

CHF

Sustainable Solutions



Lesson 4: Sustainable Solutions

Description

1x40 minute lesson

Students are given different scenarios to examine peoples' lives in other communities around the world. Using guided questioning and worksheets, they are challenged to come up with their own ideas and solutions to the problems. Then the class is offered time to think about examples of successful solutions that have been implemented in the past. Students are challenged to think about how particular strategies might help improve families' lives in the developing world and then offered ideas as to how these might improve livelihoods. Finally, as a class, students are given the opportunity to take action to help people in rural poor communities.

Subjects

Science and Technology (Grades 4, 5 & 6), Social Studies (Grades 5 & 6), Health and Physical Education (Grade 4)

See the Curriculum Connections section for detailed links to subjects and expectations.

Materials Needed

Student Handout ([BLM 4.1](#)) Sri Lanka scenario
Student Handout ([BLM 4.2](#)) Ethiopia scenario
Student Worksheet ([BLM 4.3](#)) Sri Lanka questions
Student Worksheet ([BLM 4.4](#)) Ethiopia questions
Map ([BLM 4.5](#)) Global Map
Map ([BLM 4.6](#)) Asia Map
Map ([BLM 4.7](#)) Africa Map

Note: This lesson is easier to do with an LCD Projector and computer, but can be done without.

Note: French BLMs/Student Sheets can be found [here](#).

Lesson Preparation

1. Photocopy BLM 4.1 – 4.4 so that each student receives one copy of each. Alternatively, [BLM 4.1](#) and [BLM 4.2](#) can be projected at the front of the class and read with the teacher.
2. Prepare maps to show students countries discussed or have projector and computer ready to show included maps.

3. Review the Interesting Facts, Country Information, Country Maps, and Resource section in the Teacher Resource file. The resources found under the Country Information can be used to give students further information about Ghana (such as maps, statistics, flags, histories, etc.).

Teaching/Learning

1. Divide students into groups of 4 or 5. Arrange students and desks so that the small groups can work collaboratively. Give every student a copy of the Sri Lanka scenario (BLM 4.1) and the first worksheet (BLM 4.3). Alternatively, the scenario can be projected and read as a group.

2. Read Part 1 from the Sri Lanka scenario (BLM 4.1). This can be teacher lead or read as a group. With the projector or a large map, show students the Indian Ocean (BLM 4.5) and Sri Lanka (BLM 4.6). Once the group is finished reading part 1, have students turn over their scenario sheets face down and ask the following question: How do you think the tsunami has hurt families in coastal areas around the Indian Ocean, like Galle, Sri Lanka?

3. After students are asked the question, students will brainstorm ideas in their small groups. In 3 or 4 minutes have students share their answers with the class and the teacher will write the answers on the board. Students can copy any new ideas from the board onto their worksheets.

4. Repeat steps for Parts 2, 3 and 4 reading the selections from the Sri Lanka scenario (BLM 4.1) and answering the following questions as small groups then as a class:

Question 2: Can you think of ways that might help the families living in this area?

Question 3: How do you think these solutions would help families affected by the tsunami?

Question 4: Are there ways that our class can help victims of the tsunami or the other people in the world's poorest areas?

5. Read Part 1 from the Ethiopia scenario. Show students map of Africa (BLM 4.7) and find Ethiopia. Repeat process from the first scenario. This can be teacher lead or read as a group. Once the group is finished reading part 1 have students turn over their scenario sheets face down and ask the following question: How do you think this situation would impact women and children's lives?

6. After students are asked the question, students will brainstorm ideas in their small groups. In 3 or 4 minutes have students share their answers with the class and the teacher will write the answers on the board. Students can copy any new ideas from the board on their worksheets.

7. Repeat steps for Parts 2, 3 and 4 from the Ethiopia scenario (BLM 4.2) reading the parts and answering the following questions as small groups then as a class:

Question 2: Can you think of ways that might help the families living in this area?

Question 3: How do you think these solutions would help families in rural Ethiopia?

Question 4: Are there ways that our class can help victims of the tsunami or the other people in the world's poorest areas?

