

# Global Citizenship in Fisheries and Aquaculture

## To the teacher: RESOURCE OVERVIEW

### **Welcome to the Global Citizenship in Fisheries resource!**

This on-line educational resource is a unique opportunity for middle school teachers and their students to achieve prescribed learning outcomes (PLO's) through the exploration of international development issues. A series of lessons present three different countries that are "off the beaten track" – Mozambique, Bolivia and Malawi, and engage students in activities that address topics such as culture, history, geography, resource-based economies, community, environmental sustainability and gender roles, as well as how they relate back to local Canadian realities.

The activities foster an understanding of how communities in different societies engage with their environment to create sustainable livelihoods. An examination of history and current realities create opportunities to see how social justice, economics, human nature, biology, history and international affairs are interwoven to build the world we live in. Fisheries and aquaculture form a particularly interesting "lens" through which these issues are explored. Exercises carry students through active personal experiences of youth and families in the countries, development workers, and the students themselves.

The lessons – available in both English and French - are designed for a range of middle school subject areas, with particularly strong links to the British Columbia Prescribed Learning Outcomes for Social Studies of Grades 6 and 8.

Activities utilize a variety of teaching and learning styles including case studies, exploration of stereotypes, research and web-based resources, games, simulations, personal stories of community members and development workers, and the design of a new development project. The lessons were created with input from development workers and teachers, drawing on real-life experiences.

The 15 lessons are organized into four units which can be used individually or together. Lesson plans, black-line activity sheets, reference materials, extension activities, and links to relevant PLO's are included in each module. Key concepts provide a framework to help plan teaching units, guide the integration of activities into several subjects, and help students monitor their own learning.

The resource development was supported by the Canadian International Development Association (CIDA)'s Global Classroom Initiative.

### **Conceptual Framework**

The resource was developed based on the following ‘big ideas’ or key concepts, which provide a framework for each unit. They can be used to plan a teaching unit, guide the integration of activities into several subjects, and help students monitor their own learning.

The **main goal** of the resource is to foster an overall understanding of how communities engage with their environment to create sustainable livelihoods, ***through having students:***

- Explore other countries and cultures and how communities make their livelihoods, in order to broaden students’ perceptions of their place in the world.
- Encourage exploration and clarification of their own values and beliefs through developing an awareness of the diversity and scope of different cultures and livelihoods.
- Examine fundamental issues, choices and challenges in relation to fisheries and aquaculture development and the environment faced by individuals, communities and nations.
- Explore alternative views and different approaches to sustainable fisheries development in communities at home and in different countries.
- Support an understanding that the resource management problems faced by communities and nations are unique, but also similar in many ways to our own.
- Promote student awareness, understanding and action in supporting sustainable community-based projects both at home and overseas.

### **Organization of the Resource: A “Map” to the Guide**

The resource contains four main units – an introductory unit describing the diversity of seafood and its sources, followed by one unit each on the three countries profiled.

This “map” provides an index of the activities and information contained within each unit.

## **INTRODUCTION to SUSTAINABLE FISHING**

### **LESSON 1: Where in the world does my seafood come from?**

*ACTIVITY 1: Seafood Survey Development*

*ACTIVITY 2: Field Trip to the Seafood Section!*

*ACTIVITY 3: Mapping the Results*

## **LESSON 2: How does seafood get to the store and on to my table?**

- ACTIVITY 1: Types of fisheries and aquacultures*  
*ACTIVITY 2: Distribution of resources and threatened or abundant status?*  
*ACTIVITY 3: "Seafood Journey" - from capture or culture to retail*  
*ACTIVITY 4: "Seafood Journey continued" - from capture or culture to sales*

## **MOZAMBIQUE**

### **LESSON 1: Introduction to Mozambique and its history**

- ACTIVITY 1: History, fisheries & foreign development*  
*ACTIVITY 2: Colonialism: map exercise*  
*ACTIVITY 3: Colonialism: role playing*  
*ACTIVITY 4: What are appropriate development aid strategies? How do history and fisheries relate to poverty?*  
*ACTIVITY 5: Canada's role in Mozambique*

### **LESSON 2: Fishing Families in Mozambique**

- ACTIVITY 1: Types of fisheries and aquacultures*  
*ACTIVITY 2: Meet the Family of Fisher Rui Antonio Matibe*  
*ACTIVITY 3: "The Fish Bowl" simulation game – Part 1*  
*ACTIVITY 4: Be a Fisheries Development Consultant*  
*ACTIVITY 5: Recipe Search*

### **LESSON 3: Comparing Lives - Children and Youth in Fishing Communities of Mozambique**

- ACTIVITY 1: Creating a list of rights that children are allowed to have*  
*ACTIVITY 2: Comparing lives: the rights of Children*  
*ACTIVITY 3: Comparing Lives: Venn Diagrams*  
*ACTIVITY 4: Comparing Lives: Lifestyle Data*  
*ACTIVITY 5: Supporting Children in Mozambique*

### **LESSON 4: Comparing Lives - Men and Women in Fishing Communities in Mozambique**

- ACTIVITY 1: Gender Expectations.*  
*ACTIVITY 2: Maria Dgambo's story*  
*ACTIVITY 3: Introduction to the AIDS pandemic in Africa.*  
*ACTIVITY 4: Sergio Machel's Story*  
*ACTIVITY 5: Making Handbooks on Gender Equity and AIDS*

### **LESSON 5: Canada's Contribution to Mozambican Fishing Communities**

ACTIVITY 1: *Introduction to CIDA and its work in Mozambique fishing communities*

ACTIVITY 2: *Interview with Ed Dumford, Marine Institute of Memorial University*

ACTIVITY 3: *Introduction to the SOED project & the Centre for Global Studies, UVic*

