such as the right to food, water and shelter, their dignity and security as human beings are violated. This violation diminishes us all.

We are told that strong measures are necessary to confront violence and bring about security in the world. It is well-known that denial of basic human rights leads to social conflict and violence. Canada should be building justice and security in the world by being a human rights leader, not a human rights downsizer.

Kathleen Ruff is a former director of the B.C. Human Rights Commission

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CALL-OUTS:

"The UN says water is a human right that governments have a responsibility to provide to all citizens. But Canada, to its shame, was the only country at a meeting of the UN Human Rights Commission that refused to recognize a right to drinking water and sanitation."

"At the same time as Canada opposes the human right to water at the UN, it has no problem at the World Bank supporting the forced privatization of water in developing countries—a policy that has caused immense suffering, illness, and many deaths."

Canada and Development Cooperation in the Americas – Bolivia: Canada's Commitment

Bolivia

Canada's Commitment

Bolivia has been an important recipient of Canadian aid since Canada's development assistance began in 1967. Today, Bolivia is one of Canada's 25 development partner countries, and a country where the Canadian International Development Agency (CIDA) is increasing its aid in priority sectors. In 2004–2005, Canadian assistance to Bolivia was $21.88 million.

The overall goal of CIDA's bilateral (country-to-country) program is to reduce poverty and raise the living standards and quality of life of poor Bolivians by:

- meeting their basic human needs through improved access to essential **health** and related services such as safe water and sanitation; and
- improving **governance** by focussing on democracy and human rights, public sector reforms, and better regulations for strategic economic sectors.

The Bolivia program also promotes equality between women and men in all sectors and through specific gender programming.

Instead of funding a large number of small, isolated projects as it has in the past, CIDA is rationalizing its investments in both the health and governance sectors. The Agency works very closely with the Government of Bolivia and other donors to identify the initiatives that would best support these sectors. Programming in Bolivia, as identified in the *Country Development Programming Framework (2003-2007)*, is closely aligned with the principles of Bolivia's poverty reduction strategy.

CIDA also supports Bolivia's development through its multilateral programs, which works with the United Nations and other international organizations, and its partnership programs, which funds the projects of Canadian non-governmental organizations in Bolivia.

Results

Canada is making a difference in Bolivia in a number of ways. For example, CIDA projects have:

- promoted fair and free elections through voter registration and electoral monitoring;
- lowered infant mortality by improving access to health care, vaccinations, and clean water;
- provided technical assistance in the natural gas sector that generated more resources for social spending; and
- defended the human rights of the country's poor majority.

A case in point is CIDA's flagship human rights project in Bolivia that together with seven other donors, supports the *Defender of the People* (National Ombudsman's Office). In 2004-2005, this project helped the Ombudsman handle thousands of citizen complaints, mediate in 70 social conflicts, make positive interventions in family violence legislation, and provide ongoing human rights training to military and police forces.

Country Profile

Bolivia is the poorest country in South America. Nearly two-thirds of its people live in poverty, including one-third who live in conditions of extreme poverty. While these figures are very high, Bolivia has lowered the poverty rate from levels that were even higher than they are today. Even so, the gap between the rich and the poor is getting worse and remains second only to Brazil in the southern hemisphere. Widespread discontent with the slow pace of change has fuelled massive protests and destabilized the political system. At the same time, the Bolivian government's economic and social reforms have advanced over the last decade. These reforms are designed to meet the poorest people's basic needs, consolidate democracy, improve social programs, tackle corruption, and strengthen public institutions.

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International Development Research Centre (IDRC) in Bolivia

For more than 30 years IDRC has supported research in Bolivia as well as activities to strengthen the capacity of researchers to influence policy design and implementation. Research topics have ranged from health care and education to participatory natural resource management and new converging technologies. Recent IDRC-supported research has had a lasting effect on the country as it helped to form a broad consensus for new legislation that respects traditional communal water rights.

In 2005, after decades of coalition governments, Evo Morales became the first president of Bolivia to win a majority. Backed by Indigenous people's organizations and social movements, his government faces the challenge of including Indigenous people's rights and practices in national development strategies while at the same time achieving economic growth.

Related to these issues is natural resource management, which has long been at the forefront of Bolivia's political agenda and the focus of IDRC supported activities. Access and rights to resources have frequently led to conflict among users as well as between the government and civil society. Social protests against water concessions to foreign-owned companies paralyzed the country in 2000 and in 2005. Social exclusion and widespread poverty—two-thirds of Bolivia's population lives in poverty—exacerbates the tensions associated with resource use and makes the development of laws and institutions based on consensus all the more crucial.

In the countryside, residents compete for irrigation and household water with private companies and large mining and hydroelectric plants. Agua Sustentable (sustainable water), the research arm of the Comisión para la Gestión Integral del Agua en Bolivia, has been coordinating IDRC-supported research on water rights in rural areas since 2002. The research team used a mathematical simulation model to produce a water distribution proposal that all users could accept. Their findings legitimized traditional water rights and led to their inclusion in a new irrigation law passed in 2004. This law is a remarkable achievement, given that 32 previous attempts to reach agreement on water legislation had failed. IDRC is supporting a second research phase to fine-tune and test the methodologies under more complex conditions.

In early 2006, Bolivia's new government created a water ministry to coordinate and oversee water issues. Agua Sustentable actively participated in the debates that led to its creation and provided input into its design. The first vice-minister of basic services, René Orellana, came from Agua Sustentable's team.

The new ministry will also have access to the results of research on the effects on women of community and individual rights to water, when Bolivian partner, Pro Agro, completes its analysis of this issue. Pro Agro won a grant to conduct this research as part of an IDRC Decentralization and Women's Rights Competition.

Other Centre-supported activities include research to strengthen the ability of municipalities to plan their own sustainable economic development. Other partners are collaborating to identify ways of involving citizens in decision-making in health care. Two regional initiatives coordinated by organizations in Bolivia focus on technology: the readiness in Andean nations to meet the opportunities and challenges that nano-technology, biotechnology, and information and communication technologies (ICTs) represent; and the need to safely dispose of obsolete computers and ICT components.