Sample Answers to Sustainable Solutions (BLM 4.3, 4.4)

BLM 4.3

- How do you think the tsunami would hurt families in coastal areas around the Indian Ocean, like Galle, Sri Lanka?
 - Hear individual student responses
 - Families were affected in a number of ways. Land for farming was destroyed by flooding and ocean salt.
 - Fishing communities lost boats and fishing equipment
 - Houses were lost
 - Belongings were destroyed
 - Friends and family perished

- Can you think of things that might help the families living in this area?
 - Hear individual student responses
 - Access to food aid (temporarily until a more long-term way to grow food was found)
 - Access to clean water
 - Help with access to income generating activities
 - Building supplies to rebuild homes and shelter
 - Gardens to grow fruits and vegetables
 - Animals as food source or to help generate income

- How do you think this solution would help families affected by the tsunami?
 - Hear individual student responses
 - Vegetables will help families have better health
 - More nutritious and balanced diets
 - Any extra food can be sold
 - Money from food sales can help pay for other expenses like school supplies
 - Limited income is not spent on buying food
 - Gives people a better quality of life and meaning

- Are there ways that our class can help victims of the tsunami or the other people in the world's poorest areas?
 - Individual student responses
 - See www.giftsthatmatter.ca or the teacher notes below.

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CHF is a non-profit organization dedicated to enabling poor rural communities in developing countries to attain sustainable livelihoods, since 1961.

www.chf-partners.ca

BLM 4.4

- How do you think this situation would impact women and children's lives?
 - Hear individual student responses
 - Children, busy doing essential work, miss out on school
 - No time for children to play
 - Women cannot attend to other family responsibilities like taking care of others
 - Women and children's health can be affected because they are working so hard
 - Many might miss out on income generating activities
 - Less time to farm or produce food for family, which results in weakened nutrition and health
- Can you think of things that might help the families living in this area?
 - Hear individual student responses
 - Have more people help carry the wood and water
 - Find another way to carry the loads
 - Come up with other things to burn instead of wood that are closer
 - Move closer to the well or find a water source that is closer
- How do you think this solution would help families in rural Ethiopia?
 - Hear individual student responses
 - Donkey can do the heavy lifting and is able to transport water and wood.
 - Affords women time to do other things, like farming and income generating activities
 - Children have time to go to school
 - Improved family health because less work to do and more time to focus on health and nutrition
 - Extra income can help family break the cycle of poverty and attain a sustainable livelihood
- Are there ways that our class can help victims of the tsunami or the other people in the world's poorest areas?
 - Hear individual student responses
 - Raise money for a **Gift that Matters**- *See Teacher Background Notes Below*

Extension Activities

- Research activities to extend learning about conditions in developing countries and Canadian partnership programs that are in place
- Plant a classroom or community garden to learn about growing plants and vegetables.
- Grow herbs in the classroom or outside. Students can sell the herbs to parents, friends and family to raise money for a Gift that Matters.
- Research natural disasters such as earthquakes and tsunamis.

Teacher Background Notes

Your school or class can give the gift of hope for families living in poverty in developing countries overseas. Through CHF's **Gifts that Matter**, you and your students can choose from over 10 different items that can make a huge difference to people living in rural communities around the world. For example, for \$45, your class can provide a home garden for a family in Sri Lanka recovering from the tsunami. For \$75, your class can provide a donkey for a family in Ethiopia, to help reduce women's workload and provide access to economic and social opportunities. Go to www.giftsthatmatter.ca and choose a gift that can change a life.

Sustainable Solutions-Sri Lanka

BLM 4.1

Part 1

In December 2004, an earthquake in the Indian Ocean triggered a giant tsunami. Do you know what a tsunami is? It's a series of giant waves, which travels from an earthquake's epicentre, until it hits land. When the tsunami hits land, the waves will travel inland until all the energy is lost.