### **LESSON 6: Taking Action - Sustainability, Climate Change and Fair Trade**

ACTIVITY 1: *Introduction to Climate Change*

ACTIVITY 2: *Climate change & Mozambican fishing communities*

ACTIVITY 3: *An introduction to Fair Trade*

ACTIVITY 4: *"The Fish Bowl" simulation game, Part 2.*

ACTIVITY 5: *"Students, Take action!"*

### **LESSON 7: Mind mapping & Seafood Feast**

ACTIVITY 1: *Mind mapping concepts*

ACTIVITY 2: *Preparing the Feast!*

## **MALAWI**

### **LESSON 1: Introduction to Malawi**

ACTIVITY 1: *Discussion of stereotypes and history*

ACTIVITY 2: *Colonization: Create a poster*

ACTIVITY 3: *Development: Essay and journaling*

ACTIVITY 4: *Geography: mapping, filling in a fact sheet, discussion*

### **LESSON 2: Canadian Developmental Aid in Malawi**

ACTIVITY 1: *Canada's contributions to Malawi well-being*

### **LESSON 3: Helping Malawan Fishing Families**

ACTIVITY 1: *Meet a Malawian family*

ACTIVITY 2: *Meet a Canadian who is helping Malawians*

## **BOLIVIA**

### **LESSON 1: Introduction to Bolivia**

ACTIVITY 1: *Adventure & Hands-on Research in Bolivia*

ACTIVITY 2: *Fishing Villages and Geography of Bolivia*

ACTIVITY 3: *A Day with Maximo Catari – Fishing in Lake Titicaca*

ACTIVITY 4: *Are Fish Important*

### **LESSON 2: Adventures in Bolivia - On our way!**

ACTIVITY 1: *CIDA in Bolivia: Scavenger Hunt*

ACTIVITY 2: *Planning the first trip to Bolivia*

**LESSON 3: Adventures in Bolivia - getting to know and help San  
Buenaventura: an Amazonian fishing community**

*ACTIVITY 1: Meeting with Marcos*

*ACTIVITY 2: Dilma's village project*

*ACTIVITY 3: Helping the Fisher's Association*

# Global Citizenship in Fisheries and Aquaculture

## INTRODUCTION TO SUSTAINABLE FISHING

This chapter sets the stage for country-specific chapters by exploring the diversity of seafood available to us, and where it all comes from. Students become aware of the global connections behind this food, that people are involved, and that we, as consumers, are also part of the story.

The activities will also introduce the students to two crucial issues:

- 1) Assessing **abundance** and building **sustainability**;
- 2) Connecting with **people** involved in fishing and aquaculture.

Real people are fishing and carrying out aquaculture. These activities are often much more than a means to make a living: in many countries, fisheries and aquacultures serve far more than a strictly economic function – they are a lifeline to surviving poverty. They can also be the basis of huge economic empires. However, there are natural limits on what can be fished or grown. Management and development strategies need to deal with both these human and biological elements.

By going through this chapter, students start applying critical skills and are better prepared to make informed decisions.

### Lessons

- 1 Where in the world does my seafood come from?
- 2 How does seafood get to the store and onto my table?

# Global Citizenship in Fisheries and Aquaculture

## INTRODUCTION TO SUSTAINABLE FISHING

### Lesson 1

#### Where in the world does my seafood come from?

##### In this lesson, students will learn to:

- Survey what kind of "seafood" is found in grocery stores and fish markets.
- Understand that the term "seafood" can refer to many different freshwater and marine animals and plants used as food.
- Understand that seafood comes from all over the world and locally.
- See that seafood is available in stores in a variety of forms such as fresh, frozen, dried and canned.
- Make appropriate inferences and conclusions, including that we live in a world that is vastly interconnected but that there are also treasures close by.

##### Overview:

Students will investigate where the seafood comes from that is in the local grocery stores and on their table. This will demonstrate how the world is interconnected, how seafood can come from far away or from next door, and how this influences how fisheries and development are managed.

At a local supermarket, the students investigate the fresh, frozen, canned, and dried fisheries products and the countries that they come from. In the classroom, they will gather their findings by tabulating and graphing the results, checking the atlas to find the countries of origin, and highlight their results on a world map. After this, they talk about how much of the fish and other seafood has come, or could come from the local region.

The final part of the lesson asks the students to draw conclusions. Fact sheets are included to provide the necessary background information in case the teacher chooses to skip the field trip to the store and do the whole activity in class.

Throughout the unit and starting in this lesson, the students will be keeping a journal that will highlight their personal impressions and insights. They will also be collecting seafood recipes that will be put into a booklet and can be used in the final lesson.

##### Subject(s):

Social Studies, Mathematics

**Skills:**

Gather, interpret and present information

**Prescribed Learning Outcomes:**

[See Appendix](#)

**Time Required:**

3 activities, 45 to 90 minutes each

**Activities:**

1. [Seafood Survey Development](#)
2. [Field Trip to the Seafood Section](#)
3. [Mapping the Results](#)

**Suggestions for Extensions:**

[See Appendix](#)

**Materials and References:**

See individual activities or [Appendix](#)



# Activity 1

## Seafood Survey Development

### Method:

Students brainstorm about different types of seafood, and then design a survey sheet to record them at their local supermarket.

### Time Required:

45-60 minutes

### Materials:

[Sample survey sheet](#)

### References:

[List of aquatic foods available in two Canadian grocery stores](#)

[Data on various aquatic species](#)

### Procedure:

1. Introduce a short discussion by asking the question: "Where do you think the seafood you eat at home or restaurants come from?" Many might never have thought about this. It might be interesting to list some of the students' answers on the board.
2. As a class or in small groups, make a list of all the different "seafood" the students have eaten, and then add all other items that they know might be available at the supermarket even if they haven't eaten them personally. Discuss what the term "seafood" means to the students, and what it includes. An internet search on definitions could be done, or they could refer to the list provided. Note that "seafood" is generally used to refer to all food that comes from the water – including food that comes from freshwater, not only the ocean. It also includes fish, crustaceans (crabs, shrimp, prawns), seaweed, molluscs (clams, oysters, squid, octopus).
3. As a class, design a survey form by creating a master list with broad categories such as types of "seafood" (e.g. fish, mollusks, crustaceans and algae), how they are sold (fresh, frozen, dried or canned) and where they originally came from. Refer to the [sample survey sheet](#) for ideas.

4. Make copies of the survey form and distribute it for use in the next class (Activity 2), or simply use the [sample survey form](#) provided here. Explain how the data will be recorded and how the survey in the store will be carried out (see Activity 2).

## Activity 2

### Field Trip to the Seafood Section

#### **Method:**

At their local supermarket, small groups of students collect data on seafood types. The exercise can also be done in class using suggested internet references.

#### **Time Required:**

60-90 minutes

#### **Materials:**

Survey sheet from Activity 1

#### **References:**

(If the teacher opts to have students do research in class):

[Department of Fisheries and Oceans](#)

[FAO fact sheets and web pages](#)

[David Suzuki Foundation](#)

[World Wildlife Fund](#)

[Ocean Wise - Vancouver Aquarium](#)

[Seafood Watch - Monterey Bay Aquarium](#)

[Sea Choice](#)

#### **Procedure:**

1. Arrange with the manager of a local supermarket to allow your students to visit the store and collect data about what seafood products are available and where they came from. Ask if the students could interview staff in the seafood department and check the aisles for canned and dried food.
2. If you would rather do the activity in class, you can proceed with the data collection using the fact sheets found in the appendices. You could also use web sites (see resources).

3. Divide the class into small investigating teams of 4 to 5 students. You might want to assign each student a particular role such as the team leader, the interviewer, the recorder, the reader of labels, etc. The roles of the students could be rotated during the exercise.
4. Proceed with the data collection. Tell your students ahead of time about your expectations and how their work will be evaluated.