IDRC is also funding a regional program carried out by the Fundación para la Investigación Estratégica en Bolivia (foundation for strategic research) to manage a scholarship program and educate natural resource management professionals on gender issues in Bolivia, Ecuador, and Peru.

From 2000 to 2006, a consortium of five Bolivian organizations, led by Fundación TIERRA in La Paz, analyzed the impact of land tenure changes implemented since the 1952 agrarian reform on rural men's and women's access to natural resources. The IDRC-supported researchers found that, contrary to current land registration law, people want and need private and group titles to common pooled resources as well as private titles to individual parcels of land. Through a series of workshops, researchers disseminated these results to the county authorities implementing land reform. The foundation is, with IDRC support, monitoring the government's land and agrarian reform so as to identify and remedy knowledge gaps among the different stakeholders.

Bolivian cities are also facing increasing social and environmental challenges as their periurban areas grow. In mid-2007, a research team in Cochabamba will tackle waste management at a dumpsite. Research on how to dignify the work of scavengers who live off the dump and improve the surrounding neighbourhoods will be of interest to Latin American cities with similar challenges.

IDRC support has had the overall effect of linking Bolivian researchers with their Andean colleagues and bringing them out of universities and into communities. It has bolstered traditional knowledge in farming and contributed to biodiversity preservation and a better understanding of socio-economic and market forces at play in agriculture, especially on the Altiplano.

Much of the early IDRC-supported research in agriculture culminated in an eff ort, in the late 1990s, to expand the production of a few Altiplano agricultural products from a subsistence orientation to a market one. Researchers knew from previous work that quinoa had the greatest potential for expansion. Market development and a new agro-industrial plant created employment for agricultural producers, processors, and those involved in marketing in the Lake Titicaca region.

Since 1975, IDRC has funded 98 research activities in Bolivia. These projects, some of which involved several countries, represent an allocation of just under CA$25 million. Ten projects, worth CA$3.7 million, are active.

RESEARCH HIGHLIGHTS

Common Ground in Water Management

In response to conflicts over water that culminated in a political crisis in 2000, the Government of Bolivia sought the input of civil society organizations and the private sector to develop a proposal for a new water law.

A previous phase of this project enabled the Comisión para la Gestión Integral del Agua en Bolivia (CGIAB—commission for integral water management in Bolivia) to seize this opportunity to influence policy. CGIAB mapped water rights in two rural areas and simulated water access scenarios using computerized mathematical models. The research revealed that the customary collective ownership of water for multiple uses would allow a more efficient use of water than an approach favoured by the government. The findings were widely discussed with community members and social movement leaders and contributed to the development of the Irrigation Law, passed in October 2004, which recognizes the traditional water rights of Indigenous and farming communities.

In this second phase, Agua Sustentable, CGIAB's research arm, is working to expand and strengthen the capacity of government agencies to implement the water policy. Researchers are adapting methodologies and tools for assigning water rights under the new law. They are also testing and evaluating the tools in more complex contexts, such as an international watershed and a large river with multiple uses.

(Project # 102884, Regulation of Rights in the Water Law (Bolivia) Phase II; Duration: 2005–2008; IDRC allocation: CA$446 130; IDRC contact: Merle Faminow; Research partner: Juan Carlos Alurralde, Agua Sustentable, CGIAB, Andrés Muñoz 2495, PO Box 13078, La Paz, Bolivia; Tel.: 591-2-215-1744; Email: oso@aguabolivia.org or cgiab@aguabolivia.org)

Municipal Governments and Local Economic Development

Decentralization in Bolivia during the past decade has given municipalities greater responsibility for economic development. This research aims to determine how Bolivian municipalities can play an active role in national eff orts to reduce poverty by becoming engines of their own sustainable development.

The pilot phase of this project involved the Atlantic Community Economic Development Institute, of Halifax, Canada, and two Bolivian institutions, the Centro de Servicios Agropecuarios Técnicos de Chuquisaca (Chuquisaca centre for technical agronomy services) and a union of municipalities from the department of Pando. In collaboration with municipal officials and other local actors in 14 municipalities, the researchers developed and tested a participatory data-collection tool to identify local resources that could be harnessed for sustainable development.

The pilot attracted the interest of the Ministry of Municipal Development and the Federación de Asociaciones Municipales de Bolivia (Bolivian federation of municipal associations). They are now working with 30 municipal governments to complete resource mapping and design and implement economic development plans that reduce unsustainable practices and promote gender equity and the participation of civil society. The research partners are disseminating the tools, databases, and results to all 314 municipalities in the country.

(Project # 102217, Toward a Strategy of Productive Municipalities; Duration: 2003–2006; IDRC allocation: CA$616 356; IDRC contact: Gisèle Morin-Labatut; Research partners: René Zambrana, Federación de Asociaciones Municipales de Bolivia, Av. Ecuador #2694, Sopocachi, La Paz, Bolivia; Tel.: 591-2-212-5362; Juan Tellez, Atlantic Community Economic Development Institute, 22 Northcliff Lane, Halifax, Nova Scotia, Canada B3M 2Z6; Tel.: 902-445-0855; Email: juan@cedinstitute.ca)

Social Participation in Health Care

Most Latin American countries are decentralizing health care amidst renewed interest in primary health care. Although governments nominally support citizen participation in health-care planning, decision-makers have little information or analysis on how to involve people. IDRC supported two workshops, in 2004 and 2005 in which members of Latin America's common trading bloc, MERCOSUR, identified the need for research on the role citizen participation plays in planning national and regional health care.

The Instituto de la Salud, Medio Ambiente, Economia y Sociedad (ISALUD—institute for health, environment, economy and society), based in Argentina, facilitated the workshops. It is now coordinating country teams of researchers, decision-makers, and civil society representatives from Argentina, Paraguay, and Uruguay, (MERCOSUR members) and Bolivia (in the process of joining). They are analyzing patterns of social participation in the health sector and how that participation can improve health care. This effort is also contributing to the proposed establishment of an Observatory of Citizen Participation in Health in MERCOSUR, which would constitute a regional forum for analysis and evidence sharing on health care issues.