The giant tsunami in 2004 created waves up to 30 metres high, which quickly spread outward from the source of the earthquake. The large waves travelled very far, affecting people living as far away as South Africa, 8 500 km away. However, the people closest to the earthquake suffered the most. Since the waves closest to the source were the biggest, they did the most damage. Many people living in countries around the Indian Ocean live very close to the water. These areas are called coastal communities.

Before the tsunami, people from an area called Galle, on the coast of Sri Lanka, grew fruits, vegetables and herbs to support themselves and feed their families. People in this area depended on the land for food. Any extra food grown on their land is sold so there is money available to pay for school fees and supplies.

Part 2

When the tsunami hit this coastal community giant waves washed up on shore and damaged or destroyed peoples' homes, the areas around their homes, their belongings, and sometimes their lives. After the tsunami hit, people from this area had a very difficult time. The waves washed up very high on land and affected this area by covering their farmland with water, destroying the trees and leaving salty, unproductive soil behind.

When soil becomes salty, plants are not able to grow well. In Sri Lanka, peoples' gardens were lost. Families who normally grew their own fruits and vegetables to feed themselves had to buy food at the market. Food expenses went up and families did not have money to spend on other needs and school supplies.

Part 3

Organizations from around the world helped victims of the tsunami. Some relief organizations met immediate needs. They provided food and water, shelter, medicine and other needs. This aid helped many people cope with the immediate impacts of the disaster. Other organizations helped by offering solutions that would help people help themselves for the long-term. For example, CHF, an organization located in Ottawa, has been helping the citizens of Sri Lanka by creating home gardens.

Part 4

Families can now grow fruits, vegetables, and herbs to help feed themselves. Families are able to grow their own food, so they do not have to spend as much money buying it from other sources. Any extra money can be spent on school fees, extra food for a more balanced diet, or medicines to keep the family members healthy.

Sustainable Solutions-Ethiopia

Part 1

On the continent of Africa, in Ethiopia, many people in rural areas depend on nature for food, water and shelter. People grow their own food and depend on enough rain and sunshine for their crops to grow healthy. Often people do not have access to safe drinking water nearby. They have to leave their homes and their land and walk a long distance to get water from a well. Sometimes it will take 3 or 4 trips to the well each day to get enough water for a family. This could take several hours.

In rural Ethiopia, families build fires to cook their meals. The fuel used to keep their fires burning everyday is wood. Wood can take a long time to gather because so many people need it for cooking and the closest forests have been cut down. People then need to travel further and further to find wood. It is also very heavy to carry. In many places it is the women and the children's responsibility to get water from the well and wood for the fire.

Part 2

Women have to do very hard, heavy work every day. Often children help with this work. Since children are helping with work they might not be able to attend school. Women also are not able to participate fully in other activities that can provide money for the family to buy food and important needs. They are too busy carrying wood and water. Water is very heavy to carry and is tiring. The water sources require women to walk long distances, sometimes carrying 25 kgs for several hours. Many of the women and children carrying the water are weak from poor nutrition.

Part 3

Organizations from around the world are helping poor communities in developing countries. Some help by building wells in the most central part of the community for greater access to clean water for all. Community members learn how to fix the pump if it breaks. For some, it is still a long walk to collect water and wood and the loads are still very heavy. Organizations have helped come up with solutions to this problem too. For example, CHF, an organization from Ottawa, has helped the citizens of Ethiopia by giving women access to donkeys.

Part 4

Donkeys are big and strong animals used to carrying heavy loads. They are able to carry water and firewood for women. Donkeys give children more time to go to school. By having a donkey women are able to participate in other areas of life. For example, they can take part in activities that can make extra money for the family. Any extra money can be spent on school fees, extra food for a more balanced diet or medicines to keep the family members healthy.

Part 1

En décembre 2004, un tremblement de terre dans l'Océan Indien a déclenché un tsunami géant. Savez-vous qu'est-ce que c'est un tsunami? Un tsunami est une série de vagues géantes qui se déplacent de l'épicentre du tremblement de terre jusqu'à ce que les vagues viennent en contact avec la terre. Lorsque le tsunami frappe la terre, les vagues continuent vers l'intérieur des terres jusqu'à ce qu'elles s'épuisent en perdant toute leur énergie.