## Activity 3

### Mapping the Results

#### Method:

Students chart their survey findings and create a map showing the origin of various seafood. They then record what they have learned in journals. An optional exercise charting some of the data is included.

#### Time Required:

60-90 minutes

#### Materials:

Chart paper

[Blank map of world](#) - for each student

Transparency of the blank world map

World atlas - for each student

Graph paper

Student journal

#### Procedure:

1. Back in class; ask each team to report on their findings from their survey. On chart paper, list each product surveyed, in what form they were sold (fresh, frozen, dried, canned) and what country they came from. Price can also be registered to contribute to the discussion later.
2. Hand out to each student a copy of the [blank map of the world](#). Using an atlas and designing their own symbols for each species, the students can write and draw on the map where the species came from.
3. If time permits, have the students graph some of their findings. For instance, the graph could show the number of items found for each country (names of countries on the x-axis and the number of seafood items per country on the y-axis). If the store can provide the

data, the students could also graph what percentage of seafood came from the different countries -for instance, 30% is from Canada, 25% from the USA, 10% from Thailand, etc.

4. Also tabulate the products that came from within 100, 200, 500, 1000 miles of the school (and equivalent in kilometers). Reference can be made to the 100 mile diet as an extension activity.
5. To conclude this lesson, ask the students to write about what they discovered from doing the store survey. A special journal for all lessons in this resource could be used. Start with a class discussion that could include questions such as:
  1. What surprised you the most?
  2. What did you find out that you didn't know before?
  3. Do you have a favourite seafood?
  4. Do you think that all the seafood we eat actually comes from the sea?
  5. If not, where else could it be coming from?
  6. Why do you think we tend to say 'seafood' for all animals and plants that we eat that come from the water?
  7. From the results of your investigation, what do you think it means when we talk of the world as a 'global village'?
  8. How does "buying local" fit in with the seafood market? How do you think this affects the "global village"? Are the price different? How much was probably invested in transportation?

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed learning Outcomes:

(Refer to PLO Table)

### Suggestions for Extensions:

**Math:** ask your students to find out how far the different seafood items had to travel before ending up in the store and at the dining table. Have the students add the distances on their map. This particular suggestion is further developed in lesson two.

**Visual Arts:** have students design posters advertising different seafood products found in their local supermarket.

**Home Economics:** start collecting different seafood recipes from different part of the world.

### Materials and References:

#### Activity 1: Seafood Survey Development

##### Materials:

[Sample survey sheet](#)

##### References:

[List of aquatic foods available in two Canadian grocery stores](#)

[Data on various aquatic species](#)

#### Activity 2: Field Trip to the Seafood Section

##### Materials:

Survey sheet from Activity 1

**References:**

(If the teacher opts to have students do research in class):

[Department of Fisheries and Oceans](#)

[FAO fact sheets and web pages](#)

[David Suzuki Foundation](#)

[World Wildlife Fund](#)

[Ocean Wise - Vancouver Aquarium](#)

[Seafood Watch - Monterey Bay Aquarium](#)

[Sea Choice](#)

**Activity 3: Mapping the Results**

**Materials:**

Chart paper

[Blank map of world](#) - for each student

Transparency of the blank world map

World atlas - for each student

Graph paper

Student journal



# Global Citizenship in Fisheries and Aquaculture

## INTRODUCTION TO SUSTAINABLE FISHING

### Lesson 2

#### How does seafood get to the store and on to my table?

##### In this lesson, students will learn to:

- Become familiar with some of the different types of fisheries and aquaculture practices found throughout the world
- Look at worldwide distributions of water based food resources and follow their journey from the catching and raising to the processing and to the selling
- Understand how some practices are sustainable and others are not
- Become aware that for many people in the world, fisheries and aquacultures are much more than a livelihood
- Use critical thinking and informed decision making

##### Overview:

In lesson one, the students investigated where the seafood they buy at the local supermarkets came from. They became aware of the global connections that bring food to their table, and how as consumers, they can make decisions on what to buy and be part of the global connections.

Lesson two will give students the opportunity to do a more in-depth investigation of the global village as they explore some of the many different types of fisheries and aquaculture practices around the world. They will also be introduced to the chain of events that bring the seafood to their tables, from the catching or growing, to the processing distribution, marketing and selling.

The activities found in lesson two will also introduce the students to two crucial issues.

1) Sustainability and some of the effects that different types of fisheries and aquaculture practices have on water-based ecosystems. They will look back at the results of their surveys and analyze which species are threatened, which are abundant, which are caught or raised in a sustainable fashion. By going through this process, the students can start applying critical skills and make informed decisions.

2) Connecting with other human beings. Real people are fishing and doing aquaculture. Moreover, these activities are often much more than a means to make a living: in many countries, fisheries and aquaculture serve far more than a strictly economic function.

Lesson two is a springboard to lessons about the different countries, where we start looking at the lives of fishers and aquaculturists in Mozambique, Malawi, and Bolivia. The lessons for each country have a slightly different focus or approach, but in general illustrate how many people in the world rely on the seas, lakes and rivers, not only to survive, but also as an integral part of their lives with all its challenges.

\*You might feel the need to reduce the time spent on the first three activities of this lesson, but activity four is important as a link to the country-specific lessons.

### **Subject(s):**

Social Studies, Science

### **Skills:**

Gathering, reading for information, interpreting and presenting information, analyzing data, mapping

### **Prescribed Learning Outcomes:**

[See Appendix](#)

### **Time Required:**

4 activities, 30 to 60 minutes each

### **Activities:**

1. [Types of fisheries and aquacultures](#)
2. [Distribution of resources and threatened versus abundant status](#)
3. ["Seafood Journey" - from capture or culturing to retail](#)
4. ["Seafood Journey continued" - from capture or culturing to sales](#)

### **Suggestions for Extensions:**

[See Appendix](#)

## **Materials and References:**

See individual activities or [Appendix](#)

# Activity 1

## Types of fisheries and aquacultures

### Method:

Following the K-W-L strategy (“what I Know, what I Want to learn, and what I did Learn)<sup>1</sup> and journaling, students initiate the investigation of how seafood is caught and raised. The “jigsaw” method is then used to disseminate information on fact sheets about various fishing and aquaculture techniques. Students draw one of the techniques in their journal and then discuss what they learned.