(Project #103569, Social Participation in Health in the MERCOSUR; Duration: 2006–2008; IDRC allocation: CA$408 000; IDRC contact: Roberto Bazzani; Research partner: Ismael La Palma, ISALUD, 925/31 Venezuela, Buenos Aires, Argentina; Tel.: 54-11-4775 3601; Email: ilapalma@fibertel.com.ar)

Electronic Waste Toolkit

The Latin American and Caribbean region lags behind developed countries in its use of information and communication technologies. But the digital gap is narrowing. Like the developed world, the region is facing the challenge of safely disposing of large numbers of computers and ICT components that are no longer useful. This equipment contains substances, such as polyvinyl chloride (PVC) and heavy metals, which can be dangerous if disposed of improperly.

The Quipus Cultural Foundation in Bolivia is acting to address this environmental threat and to prevent the region from becoming a dumping ground for imported e-waste. It has undertaken a one-year initiative to research, produce, and disseminate a practical toolkit to educate computer users about responsible options for e-waste disposal. The toolkit will include information on operating a recycling centre. Quipus plans to hold an international workshop on this subject with key stakeholders, partners, and policy makers from the region, to identify good disposal practices and future action required on this issue.

(Project #103829, Electronic Waste Toolkit for Latin America and the Caribbean: 2006–2008; IDRC allocation: CA$230 700; IDRC contact: Angélica Ospina; Research partner: Peter McFarren, Quipus Cultural Foundation, 448 Pasaje Jauregui, Casilla 1696, E, La Paz, Murillo, Bolivia; Tel.: 591-231-4530; Email: mcfarren@entelnet.bo)

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A UN Convention on the Right to Water – An Idea Whose Time Has Come

By Maude Barlow

www.canadians.org www.blueplanetproject.net

All over the world, groups fighting for local water rights are championing an international instrument on the right to water. Increasingly, the demand is for a United Nations Convention that would serve as a model for nation-state constitutions. While grassroots struggles for water security will continue to be the most important part of the global water justice movement, it is becoming clear that a proactive goal to unite the movement is crucial.

For the past 15 years, the World Bank and other regional development banks have promoted a private model of water development in the global South. This model has proven to be a failure. High water rates, cut-offs to the poor, reduced services, broken promises and pollution have been the legacy of privatization. One important new study has confirmed that this experiment has actually led to a net reduction in water development in the global South as Northern governments and the banks have assumed that the private sector would bring in new investments, a promise that never materialized. At the 4th World Water Forum in Mexico City this past March [2006], the UN cited the failure of privatization and called for governments to re-enter the water services arena. Calls for a UN Convention to re-assert the crucial role of government in supplying water to the poor increased dramatically at the Forum and new impetus was given to this campaign.

Why a UN Convention?

The fact that water is not an acknowledged human right has allowed decision-making over water policy to shift from the UN and governments toward institutions and organizations that favour the private water companies and the commodification of water. These institutions include the World Bank and other regional development banks, the World Water Council, the Global Water Partnership and the World Trade Organization.

Not only have these institutions vigorously promoted the interests of private water companies in the global South, they have also ceded to them much political control over water policy. In fact, the study Pipe Dreams by Public Services International and the World Development Movement, reported that the big water transnationals actually influence decision-making around which communities and countries will receive water services.

Many nation-state governments have gone along with this trend, allowing creeping privatization with little or no government oversight or public debate.

Behind the call for a binding instrument are questions of principle that must be decided soon as the world's water sources become more depleted and fought over:

- Is access to water a human right or just a need?

- Is water a common good like air or a commodity?
- Who is being given the right or the power to turn the tap on or off–The people? Governments? Or the invisible hand of the market?
- Who sets the price for a poor district in Manila or La Paz – the locally elected water board or the CEO of Suez?

The global water crisis cries out for good governance; good governance needs binding, legal bases that rest on universally applicable human rights. Above all, it calls for the political will to act.

It is also crucial to note that, because the operations of these water companies and the financial institutions that back them are now global, nation-state instruments to deal with water rights are no longer sufficient. International laws are needed to control the global reach of the water barons.

At the Rio Summit, key areas were targeted for action. Since that pivotal event, conventions on climate change, biodiversity and desertification have all been accomplished. But water, which was targeted as a priority area, has been neglected.

What is the Practical Use of a Convention?

Would a convention on water solve the world's water crisis? Of course not. But it would frame water as a social and cultural asset, not an economic commodity. As well, it would establish the indispensable legal groundwork for a just system of distribution.

A convention on the right to water would serve as a common, coherent body of rules for all nations and clarify the role of the state as a provider of clean, affordable water to all of its citizens. Such a convention would also safeguard already accepted human rights and environmental principles.

It would also set principles and priorities for water use in a world destroying its water heritage. The convention we envisage would include language to protect water rights for the Earth and other species and would address the urgent need for reclamation of polluted waters and an end to practices destructive of the world's water sources.

A human rights convention or treaty imposes three obligations on nation-states:

- *The Obligation to Respect*, whereby the state must refrain from any action or policy that that interferes with the enjoyment of the human right;

- *The Obligation to Protect*, whereby the state is obliged to prevent third parties (such as corporations) from interfering with the enjoyment of the human right; and

- *The Obligation to Fulfil*, whereby the state is required to adopt any additional measures directed toward the realization of that right.

At a practical level, a right to water Convention gives citizens a tool to hold their governments accountable in their domestic courts and the "court" of public opinion, while also seeking international redress.

In Canada, the decision by the government to back away from its previous commitment to the Kyoto Accord has become highly contentious and given environmentalists in Canada and around the world a powerful focus for criticism. Had Kyoto not existed, the fight for good climate policy in Canada would be much more difficult.