Le tsunami géant de 2004 a créé des vagues de 30 mètres qui se sont déplacées rapidement de la source du tremblement de terre. Les grandes vagues se sont déplacées sur d'énormes distances et ont eu un impact sur des pays aussi éloignés que l'Afrique du Sud, 8 500 kilomètres plus loin. Malheureusement, les personnes qui habitaient le plus près de l'épicentre du tremblement de terre ont le plus souffert, parce que les vagues les plus rapprochées de la source étaient plus grandes et faisaient le plus de dommages. Beaucoup de personnes vivant dans les pays autour de l'Océan Indien vivent sur le littoral. Ces régions sont appelées les communautés côtières.

Avant le tsunami, les gens d'une région appelée Galle, sur la côte de Sri Lanka, cultivaient des fruits, des légumes et des fines herbes pour gagner leur pain et nourrir leurs familles. Les gens de cette région ont besoin de la terre pour survivre. Toutes les récoltes supplémentaires sont vendues afin d'obtenir de l'argent pour payer les frais scolaires et les fournitures.

Partie 2

Lorsque le tsunami a frappé la communauté côtière, les vagues géantes ont inondé tout ce qu'il y avait sur le rivage, y compris les maisons et beaucoup de personnes ont perdu toutes leurs possessions et certaines même leur vie. Après le tsunami, les gens de cette région ont vécu d'énormes difficultés. Les vagues se sont déplacées très loin à l'intérieur des terres et ont inondé les terres, les rendant improductives à cause du sel qui a été laissé par l'eau de mer.

La présence du sel dans la terre nuit à la croissance des cultures. Au Sri Lanka, les gens ont perdu leurs jardins potagers. Les familles qui avaient l'habitude de faire pousser leurs fruits et leurs légumes pour nourrir toute la famille devaient maintenant acheter leur nourriture au marché. En conséquence, les prix ont augmenté et les gens n'avaient pas assez d'argent pour acheter les fournitures scolaires.

Solutions durables - Sri Lanka

BLM 4.1

Partie 3

Les organismes du monde entier ont apporté de l'aide aux victimes du tsunami. Certains organismes humanitaires ont soulagé les besoins les plus immédiats. Ils ont fourni de l'eau, de la nourriture, des abris, des médicaments et d'autres éléments essentiels. Cette aide a permis aux gens de passer au travers les conséquences immédiates du sinistre. D'autres organismes ont offert des solutions pour aider les gens à se rétablir à long terme. Par exemple, CHF, un organisme d'Ottawa, aide les habitants du Sri Lanka à recréer les jardins potagers.

Partie 4

Les familles sont maintenant capables de faire pousser des fruits, des légumes et des fines herbes pour se nourrir. Étant donné que les familles sont capables de répondre à leurs propres besoins de nourriture, elles ne sont plus obligées d'acheter la nourriture du marché. Tout l'argent supplémentaire peut être dépensé sur les frais scolaires, des suppléments alimentaires pour assurer un régime équilibré et des médicaments pour préserver la santé des membres de la famille.

Solutions durables-Éthiopie

BLM 4.2

Partie 1

En Éthiopie, qui est située sur le continent d'Afrique, beaucoup de personnes qui vivent dans les régions rurales se fient à la nature pour obtenir de la nourriture, de l'eau et de l'abri. Les gens font pousser leur propre nourriture et compte sur la pluie et le soleil pour assurer de bonnes récoltes. Très souvent, les gens n'ont pas accès à l'eau potable sécuritaire à proximité. Les gens doivent quitter leurs maisons et marcher à pied sur de longues distances afin de trouver l'eau dans un puits. Souvent, il faut faire trois ou quatre voyages par jour pour ramener l'eau du puits en quantité suffisante pour répondre aux besoins de la famille. Ces déplacements nécessitent plusieurs heures.