### Time Required:

60 minutes

### Materials:

Student journals

Fact sheets on types of fisheries and aquaculture:

[Aquaculture](#)

[Artesanal Fishing](#)

[Cast Net](#)

[Industrial Fishery](#)

[Long lining](#)

[Seining](#)

[Subsistence Fishing](#)

[Trap Fisheries](#)

[Trawling](#)

[Trolling](#)

Monterey Bay Aquarium fishing fact sheets from "[Seafood Watch](#)"

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<sup>1</sup> [https://www.msu.edu/course/cep/886/Reading%20Comprehension/7Learn\\_Serv\\_Proj\\_KWL.html](https://www.msu.edu/course/cep/886/Reading%20Comprehension/7Learn_Serv_Proj_KWL.html)

[Dredging and Gillnetting](#)

[Harpooning and Hook & Lining](#)

[Open Net Pens, Cages and Ponds](#)

[Raceways and Recirculating systems](#)

[Shellfish Culture](#)

[Alaskan commercial fisheries](#)

## **Procedure:**

1. Start the lesson by reviewing with the class what has been learned so far by asking questions such as:
  1. "What did we find out last time about where the seafood we eat comes from?"
  2. "From what parts of the world do we get our seafood?"
  3. "Does most of the seafood we eat come from Canada or from other countries?"
2. Explain that today they will further pursue their investigation, this time focusing on how the seafood we eat is brought to the store and their table.
3. Using the K-W-L strategy, create a large chart on the board divided into the K, W and L sections. Give the students a few minutes in their journal to consider the following questions:
  1. What do you know about how the seafood that we eat is caught and raised? Write in point form everything you know about fisheries and aquaculture, including any of your own experiences
  2. What would you like to know about fisheries and aquaculture? Make a list of all your questions.
4. As a class, fill out the chart on the board, putting together everything that the students know and what they would like to know.
5. Using the "jigsaw" strategy, divide the class into "home" groups. Hand out a different fact sheet about a particular fishing or aquaculture technique to each student in a group. Once they have their sheet, they will regroup into "expert" groups in which all the students with the same card will get together and learn about the fishing or aquaculture technique they have been assigned. Give them approximately 20 minutes to become an "expert" in that technique.
6. After 15-20 minutes, send the students back to their "home" group, where they will teach each other about what they have learned. In their journal or some other paper (that will go into their portfolio), tell the students to draw a diagram of one of the techniques they learned about from one of their teammates.
7. End the activity with a discussion on what was learned today, filling in the final column of the K-W-L table. Each student can then write in their journal their thoughts and feelings

about what they discovered. You might want them to also write something about how the process went in their "expert" and "home" groups.

## Activity 2

### Distribution of resources and threatened versus abundant status

#### **Method:**

Using [Aquatic species ID cards](#), groups of students sort species by their abundance status. This information is then added to materials created from previous lessons (map, data chart). The lesson is concluded with a group discussion.

#### **Time Required:**

60 minutes

#### **Materials:**

Data sheet and world map from Lesson #1 survey

[Aquatic Species ID Cards](#)

#### **References:**

[Sustainability of many fishing methods \(chart\)](#)

[Department of Fisheries and Oceans](#)

[FAO fact sheets and web pages](#)

[David Suzuki Foundation](#)

[World Wildlife Fund](#)

[Ocean Wise - Vancouver Aquarium](#)

[Seafood Watch - Monterey Bay Aquarium](#)

[Sea Choice](#)

#### **Procedure:**

1. Start the activity by asking the students if they know about the abundance of some of the seafood they eat, that is: are there lots of the animal or plant available, or are they rare?

Can they give examples? For instance, they might know something about the state of the salmon on the West coast of Canada. Today they will investigate how abundant or rare seafood is.

2. Ask the students to get their "global project" portfolio and take out their world map and the data sheet they collected from their local supermarket.
3. Give each home group a set of **I.D. cards**. Ask them to each divide a sheet of paper into 3 sections: name of species, abundance status (abundant, declining, or threatened), and the method used for catching or growing it
4. Each member of the group will then take a card and fill out the columns on their sheet. The cards are passed around until every group member has had a chance to record the information from each of the cards.
5. On their world map, ask them to design special symbols to show which species are abundant, declining in abundance, or threatened with extinction.
6. To conclude the activity, have a short class discussion, asking questions such as:
  1. What are the species that appear to be doing well?
  2. What are the species that are threatened?
  3. Is there a link between their abundance status and the way they are caught?
  4. What do you think we mean when we say that the way people fish is sustainable or not?



## Activity 3

### "Seafood Journey" - from capture or culture to retail

#### Method:

Using chart paper, as individuals or in groups, students will map the journey of a type of seafood.

#### Time Required:

60 minutes

#### Materials:

Chart paper

[World Map](#)

The "Seafood Journey" for 2 types of seafood:

[Mussel seafood journey](#)

[Tilapia seafood journey](#)

#### Procedure:

1. Start the by reviewing what the students discovered in Activity #1.
2. Ask them if they have any ideas of what happens after the seafood is caught or raised. They might have made some connections at the store in that the seafood is sold in a variety of ways, including fresh, frozen, canned, etc. They might also know about the different levels of industries: primary, secondary and tertiary.
3. Hand out chart paper and the "[Seafood Journey](#)" activity sheets. Each team will be responsible to map the journey of one type of seafood. Encourage them to draw, add diagrams and arrows to show the flow in the journey. Some journey suggestions are: salmon sold fresh in stores, tuna or sardines sold as canned food, oysters from aquaculture, or smoked salmon from a local source or from Sweden. The map could be divided into the primary industry (fishing, growing), secondary (processing, canning, freezing, drying, smoking) and tertiary (marketing, distributing, advertising, selling). Instead of a home group activity, you might want to have students work in pairs or individually.

4. Once the work is completed, post the maps up in the classroom and review them with the class.

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## Activity 4

### “Seafood Journey continued” - from capture or culture to sales

#### Method:

Students imagine the life of a far away fisher or aquaculturist, with class discussion and journaling.

#### Time Required:

30 minutes

#### Materials:

Student journal

#### Procedure:

1. Start a class discussion using the following questions:
  1. Do you have in your mind a picture of what a fisher or aquaculturist might look like? Share with the class.
  2. Do you personally know people who are fishers or aquaculturists? Talk about it.
  3. We have discovered as a class that some of the seafood found at the local supermarket came from very far away. Imagine a fisher or aquaculturist from one of these far away places. What do you think that person is like? What is his or her life like?
2. Have the students write in their journal an entry describing the life of a person from a far away country whose livelihood has to do with catching or raising seafood. Tell them to imagine a day in the life of that person. They can include details about the family of that person.

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed learning Outcomes

(Refer to PLO Table)

### Suggestions for Extensions:

**Math:** Ask your students to find out how far the different seafood items had to travel before ending up in the store and at the dining table. Have them figure out the distance it took for one species from catching or growing it, to processing it, canning it, distributing it and selling it. For instance, the tuna caught 1,000 km away from Canada might have journeyed another 4,000 km to be processed or canned and to go through a centralized distribution centre. The cans might have been made in a different place and the labels might have been printed in yet another place. These distances could be added to their world map or they could be provided with another world map and they could trace the journey of one particular species.