A UN Convention could also include specific principles to ensure civil society involvement to convert that Convention into national law and national action plans. This would give citizens an additional constitutional tool in their fight for water.

Where is the Process Now?

The right to water has been recognized in a number of important international resolutions and declarations at the UN over the past decade. These include the 2000 General Assembly Resolution on the Right to Development; the 2004 Committee on Human Rights resolution on toxic wastes; and the May 2005 statement by the 116-member Non-Aligned Movement on the right to water for all. Recently, Evo Morales, the new President of Bolivia, called for the right to water in the Community of South American Nations. He has received a very favourable response from at least a dozen countries.

Most important is General Comment No. 15, adopted in 2002 by the UN Committee on Economic, Social and Cultural Rights that recognized that the right to water is a prerequisite for realizing all other human rights and for leading a life in dignity. General Comment No. 15 is an authoritative interpretation of the International Covenant on Economic, Social and Cultural Rights and an important milestone on the road to a binding UN convention.

In October of this year [2006], several countries presented a resolution to the newly formed UN Human Rights Council requesting the Office of the High Commissioner for Human Rights to conduct a detailed study on the scope and content of the relevant human rights obligations related to access to water under international human rights instruments, including recommendations for future action.

The countries that proposed this resolution are: Belgium, Costa Rica, Cuba, Cyprus, Ecuador, Estonia, France, Germany, Greece, Guatemala, Italy, Luxembourg, Malta, Nigeria, Panama, Peru, Portugal, Romania, Slovenia, Spain, Switzerland, Cameroun, and Bolivia. (Not all are members of the Council.) Also believed to be supportive are Spain, Brazil, Finland, New Zealand, Norway, South Africa, Uruguay and Venezuela.

Countries that are likely to oppose the resolution or who have serious reservations include India, Canada, the United States, China, Egypt and Australia. The next step is that the Council will vote on the resolution perhaps as early as during its next session at the end of November and can then appoint a Special Rapporteur which could then lead to a full formative resolution and an eventual Convention on the right to water. (Until recently, the United Kingdom was also opposed but has responded to the November 2006 UNDP Annual Report, which focused on the global water crisis, by tentatively offering its first support of the right to water.)

Support among civil society groups around the world is growing rapidly and we are collecting the names of these groups for reference in the near future. For instance, a right to water Convention has been adopted by Red Vida, the network of grassroots groups fighting for water justice all through the Americas.

Are There Countries that Might Champion a Strong Convention?

There is a fear among many grassroots groups that our movement has been too successful and that success may lead to a compromised Convention. Until recently, global institutions and big water companies opposed a right to water Convention. So did European countries such as France and Germany who are home to the big water companies. However, the momentum for a right to water instrument is growing around the world and it is clear it cannot be stopped.

So the position of the World Bank and the World Water Council has shifted. There is now an understanding that the call for the right to water is an idea whose time has come and those who opposed it until very recently have decided to help shape it so that the private sector is not excluded. A proposal by Green Cross International, for example, is in great favour in some circles as it includes the water corporations as "stakeholders" and promotes private financing of water projects in the global South. (See Blue Planet Project website for a critique of the Green Cross draft convention: www.blueplanetproject.net/documents/Green_Cross_Critique.pdf)

This has given civil society great cause for alarm, as a convention that would protect the rights of corporations in the delivery of water would be worse than having no convention at all. Certainly, grassroots groups in the global South would never support a compromised instrument of any kind.

So civil society has been looking for a small number of nations from the global South and the global North to spearhead a more strongly worded resolution that would not only confirm that water is a public trust, but that water services should be delivered by governments on a not-for-profit basis. The two obvious first choices are Norway, which has announced it will no longer support any World Bank water project that imposes privatization as a condition for aid, and Bolivia, which has had terrible experiences with private water companies and is determined to return the oversight of its water systems to the public.

The hope is that, working with the global water justice movement, these two countries will begin to develop this instrument and enlist the support of other nation-states to a more strongly worded Convention. Discussions with both governments are underway and creating a great deal of interest.

It is crucial to find a group of countries that would champion a strongly worded Convention as well as address two shortcomings inherent in current human rights conventions: that is, it must bind international institutions and corporations and establish enforcement measures that provide effective remedies for individuals and communities denied their right to water. Further, our Convention must make it clear that, where there is a conflict between the human rights articulated in a UN instrument and the corporate rights inherent in trade agreements, UN-sanctioned human rights will prevail.

The right to water is an idea whose time has come. Let us make sure that no future generation ever again has to suffer from the horrors of living without clean water.

Maude Barlow, November 2006

I would like to acknowledge the excellent work of Rosmarie Bär of the Swiss Coalition, Ashfaq Khalfan of the UN Centre on Housing Rights and Evictions, and John Scanlon, Angela Cassar, and Noemi Nemes of the World Conservation Union for background material for these notes.

Declaration on the Right to Water

Lesson Plan provided by the Council of Canadians, January 2007

Suggested Grade level: 9/10+
Materials: Internet Access; RTW Briefing Note; Municipal Declaration

About the Council of Canadians

Founded in 1985 by a handful of citizens including Farley Mowat, Margaret Atwood, Pierre Berton and Maude Barlow, the Council of Canadians is Canada's pre-eminent public watchdog organization, with thousands of members and over 70 volunteer chapters across the country. The Council works to protect Canadian independence by promoting progressive policies on fair trade, clean water, energy security, public health care, and other issues of social and economic concern to Canadians. For more information, visit www.canadians.org.

Lesson Summary

Water is our most precious gift and is essential to all life. But the world is on the brink of a global water crisis, as scarcity, pollution and globalization mean that more and more people do not have access to clean drinking water.

Here in Canada, there are many threats to our water. Communities across the country have faced shortages, water companies are working to privatize our services, and there is growing pressure to treat water as a commodity and sell it on the open market. Canada is the only country in the world to have voted against the right to water at the United Nations.