Dans la région rurale de l'Éthiopie, les familles font un feu pour cuire les repas. Le bois est le combustible qui est utilisé le plus souvent pour faire du feu. Il faut beaucoup de temps pour ramasser le bois parce que tous les gens en ont besoin pour cuisiner et il ne reste pas beaucoup de bois à proximité. Les gens doivent se déplacer de plus en plus loin afin de trouver le bois en quantité suffisante. Le bois est très lourd à porter. Dans beaucoup de villages, ce sont les femmes et les enfants qui vont chercher l'eau au puits et le bois pour faire le feu.

Partie 2

Le travail des femmes est très difficile et très forçant. Très souvent, les enfants donnent un coup de main pour aider avec ce travail. Étant donné que les enfants donnent un coup de main avec les corvées, ils ne peuvent pas aller à l'école. Les femmes ne peuvent pas non plus participer à d'autres activités qui pourraient permettre à la famille de ramasser un peu d'argent pour les autres besoins. Elles sont trop occupées à porter l'eau et le bois. Porter de l'eau est très difficile et on se fatigue très vite. Les femmes sont obligées de marcher sur de longues distances et de rapporter jusqu'à 50 lb pendant plusieurs heures. De nombreuses femmes et les enfants sont affaiblis par le manque de nutrition.

Partie 3

Les organismes du monde entier aident les communautés dans les pays en développement. Certains pays aident à creuser des puits dans les communautés afin d'assurer un meilleur accès à l'eau potable sécuritaire pour tous. Les membres de la communauté ont appris à réparer la pompe lorsqu'elle tombe en panne. Dans d'autres communautés, il faut toujours marcher très loin pour trouver de l'eau et du bois nécessaires à la vie. Des organismes ont trouvé des solutions à ce problème également. Par exemple, CHF, un organisme d'Ottawa, aide les gens d'Éthiopie en fournissant des ânes aux femmes qui doivent aller porter les charges.

Solutions durables-Éthiopie^{BLM 4.2}

Partie 4

L'âne est un animal très fort, qui est habitué à porter de lourdes charges. Les ânes portent l'eau et le bois pour les femmes. À cause des ânes, les enfants ont plus de temps pour aller à l'école. Quand les femmes possèdent un âne, elles ont plus de temps pour participer à d'autres activités de la vie. Par exemple, elles peuvent participer aux activités qui leur permettent de gagner un peu plus d'argent pour la famille. L'argent supplémentaire peut être dépensé sur les frais scolaires, sur la nourriture supplémentaire et sur les médicaments afin de préserver la santé des membres de la famille.

Assessment

Each student's contributions can be observed and recorded anecdotally by the teacher. A rubric is provided that can be used for assessment/evaluation purposes by the teacher.

Sustainable Solutions

Student's Name: _____

Criteria	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding	Demonstrates limited knowledge of content	Demonstrates some knowledge of content	Demonstrates considerable knowledge of content	Demonstrates thorough knowledge of content
	Demonstrates limited understanding of concepts	Demonstrates some understanding of concepts	Demonstrates considerable understanding of concepts	Demonstrates thorough understanding of concepts
Thinking	Uses processing skills with limited effectiveness	Uses processing skills with some effectiveness	Uses processing skills with considerable effectiveness	Uses processing skills with a high degree of effectiveness
	Uses critical/creative thinking processes with limited effectiveness	Uses critical/creative thinking processes with some effectiveness	Uses critical/creative thinking processes with considerable effectiveness	Uses critical/creative thinking processes with a high degree of effectiveness
Communication	Expresses and organizes ideas and information with limited effectiveness	Expresses and organizes ideas and information with some effectiveness	Expresses and organizes ideas and information with considerable effectiveness	Expresses and organizes ideas and information with a high degree of effectiveness
Application	Applies knowledge and skills in familiar contexts with limited effectiveness	Applies knowledge and skills in familiar contexts with some effectiveness	Applies knowledge and skills in familiar contexts with considerable effectiveness	Applies knowledge and skills in familiar contexts with a high degree of effectiveness
	Makes connections within and between various contexts with limited effectiveness	Makes connections within and between various contexts with some effectiveness	Makes connections within and between various contexts with considerable effectiveness	Makes connections within and between various contexts with a high degree of effectiveness