The students might be amazed to discover how far the seafood has traveled before ending up on their kitchen table. This could lead to a discussion on the impact such journeys have on the health of the planet, for instance how much pollution is created by trucking or flying seafood products from far away places. In subsequent lessons, opportunities for such discussions will be provided. An excellent resource to investigate this further is the book "Stuff - The Secret Lives of Everyday Things" by John C. Ryan and Alan Thein Durning from the Northwest Environment Watch. A curriculum and resource guide is also available to facilitate the use of this book in the classroom.

**English and Computing Technology:** have the students make more I.D. cards, following the model of the cards provided with the lesson.

### Materials and References:

## **Activity 1: Types of fisheries and aquacultures**

### **Materials:**

Student journals

Fact sheets on types of fisheries and aquaculture:

[Aquaculture](#)

[Artesanal Fishing](#)

[Cast Net](#)

[Industrial Fishery](#)

[Long lining](#)

[Seining](#)

[Subsistence Fishing](#)

[Trap Fisheries](#)

[Trawling](#)

[Trolling](#)

Monterey Bay Aquarium fishing fact sheets from "[Seafood Watch](#)"

[Dredging and Gillnetting](#)

[Harpooning and Hook & Lining](#)

[Open Net Pens, Cages and Ponds](#)

[Raceways and Recirculating systems](#)

[Shellfish Culture](#)

Alaskan commercial fisheries

## **Activity 2: Distribution of resources, threatened or abundant status**

### **Materials:**

Data sheet and world map from Lesson #1 survey

[Aquatic Species ID Cards](#)

**References:**

[Sustainability of many fishing methods \(chart\)](#)

[Department of Fisheries and Oceans](#)

[FAO fact sheets and web pages](#)

[David Suzuki Foundation](#)

[World Wildlife Fund](#)

[Ocean Wise - Vancouver Aquarium](#)

[Seafood Watch - Monterey Bay Aquarium](#)

[Sea Choice](#)

**Activity 3: "Seafood Journey"- from capture or culturing to retail****Materials:**

Chart paper

[World Map](#)

The "Seafood Journey" for 2 types of seafood:

[Mussel seafood journey](#)

[Tilapia seafood journey](#)

**Activity 4: "Seafood Journey continued" - from capture or culturing to sales****Materials:**

Student journal

# Global Citizenship in Fisheries and Aquaculture

## MOZAMBIQUE

Mozambique is a beautiful country in south-eastern Africa with diverse people, many natural resources, a history of colonization and a recent long civil war, several recent natural disasters, and a pandemic of AIDS. However, it is also considered in many ways to be an African “poster country” for improvement and international assistance that is making a difference.

Students start by examining the history of Mozambique to better understand the Mozambique of today and to think critically about how they view Africa. Topics considered in the next lessons range from colonization and human rights to climate change, with a particular focus on how these affect real people – in particular the rural poor that depend on fishing.

### Lessons

- 1 Introduction to Mozambique and its history
- 2 Fishing Families in Mozambique
- 3 Comparing Lives - Children and Youth in Fishing Communities of Mozambique
- 4 Comparing Lives - Men and Women in Fishing Communities of Mozambique
- 5 Canada's Contribution to Mozambican Fishing Communities
- 6 Taking Action - Sustainability, Climate Change and Fair Trade
- 7 Mindmapping & Seafood Feast

# Global Citizenship in Fisheries and Aquaculture

## MOZAMBIQUE

### Lesson 1

### Introduction to Mozambique

#### **In this lesson, students will:**

- Become familiar with the history of Mozambique
- Understand factors that affect the development and/or underdevelopment of a country
- Become aware that for many countries in the world, especially in Africa, colonization played and continues to play a significant role in development
- Use critical thinking and learn about cross-cultural understanding and global citizenship

#### **Overview:**

Students will examine the history of people in Mozambique to better understand the Mozambique of today. The activities will provide background knowledge for further studies of fisheries and aquaculture in Mozambique in other lessons.

Students will be encouraged to think critically about how they view Africa in the world, and to discuss the development of a country that has gone through the process of colonization and independence. Through role-playing, students will reflect on the colonization experience and racial discrimination. Students will reflect on their own country and draw comparisons between Canada and Mozambique, proposing how the different histories of Canada and Mozambique have affected development in these two countries.

#### **Subject(s):**

Social Studies

#### **Skills:**

Gathering information, presenting information, reflecting, critical thinking

#### **Prescribed Learning Outcomes:**

[See Appendix](#)



**Time required:**

5 activities, 20-60 minutes each

**Activities:**

1. [History, fisheries & foreign development](#)
2. [Colonialism: map exercise](#)
3. [Colonialism: role playing](#)
4. [What are appropriate development aid strategies? How do history and fisheries relate to poverty?](#)
5. [Canada's role in Mozambique](#)

**Suggestions for Extensions:**

[See Appendix](#)

**Materials and References:**

See individual activities or [Appendix](#)

# Activity 1

## History, fisheries & foreign development

### Method:

Students will read about and discuss causes of poverty and development/underdevelopment within the context of Mozambique history. They will also role-play by composing a letter describing this life.

### Duration:

30 minutes

### Materials:

[A Brief History of Mozambique](#)

### Procedure:

1. Discuss the very difficult challenge of trying to solve the problem of poverty with students, particularly in the least developed nations. Suggested questions include:
  1. Why are less developed nations, less developed?
  2. Are people different in the different countries?
  3. How are situations different?
  4. How can we help?
2. Ask students what they think this could mean in the context of reducing poverty and other UN Millennium Development Goals. Encourage discussion and brainstorm ideas of the different “parts” of the problem to consider, including geography, economy, health, resources, and conflict.
3. Continue the lesson by explaining that in this lesson you are going to look at the difficult question of underdevelopment (or less development) by studying Mozambique.
4. Hand out copies of the background material: [A Brief History of Mozambique](#), and give students time to read it and go over it as a group.
5. Initiate a class discussion on some of the topics brought up in this background paper, for instance:

- The concept of hunting and gathering, compared to a pastoral or agrarian way of life. Ask how these different lifestyles might affect concepts such as land ownership, entitlement, conflicts over resources.
  - The slave trade and its implications then and now.
  - The colonization of Canada by Britain and France.
6. Compare our history to that of the Mozambique experience. What are the similarities and differences between what Africans experienced after Europeans arrived, and what the aboriginal people of North America experienced? Themes to consider might include resources, trade routes and transportation, exploitation of native people, racism, technology (including weapons), diseases encountered on both sides of the colonial equation, and other topics students might suggest.
7. Have students compose a letter from the point of view of a child of a Portuguese immigrant living in Mozambique during the colonial era. Imagine that he/she is writing home to a cousin in Lisbon, describing what day-to-day life is like for them in Africa.

## Activity 2

### Colonialism: map exercise

#### Method:

A mapping exercise of Africa allows students to understand migration and colonization patterns, and their effect upon native peoples.