This activity introduces students, on a first level and through discussion, to water issues at the local and global level, and to the debate surrounding the right to water. On a second level, students will work together to design a class Declaration on Water, and identify the steps needed to have this declaration accepted by their school.

The objective of this module is threefold:

- To spread awareness of water issues.
- To explain the urgency and need for a Declaration on Water.
- To help build consensus within a class and/or within the school.

This can help students understand the complexities of reaching consensus at a broader political and international level. At the same time, it can help them think about the steps to take to effect change at a local level.

In 2006, Development and Peace, KAIROS and the Council of Canadians worked together to urge towns and cities to adopt a declaration that would mark March 22 as World Water Day and to declare principles for water protection. To date, over 160 municipalities including Toronto, Montreal, Halifax and Calgary have adopted this declaration.

Process Notes

This is a great tool to build-in qualitative and quantitative research skills and can involve either one class or the entire school community. The declaration can represent the students' vision and the steps a community can take to protect water.

The concepts that can be introduced include human rights, the purpose of declarations, the lobbying process, consensus building, commodification, water privatization, social justice, etc.

Step 1: Hold an in-class discussion on the water issues, using the *Key Questions and Talking Points* to stimulate discussion. Students will think about some of the causes of the global water crisis and identify the two main opposing views on water: that it is a commodity, or that it is a shared public resource that should be protected and enshrined as a right for everyone. It may be helpful to divide the class into teams to hold a debate.

Step 2: The class works together to develop its own Declaration on Water to reflect a common vision of water and how to protect it. You can make your declaration as short or as long as you like. It is recommended to keep your declaration brief to get the maximum number of signatories.

Step 3: The class identifies the steps needed to have this declaration passed, including presenting and promoting the declaration to other students to have them sign on, and meeting with the school's key decision-makers.

Enduring Understanding

It is necessary to highlight a few key points:

- There is a difference between water as a right versus water as a commodity.
- Recognizing the *Right to Water* is a first step toward global water justice.

Curriculum Notes

Here are examples of how the activity can be extended to bridge various disciplines:

- Language Arts (as a reading and writing exercise).
- Mathematics (as an occasion to survey school population on awareness of water issues and on their ranking of this issue's importance).
- Sciences (as a means to look into hydrological cycles, ecosystems, climate change, geography and earth sciences).
- World Issues (as an opportunity to explore the effects of globalization, activism, culture-jamming, international development, world politics, etc.).

Extra Incentive

To motivate students to get involved in this activity, it is recommended that you link it to World Water Day (March 22) and launch or publish the declaration on that day. With a bit of planning, teachers and/or students could even contact the local media to generate interest in covering the issue (and publishing the declaration) in the context of World Water Day. The declaration could also be sent to your local Member of Parliament. Of course, the Council of Canadians would love to hear about what your class or school has come up with!

Key Questions

Teachers can help moderate discussions with some key questions such as:

- What is the difference between treating water as a right versus water as a commodity?
- Why do you think there is a global water crisis and how does it affect different countries around the world?
- What do you think is meant by "water justice," and what are some steps that can be taken to achieve water justice?
- What kind of agreement do you think should be developed to ensure that the right to water is recognized? What are the advantages or disadvantages of having a regional, national or international agreement? Which should we aim for? Why?
- Why do you think the Canadian government has not yet recognized the right to water?
- What does privatization of water services mean? Can you find any examples in Canada or around the world of privatization?
- What does the right to water mean and what are the implications (socially, politically, environmentally) of enshrining such a right?
- Consider the Millennium Development Goals and how many of them are linked to guaranteed access to clean water for drinking and sanitation.

For some of the answers, teachers can refer to the attached document by Maude Barlow entitled *A UN Convention on the Right to Water: An idea whose time has come.*

Follow-up Activities

- The class could have their declaration passed for the whole school by lobbying their faculty, principal or school board.
- The students could develop a research process to find out how students in other classes/grades feel about water. They could develop a survey, for example, and students (accompanied by data gatherers/recorders) could survey students of lower grade levels.
- Students can make small presentations on the subject, present a sample declaration and ask others if they would sign it (why, why not and what feedback they could provide).
- The students could arrange to meet with their local government officials, including town councilors, or elected provincial or federal representatives.

SAMPLE WATER DECLARATION (Municipal)

WHEREAS March 22 is World Water Day; and

WHEREAS one in six people around the world does not have access to clean drinking water; and

WHEREAS the UN Conference on Water in 1977 in Mar del Plata affirmed the right of all persons to access clean drinking water in order to satisfy their fundamental needs; and

WHEREAS current World Bank loans for water services in developing countries frequently require the privatization of those services or an increase in water prices, thereby jeopardizing citizens' access to safe drinking water;

AND WHEREAS the Canadian Catholic Organization for Development and Peace, KAIROS: Canadian Ecumenical Justice Initiatives and the Council of Canadians have asked Canadian municipalities to assist in their effort to have the federal government recognize water as a common good and access to drinking water as a basic human right;

THEREFORE BE IT RESOLVED that this Council recognizes and affirms that:

- Water is a sacred gift that connects all life.
- Access to clean water is a fundamental right.
- The value of Earth's fresh water to the common good takes priority over any possible commercial value.
- Fresh water is a sacred legacy, a public trust and a collective responsibility; and

FURTHER BE IT RESOLVED that this Council call upon the federal government to urge the World Bank to ensure access to clean, affordable water for the world's poor, and strengthen the role of the public sector and individual communities in setting water policies and delivering and regulating water services.

Teacher's Talking Points

- 1.2 billion people do not have access to clean drinking water. Over 2 million people, mostly children, die yearly from water born diseases such as diarrhea and cholera. Global water corporations see this looming crisis as an opportunity to cash in – by diverting, bottling and privatizing the world's water. In the global south, international financial institutions work in tandem with water corporations to suck lakes, rivers and aquifers dry, only to bottle the water, and sell it back to people.