#### Duration:

45-60 minutes

#### Materials:

[Map of Africa](#)

[Map of Africa with European colonial claims](#)

#### Procedure:

1. Ask students if they can name African countries that were colonized around the time that the Portuguese took over Mozambique, and by whom. Make a list of these on the board, to see what they know before doing their research. Hand out a [blank map of Africa](#), and using the web resource below, have students draw and label the map to show how Europe divided up Africa. Compare this map to the present day map of the African continent. Are there more or fewer countries now? How and where have the borders between countries changed?
2. Have students research the Bantu migration patterns in ancient Africa that led to their settlement in what is now Mozambique. Portray these migratory patterns on a map. Consider also the trade routes set up by traders from Arabia. How did the European colonizers take over lands in Africa? How was this different from earlier colonization patterns? What advantages did the European colonizers have that facilitated this takeover?
3. Consider this statement from the background paper: "The needs, points of views, and desires of colonized African countries were not considered or valued." How has this changed/not changed over time?

## **Activity 3**

### **Colonialism: role-playing**

#### **Method:**

Students role-play in two groups, to experience 'colonization' from both sides (colonizer and colonized societies).

#### **Duration:**

45 minutes

#### **Materials:**

Poster boards

Internet resources

#### **Procedure:**

1. Ask students "What would happen if your neighbourhood, school or classroom was colonized?" Randomly select 4-5 students. Have them go to one side of the room and come up with their "founding society" on a poster board. Ask students to include a name, way of living, language, industries, products, education and health care systems, etc.
2. Assign the rest of the class as "colonizers" (you may want to divide the colonizer group into smaller groups to encourage more individual participation). Tell them to develop a description of their own group, and a plan to colonize a smaller group including how they will use the groups' members, what kind of activities they will encourage and why it will be a good thing.
3. Have the founding group present their culture and the "colonizers" present their plan and justifications for colonization. Allow each group 5 minutes to reflect on the other groups' work and then present their perceptions of each other. If time allows, the roles could subsequently be reversed. Discuss what it means to be in each of the groups, how the mutual view of each other and distribution of power has contributed to underdevelopment, racism, and intolerance. Make sure to adequately debrief and discuss the importance of cultural acceptance, respect, and diversity so that students in the colonized group are not left feeling upset or vulnerable.
4. Discuss/Explain racism. How do you think racism affected Mozambicans during the colonial era? How do you think the pre-existing ethnic strife between the Bantu Kingdoms

would have affected these race relations? How do you think that racism affects Mozambique today?

**Note to teachers:** you might want to address the stereotypes we have regarding Africa, for example, that there are some villages that exist as they have for a long time, but also there are many different types of human settlements including modern cities. Africa is often considered backwards, poor, and in need of help- and portrayed this way in the media, resulting in the continuation of these stereotypes. Encourage students to think critically about their sources of information and to keep an open mind when considering cultures and nations other than their own.

## Activity 4

### What are appropriate development aid strategies?

### How do history and fisheries relate to poverty?

#### Method:

With class discussion, students explore the issues of development aid strategies and how fisheries relate to poverty.

#### Duration:

20 minutes

#### References:

[Mozambique Fishery Overview - FAO](#)

[Vulnerability Guide - DFID](#)

[Livelihood Approach – DFID](#)

#### Procedure:

1. Discuss the following questions with the class:

**1. What are appropriate development aid strategies?**

Current living conditions in any country are a combination of a variety of factors, as explored in the previous lessons. However, while it is easier to look at macro-influences such as colonization or independence movements, the effects at the grass-roots level may be quite different. It is also tempting to build international aid strategies on pity for current situations elsewhere, seen through our own eyes and expectations of what is important in life. Unfortunately, such strategies may help resolve emergency situations, but on their own do not appear to be sustainable solutions.

A big problem is that this approach can create continual cycles of dependence on outside help that may or may not be appropriate for the local situation. More recently, programs consider an evaluation of locally relevant cultural, environmental, and economic assets and build on these in a fashion that tries to increase the resilience of “livelihoods” – the combination of income and other sources of sustenance that keeps a person or family going. These strategies include buzzwords like “[Livelihood Approaches](#)” and “Appreciative Inquiry”.

“Appreciative Inquiry” is based very much on starting out by recognizing the capabilities and resources an individual (or group) has, rather than focusing too much on what is deficient. This is an essential component to building an individual's self-esteem and capacity to pursue solutions for themselves, rather than depending too much on inputs from outside.

A key basis to the “[Livelihood Approach](#)” is a pentagon that describes a person's situation:

**H** = human capital: skills, knowledge, health and ability to work

**S** = social capital: social resources, including informal networks, membership of formalized groups and relationships of trust that facilitate co-operation

**N** = natural capital: natural resources such as land, soil, water, forests and fisheries

**P** = physical capital: basic infrastructure, such as roads, water & sanitation, schools, tools and equipment

**F** = financial capital: financial resources including savings, credit, and income from employment, trade and remittances

Impacts on this pentagon (or “vulnerability context”) are considered as primarily:

**trends:** such as economic trends, resource trends – including climate change

**shocks:** such as conflict, economic shocks, health shocks and natural shocks such as earthquakes

**seasonality:** seasonal fluctuations in prices, production, health, employment opportunities

These impacts change the pentagon in various ways, and there are many studies on how one can best help these different situations. A common focus is to try to address the situation in a way that eventually helps the individuals, communities, and countries to respond to these impacts on their own – for example, by focusing not only on education, but also the capacity to educate (as with the Marine Institute's projects profiled elsewhere in these lessons).

Several approaches are common in international development. Three of these are:

- 1) Helping to develop processes or skills – this generally involves people - “experts” – from donor countries traveling to the “underdeveloped” countries to train people or to guide improvements, and people from “underdeveloped” countries traveling to donor countries for training. Much of the institutional aid is of this kind;
- 2) Investing or helping established small community groups, including schools and orphanages, often directly with money or supplies. This is a common approach for non-profit societies;



- 3) Assistance in building of roads, dams, cities and other large projects. This is the approach of international banks and the government – government aid of some countries.

Often the approaches are mixed together a bit.

Have the students discuss how they feel about these different approaches: which would make you feel better as a donor, and which would make you feel better as a recipient? How do you decide which to do?

History often fits into this picture, at the grass-roots level, not only through the “impacts” but also by how it has influenced cultural and community ties that are essential for getting the very poor through tough times (building resilient communities and livelihoods).

## **2. How do history and fisheries relate to poverty?**

Fisheries are natural capital - the “N” of the development pentagon—At the subsistence and low income levels of communities where there is access to fish or other things from the water, fisheries can be the main thing that keeps people alive – though often they are part of a diverse life that includes subsistence or small-scale agriculture or extraction of other natural resources. Fisheries are thus looked at by development projects as an important resource to tap into. Low-cost aquaculture is also increasingly considered in this light.

However, the importance of subsistence or low-scale fisheries is also commonly forgotten or ignored. Dams and large-scale irrigation, for example, provide services for some elements of a society, but may wipe out fisheries resources for communities living on a river. Communities relying entirely on fisheries can also be very sensitive to impacts like climate change, natural disasters, and over-fishing. Development projects thus increasingly focus on diversifying fishing livelihoods, getting the most value out of the harvest, and making the users more responsible for management.

Fisheries and aquaculture can also be of interest for larger-scale income generation at industrial scales. These are the products most likely to make it to our tables. This may be very important for a country's well-being, but can also create considerable conflicts between different user classes, and may be a means for other countries or foreigners to take advantage of a country's resources without appropriate returns. Fisheries and fisheries development thus both require good management, taking into account the local realities, culture, and history.

## **Activity 5**

### **Canada's role in Mozambique**

#### **Method:**

With class discussion, students learn about how Canada is helping Mozambique.

#### **Duration:**

20 minutes

#### **Materials:**

Student journal

#### **References:**

[CIDA Mozambique](#)

[YouThink - a World Bank teacher resource website](#)

[Public Broadcasting System \(PBS\) - Africa](#)

[VIDEA - Victoria International Development Education Association](#)

[National Geographic – Mozambique](#)

#### **Procedure:**

1. Discuss the topics below with the class:

Mozambique is one of the poorest countries in Africa, due to the variety of historical influences discussed above. However, it currently has quite a stable government, and with its many keen and dedicated young people has demonstrated very good results for the foreign aid that they receive, despite a series of disastrous floods they have experienced recently. It is commonly considered a “poster child” of African development.

Mozambique has received aid from Canada for over 30 years, and is currently one of the Canadian International Development Agency's priority countries. This aid is very much focused on building the capacity of Mozambicans to help themselves – a focus that was developed jointly with the Mozambican authorities.

## Information on Mozambique from CIDA

Education and technical training are key initiatives. Two current Canadian projects on fisheries and aquaculture are of particular interest :

1) SOED - the Southern Oceans Education and Development project of the University of Victoria (BC, Canada ), the Eduardo Mondale University ( Quelimane , Mozambique ) and a variety of Canadian, Brazilian, and Mozambican partners <http://web.uvic.ca/~soed/> . This project is training people at the university and in government to help coastal communities develop environmentally appropriate, sustainable and equitable aquaculture of a variety of different species, including shrimp, tilapia, and shellfish;

2) PRTF - the Poverty Reduction through Fisheries project by the Fisheries and Marine Institute of the Memorial University in Newfoundland and the Instituto Nacional de Desenvolvimento da Pesca de Pequena Escala (IDPPE) – the National Institute for Development of Small-Scale Fisheries – of the Mozambican Ministry of Fisheries. This project is training government extension workers to work with coastal communities to improve the handling and processing of the fish that they catch and to build more sustainable fishing practices. At the moment, at least 30% of a catch is lost because it is not cleaned and iced properly – the project helps to develop locally appropriate solutions to this question and appropriate training methods for the local communities to adopt the new approaches. It also works with the government and communities to adopt fisheries management methods that will help sustain fish stocks – for example, not catching too many baby fish and not over fishing.

### Memorial University - Mozambique projects through CIDA funding

Both projects encounter the local realities in fishing communities, and get caught up in a variety of spin-off projects, such as funding schools and book drives in Canada to send materials to Mozambique. Check out the Memorial Institute's webpage for several stories.

2. After discussing and considering the history of Mozambique have students reflect on life in an independent country versus life in a colony. How do they think their life would be different if they lived in a nation less “developed” than Canada? What would it be like to trade places with a Mozambican child? Canada and Mozambique were both “colonized” – why do you think that they are so different in terms of development? What kinds of assistance would be appropriate for Canada to offer to Mozambique?

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed Learning Outcomes:

(Refer to PLO table)

### Suggestions for Extensions:

**Home Economics:** start collecting Portuguese, Brazilian, and Mozambican recipes and compare them, looking for similarities and differences in ingredients and methods. What are cassava and maize? Have students look for these in the grocery store. How are these foods prepared and eaten?

**Social Studies:** For homework, ask the students to look for newspaper, magazine, or internet articles featuring African nations. How often is Africa featured in the news, and when it is, consider how it is portrayed. For example, negatively or positively? Success or tragedy?

**Visual Arts:** In a multimedia project (painting, drawing, collage, etc) of the students' choice, have them display "Africa" as a concept. Compare the students' works and discuss themes and possible stereotypes.

**Mathematics:** Compare Canadian and Mozambican statistics and percentages for factors such as HIV/AIDS, education, infant mortality from the UN Human Development Index.

**Creative Writing:** Write a newspaper article on the colonization of Mozambique. Choose to write this from either a European point of view or from a Mozambican point of view. Have students share their articles and reflect on the differences.

### Materials and References:

#### Activity 1: History, fisheries & foreign development

#### Materials:

[A Brief History of Mozambique](#)

## **Activity 2: Colonialism: map exercise**

### **Materials:**

[Map of Africa](#)

Map of Africa with European colonial claims

## **Activity 3: Colonialism: role playing**

### **Materials:**

Poster boards

Internet resources

## **Activity 4: What are appropriate development aid strategies? How do history and fisheries relate to poverty?**

### **References:**

[Mozambique Fishery Overview - FAO](#)

[Vulnerability Guide - DFID](#)

[Livelihood Approach – DFID](#)

## **Activity 5: Canada's role in Mozambique**

### **Materials:**

Student journal

### **References:**

[CIDA Mozambique](#)

[YouThink - a World Bank teacher resource website](#)

[Public Broadcasting System \(PBS\) - Africa](#)

[VIDEA - Victoria International Development Education Association](#)

[National](#)

[Geographic](#)

–

[Mozambique](#)

# Global Citizenship in Fisheries and Aquaculture

## MOZAMBIQUE

### Lesson 2

## Fishing Families in Mozambique

### In this lesson, students will:

- Become familiar with Mozambique and its variety of ecosystems, particularly the inland aquatic ecosystem and its marine ecosystem
- Learn about different types of fisheries and aquaculture found in Mozambique
- Understand some of the challenges faced by a Mozambican fishing family, particularly with the issue of sustainability

### Overview:

The Introductory lessons established some foundations for all other lessons, by bringing the students to the realization that our world is a global village. The exploration of where the seafood we eat comes from and how it gets to our tables, indicates that how we act locally can have consequences globally.

Lesson two and subsequent ones will look, in a more in- depth way, at the idea that we are all interconnected and that there are many issues commonly shared. Mozambican fishing and aquaculturist communities will be used as a case study. In these lessons, more pieces of the global fisheries puzzle will come into place. By examining the lives of Mozambican fishers and aquaculturists and their families, the students will be confronted with some major global issues such as poverty and its root causes, sustainability and possible effects of climate change.