- At the time that the Universal Declaration of Human Rights was developed, the right to water was not included in the declaration's articles, as it was assumed that everyone would always have access to safe, plentiful drinking water. The same was assumed for air. But due to population explosion, privatization, unequal access to and distribution of water, climate change and pollution, water is not a guaranteed resource.

- Today, there is no international treaty on the right to water, but global movements in the defence of water are working toward this goal.

- Recognizing the right to water in the form of an international treaty is only one step in promoting and guaranteeing access to water around the planet. A common recognition of water as a right will give strength to local groups fighting abuses by corporations, and help to hold governments accountable for providing drinking water for all.

- There is a difference between the human right to water and the right to water. The Council of Canadians is working toward the right to water, because it recognizes the importance of water as an intrinsic part of ecosystems and natural cycles, necessary to humans and to nature.

- Canada is the only country in the world to consistently vote against the right to water at the United Nations. At the UN Commission on Human Rights in 2002, Canada voted against the Right to Drinking Water and Sanitation. Then in 2003, Canada voted against appointing a Special Rapporteur on the Right to Water.

- One reason why Canada has taken this position against the right to water is that some feel it would force Canada to give its water away to other countries. The Council of Canadians disagrees with this argument. Water justice activists argue that enshrining the right to water at the UN would oblige each country to make sure that their citizens have access to water, regardless of the town, province or region they live in.

- Recognizing the right to water would limit corporations' ability to sell water as a commodity, or to privatize water services. You cannot sell a human right, and recognizing the right to water would compel the Canadian government to be responsible for supplying and treating water, and close the door to privatization of water services.

Bulk water transfers of Canadian water: Grand schemes up for debate

One often hears of a 'looming world water crisis' but, in fact, the crisis is already upon us. Many nations around the world are now experiencing critical water shortages and the statistics on deaths caused by this lack of access to clean water are staggering. One of the biggest issues facing Canada is whether or not to sell its freshwater in the form of bulk water exports to water-deprived countries.

Should Canada sell its water for profit? We already export billions of litres of groundwater each year to be bottled south of the border. And, the biggest point sources of groundwater extraction in Canada happen to be here in Ontario, in Bruce and Grey counties. While the draining of aquifers for bottled water is an alarming practice, another issue worrying many Canadians is the wholesale bulk export of mind-boggling amounts of freshwater from our lakes and rivers.

In the words of former U.S. Senator and author, Paul Simon: "Ultimately, the human population is not divisible. If the U.S. has a water problem, Canada has a water problem." Well, the U.S. does have a water problem. Its groundwater aquifers are quickly being exhausted and the nation's largest produce-growing areas of arid central California are desperate for new sources of irrigation water, as are the falsely-green neighbourhoods of parched desert states like Arizona. Furthermore, the U.S. has been eyeing Canada's freshwater for 'interbasin water transfers' for decades.

As far back as the 1950s, the U.S. Army Core of Engineers and private engineering firms have been drafting plans for continent-wide mega-projects to take Canadian water. Such projects include the 1964 North American Water and Power Alliance (NAWAPA) which proposed to dam practically every river in British Columbia and Alaska and divert some of it into the 800-kilometre Rocky Mountain trench that runs between mountain ranges southward from Canada to the U.S. From there the water would be diverted in several directions to supply America's west coast, mid-west, southwestern desert areas, Texas and Mexico. To accomplish such a feat, numerous rivers would have to have their flow reversed, and a vast network of canals and pipelines would be built.

Then there was the Great Replenishment and Northern Development Canal (GRAND Canal) which first hit the drawing boards in the 1950s and has been revisited many times since then. The GRAND Canal project proposes to construct a huge dam across the northern end of Canada's James Bay, cutting it off from Hudson Bay. With all the rivers flowing into James Bay, a huge freshwater reservoir would be created. Canals would then channel the water southward into the Great Lakes and from there, be channeled and piped westward and southward.

More recent schemes to bulk-export Canadian water have been halted because once Canada allows them, water officially becomes a 'commodity' under the North American Free Trade Agreement (NAFTA), thus giving our NAFTA trade partners full rights to it forevermore. In fact, if our governments did try to pass legislation to stop water exports, foreign investors and corporations would have the right to take them to court. Already, the province of British Columbia has been sued by California's Sun Belt Water Inc. For $10.5 billion (U.S.) for reneging on an early 1990s agreement to have B.C. glacial meltwater shipped to west coast urban centre Santa Barbara. To stop this deal, the B.C. government legislated a moratorium (temporary ban) on bulk water sales of surface water.

Public pressure put a stop to another grand plan of the late '90s, to export 600,000,000 litres a year by supertankers from Lake Superior by the Nova Group of Sault Ste. Marie. This water was destined for markets in Saudi Arabia and other countries in the Middle East. A few months later, another such scheme by the McCurdy Group in Newfoundland, to ship 52 billion litres of water a year from Gisborne Lake, was also halted.

These plans have never been abandoned, they have simply been 'shelved' until a later date. And that day may soon be upon us. In the fall of 2006, the President of the Washington-based Global Water and Energy Strategy Team (GWEST), proposed a pipeline to pump billions of litres of freshwater from Manitoba to Texas. And, according to the Council of Canadians website,

> "In April 2007, the Council of Canadians obtained a leaked document produced by a Washington think tank, revealing that business and government leaders in Canada, the U.S. and Mexico are actively discussing bulk water exports. They met in Calgary on April 27, 2007 to discuss the issue in a closed-door meeting as part of a larger discussion on North American integration.

However, in reaction to this leaked document, opposition members outvoted the minority government of the day to pass a motion in the House of Commons in June 2007 recommending that the federal government, "begin talks with its American and Mexican counterparts to exclude water from the scope of NAFTA." The response of these parliamentarians to the Calgary talks has been lauded by the Council of Canadians. And, a month earlier, Bill S-255, "An Act to Amend the International Boundary Waters Treaty Act (bulk water removal)" was before the Senate for first reading. This act aims "to prohibit the removal, in bulk, of boundary waters," including by "any means of diversion, canal, tunnel, aqueduct or channel" or any other means whereby more than 50,000 litres are exported out of the water basin per day, with the exclusion of manufactured products containing water, including bottled water and other water-based beverages.

At the same time, water activists have been less enthusiastic about the Ontario government's legislation to restrict large-scale diversions of Great Lakes water and to charge a fee for water withdrawals from rivers, lakes and groundwater supplies in the Great Lakes basin by water bottling companies. The provincial government plans to charge $3.71 per million litres to major water bottlers, starting in 2009. Critics maintain that Ontario's "Safeguarding and Sustaining Ontario's Water Act" (SSOWA) has loopholes and shortfalls. For instance, the act exempts water in containers under 20 litres from the diversion ban, and this is a rapidly growing sector of the industry. It also hands over bulk-water diversion decision-making to a tribunal that may well be largely composed of governors from the American Great Lake States, thereby lessening Ontario's input. This loss of influence occurs at a time when, according to the United Nations, lower water levels on the Great Lakes, increasingly affected by global warming, are likely to aggravate bi-national co-operation.

The Polaris Institute warns that the real damage of the policies in SSOWA will be the giving away of "water resources to domestic and foreign water privateers and the erosion of public management and control," and further worries that the legislation could make "Ontario's water resources open to NAFTA investor state challenges." It argues that the draft legislation needs "to be changed to uphold water as a public trust, a right of humans and ecosystems, and a sacred source of life."

Meanwhile, a Canadian entrepreneur awaits the day that he can sell his massive water bag technology to float freshwater across the oceans to markets abroad. Tug boats would pull these sealed bags, five times the capacity of a supertanker, at a fraction of the cost. The Canadian company Medusa has manufactured a prototype of a trans-oceanic water bag and is not alone in developing this new technology.

Where do you stand on this issue? Should Canada open the floodgates and start bulk sales of water to export markets for profit?

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Documentary films

The following films may be of interest to you, as background information in preparation for teaching about social issues such as water privatization or for the students as a way to introduce them to various world issues.

The Corporation
Mark Achbar, Jennifer Abbott, & Joel Bakan
Mongrel Media © 2004
For more information: www.thecorporation.com

This renowned documentary won 20 awards worldwide, including the Sundance Audience Choice Award. It's a clever and witty expose of big business and globalization. The two disk special edition includes deleted scenes, 165 interview clips, web links, a Q & A with the filmmakers, as well as the full 145 min. theatrical version. It's available with French and Spanish subtitles.

Darwin's Nightmare
Hubert Sauper
Capri Films © 2004
For more information: www.caprifilms.com

Acadamy Award Nominee for best documentary, the film is a powerful case study of globalization in Central Africa. It explores the environmental and social impact of the international market in Nile Perch. The 107 min. documentary is graphic and disturbing.

The Devil's Miner
Richard Ladkani & Kief Davidson
Urban Landscapes © 2005
For more information: www.thedevilsminer.com

Internationally acclaimed and award winning documentary explores the life of a young teenager who works in the mines of Bolivia. This is a powerful exploration of poverty and child labour. The film is in Spanish with English subtitles. The DVD includes follow-up interviews with the young miner a year later, as well as interviews with the filmmakers. The film has been endorsed by Amnesty International and Human Rights Watch.

Hoodwinked: The Myth of Free Trade
Bill Dunn & Linda West
West/Dunn productions © 2005
For more information: www.hoodwinked.ca

The documentary examines the impact of NAFTA on environment, softwood lumber, foreign ownership, and North American Integration. The film examines the impacts of globalization on Canada's economy and environment.

An Inconvenient Truth
Davis Guggenheim
Paramount Pictures © 2006
For more information: www.climatecrisis.com

This documentary is a powerful examination of the ecological and environmental damage created by global warming. A free educational guide is included online, as well as added footage and a further interview with Al Gore.

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Barlow, Maude and Tony Clarke. *Blue Gold: The Battle Against Corporate Theft of the World's Water*. Toronto: McClelland & Stewart, 2003.
(www.mcclelland.com)
Barlow is the Chairperson of the Council of Canadians and Clarke is the director of the Polaris Institute of Canada. This is a detailed, investigative study of the impact of globalization and the privatization of water.

Broad, Robin (ed.). *Global Backlash: Citizen Initiatives for a Just World Economy*. Lanham, MD: Rowman & Littlefield, 2002.
(www.rowmanlittlefield.com)
Global Backlash is a collection of essays and articles from around the world that critically examine globalization. Several articles look at water and resource privatization

De Villiers, Marq. *Water: The Fate of Our Most Precious Resource*. Toronto: McClelland & Stewart, 2003.
(www.mcclelland.com)
Winner of Governor General's Award. Excellent, detailed overview of water issues around the world. Revised in 2003.

Environmental Commissioner of Ontario Annual Reports. Toronto (www.eco.on.ca)
The E.C.O. Annual Reports include a section on "Significant issues" and another "Ministry Environmental Decisions." Reports are available online in PDF in both French and English.

Gleick, Peter H. (ed.). *The World's Water: The Biennial Report on Freshwater Resources*. Washington: Island Press, 2006.
(www.islandpress.org)
Excellent resource. Each edition covers a variety of topics. 2004-2005, For instance, has a Water Conflict Chronology, an article on Third World Water Foru, and another on Water and Privatization.

Karliner, Joshua. The Corporate Planet: Ecology and Politics in the Age of Globalization. Sierra Club Books
(www.sierraclub.org)
Using a variety of case studies from around the world, Karliner documents the central role that transnationals play in environmental destruction. He also recounts stories where there has been successful grassroots movements that have successfully confronted these threats.

Mander, Jerry and Victoria Tauli-Corpuz, (ed). *Paradigm Wars: Indigenous Peoples' Resistance on Globalization*. Sierra Club Books, 2007.
(www.sierraclub.org)

Twenty-five contributors have written essays and articles recording cases whereby various indigenous peoples have resisted globalization.

Olivera, Oscar. *¡Cochabamba! Water in Bolivia*. Cambridge: South End Press, 2004. (www.southendpress.org)
¡Cochabamaba! Water war in Bolivia (in collaboration with Tom Lewis). The most detailed historical account of the Bolivian direct action campaign against the privatization of water resources, written by a major leader in the Cochabamba campaign.

Shiva, Vandana and Theo Balve (editors). *Dispatches from Latin America On the Frontlines Against Neo-Liberalism*. Cambridge: South End Press, 2006. (www.southendpress.org) twenty-eight authors from across Latin America examine a variety of issues regarding globalization and its impacts on countries across the region. "Dispatches charts Latin America's aspirations and challenges."

Shiva, Vandana. *Earth Democracy: Justice, Sustainability and Peace*. Cambridge: South End Press, 2005. (www.southendpress.org)
A leading environmental activist and scientist's overview of the risks posed by globalization on ecology, economy, and culture.

Shiva, Vandana. *Stolen Harvest: The Hijacking of the Global Food Supply*. Cambridge: South End Press, 2000.
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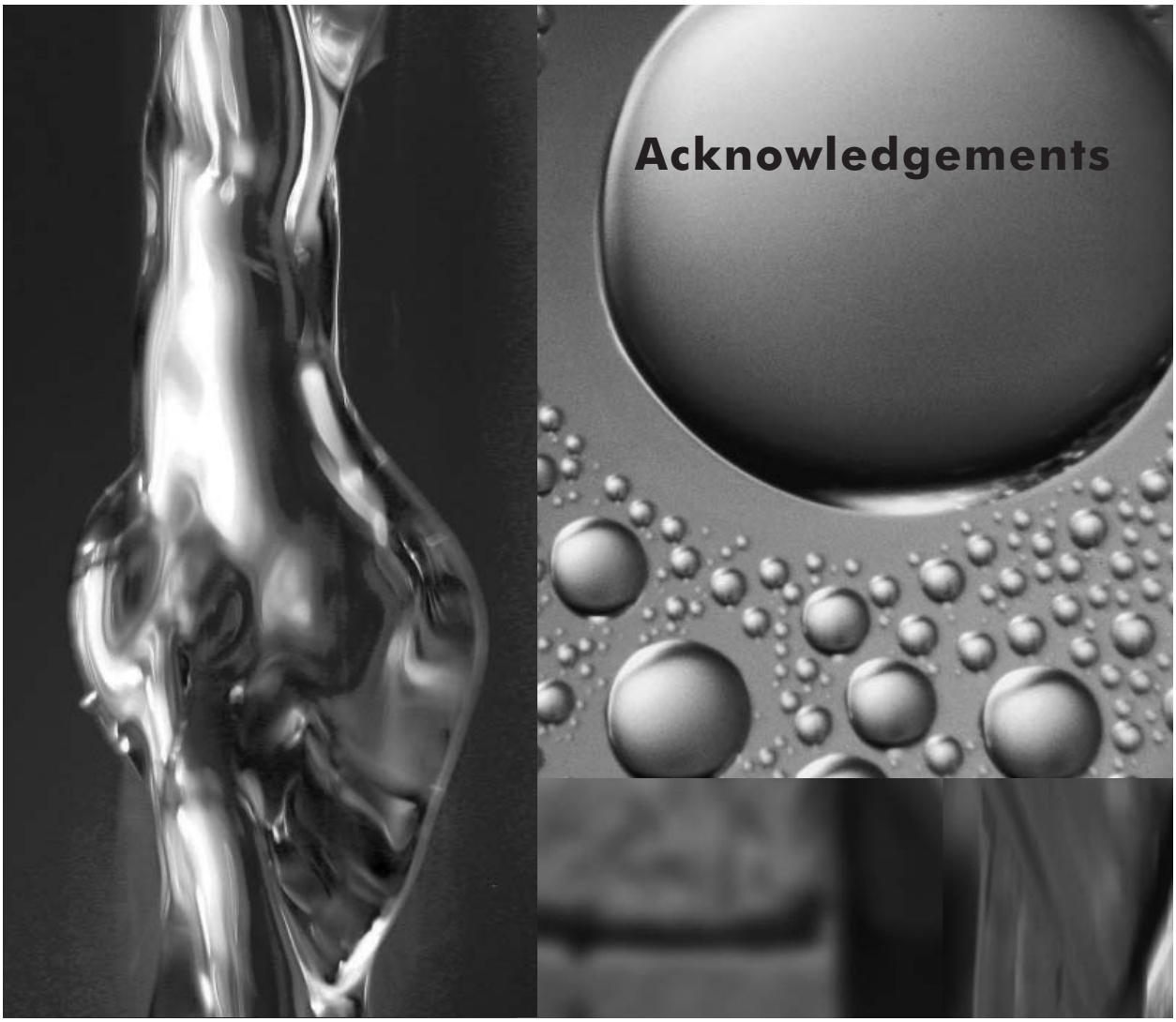
Examines the human and environmental consequences of corporate engineered international trade agreements.

Shiva, Vandana. *Water Wars: Privatization, Pollution and Profit*. Cambridge: South End Press, 2002 .
(www.southendpress.org)
A critical examination of the international water trade, damming, mining, and aquafarming. Shiva looks at water as a right, at risk of ecological degradation. She also examines the economic impacts on the world's poor of water privatization.

Swanson, Peter. *Water: The Drop of Life*. Minnesota: Northword Press, 2001.
(www.swynk.nl)
Companion to the Public Television Series. Introduces and examines water as environmental, health, economic, and cultural issues around the world.

Please note: all books listed are available for purchase online, or may be accessed through Provincial Interlibrary Loan at your local Public Library for free.



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- Water Encyclopedia.com
- The Democracy Cente
- Environment Canada, *A Consumer's Guide to Water Conservation*
- Corpwatch.org

*The opinions presented herein do not necessarily reflect the policy of the Canadian International Development Agency.