They will learn through the power of personal stories that human beings are resilient and when given the right tools are capable of making good choices for themselves and the planet. They will learn how Mozambican fishing communities are working towards positive change and how countries such as Canada help them. They will also be challenged to take action. This lesson is an introduction to Mozambique and its fishing communities and centers on the life of one typical family living in a coastal area of the country. Sustainability is the main issue explored.

**Note to teachers:** although not within the scope of this unit, you might want to introduce lesson three by looking at the stereotypes we have regarding Africa. If asked about their

perceptions of Africa, many students might say that it is full of jungles, though the reality is that most of Africa is desert and savannahs. Also, they may think that there are lots of primitive tribes living in huts, when the reality is that there are many different types of human settlements including modern cities. They may also say that people are very poor and suffering from AIDS, but this is only part of the picture. There is indeed poverty, lack of adequate food and a serious AIDS problem, but there are also many success stories on such issues as education and getting adequate healthcare. Some students might also state that Africa is considered backwards. In fact, Africa is considered by many as the birthplace of humankind and a continent where many extremely complex and rich civilizations evolved.

The media is a powerful transmitter of stereotypes and you might want to spend some time with your students looking at how Africa is portrayed by the media and how to look at reliable sources of information. You could start the investigation on stereotypes by examining some of the beliefs the students might have internalized (e.g. "Boys are stronger than girls", "Boys do better in Math" and "Girls do better in Home Ec", "Girls are more sensitive than boys"). There are excellent resources on stereotypes about Africa, including the following websites:

<http://www.teacherlink.usu.edu/TLresources/units/byrnes-africa/davtur/index.htm>

<http://exploringafrica.matrix.msu.edu/teachers/curriculum>

In addition, the curriculum package entitled "The Horn of Africa" by Susan Staniforth has good introductory activities on Africa and stereotypes (available at the Victoria International Development Education Association or VIDEA for short; check their website: [www.vida.ca](http://www.vida.ca)).

## **Subject(s):**

Social Studies, Science

## **Skills:**

Gathering, reading for information, interpreting and presenting information, analyzing data, mapping, reflecting

## **Time required:**

5 activities, 30 to 75 minutes each

## **Activities:**

1. [Types of fisheries and aquacultures](#)
2. [Meet the Family of Fisher Rui Antonio Matibe](#)

3. "The Fish Bowl" simulation game – Part 1
4. Be a Fisheries Development Consultant
5. Recipe Search

### **Suggestions for Extensions:**

[See Appendix](#)

### **Materials and References:**

See individual activities or [Appendix](#)



# Activity 1

## Types of fisheries and aquacultures

### Method:

Students complete a map and an activity sheet on the unique geography and characteristics of Mozambique. Students also answer related questions either in small groups or as a class answer.

### Time Required:

60 minutes

### Materials:

Atlases

Student journals

[Blank map of Mozambique](#)

[Blank fact sheets](#)

### References:

[National Geographic](#)

[The CIA World Factbook](#)

[UNICEF](#)

[Mozambique Government](#)

[World InfoZone](#)

[Fisheries and aquaculture in Mozambique](#)

[Aquatic species harvested in Mozambique and their status](#)

[FAO](#)

[Mozambique Ministry of fisheries](#)

[Norway support of fisheries development \(1\)](#)

## Norway support of fisheries development (2)

### World Fish center

### Algae Base

#### **Procedure:**

1. Start the activity with a short discussion on how many people in the world are involved in fisheries and aquaculture activities (based on what was learned in previous lessons).
2. Tell the students that together they will now look at one particular country involved in fisheries and aquacultures, Mozambique. Ask them if they know where Mozambique is located (including the continent).
3. Have them look at the class world map and ask for a volunteer to locate Mozambique. Ask the students if by looking at Mozambique on the map, they can determine that fishing might be important (possible answers: a long coast line, many rivers).
4. Hand out the [blank map of Mozambique](#), one for each student. Using their atlas or looking on the internet, the students add the main geographical features, main cities, rivers and adjacent ocean.
5. Have the students fill out main facts using the [blank fact sheets](#). You can have them use the [fact sheet](#) included in this lesson or have students check on the internet at sites such as [National Geographic](#), [CIA World Factbook](#), [UNICEF](#), [Mozambique Government](#) and [World InfoZone](#).
6. As a class, draw some conclusions about Mozambique by answering the following questions - either individually in their journals, in small groups or as a whole class:
  1. Would you say that Mozambique is a poor or rich country? Explain your answer by comparing their standard of living with the one found in Canada using a variety of indicators such as per capita income, mortality rate and literacy rate.
  2. What do you think some of the challenges might be for that country?
  3. Why do you think fisheries and aquacultures might be an important source of livelihood in Mozambique?
7. Conclude by pointing out that Mozambique is indeed a very poor country facing many challenges but that many of its people are working hard to improve their lives. Richer countries, such as Canada, are helping out. To illustrate this, we will particularly focus on the lives of fishers and their communities in the subsequent lessons and activities.

## Activity 2

### Meet the family of fisher Rui Antonio Matibe

#### **Method:**

Students are introduced to a Mozambican family through a story (handout). The class then answers a series of questions about the family and compares the life of this family to that of their own.

#### **Time Required:**

60 minutes

#### **Materials:**

[Mozambican family - story](#)

#### **Procedure:**

1. Tell the students that they will get to know their first Mozambican family. Hand out a copy of the [story](#) to each group of 4 to 5 students.
2. Ask them to each read the story silently.
3. As a group they answer the following questions (also on the handout):
  1. Describe where the Matibe family lives.
  2. What does the dad Rui do for a living?
  3. Who is Samora, the person introducing the family and what are his two main occupations during the day?
  4. Why does he say that his dad is quite worried about the future?
  5. What kind of work does his mother do?
  6. What does Samora have to say about his brother and his sister?
  7. What is giving Rui the hope that things might get better for his family?
  8. Imagine you lived in Samora's village. Describe what it would be like compare to your lives here.
  9. Do you think it's a good thing for Canada to give money to help fishers from Samora's village? Explain.

## **Activity 3**

### **"The Fish Bowl" simulation game – Part 1**

#### **Method:**

Students play a simulation game, using chocolate candies (M&Ms) in bowls as fish, and taking on roles as different types of fishers. In this way, they learn about how fisheries in a country like Mozambique work, and some things that can contribute to their sustainability. This is followed by a discussion of ideas after the game, and a journal entry to reflect and wrap up the activity.

#### **Time Required:**

75 minutes

#### **Materials:**

[Tally sheet](#)

M and M's of different sizes

Bowls (1 per team), representing a section of the Indian Ocean where students will be fishing.

Small paper cups (1 per student, except for the artisanal fishers without boats).

Pieces of paper (1 for each artisanal fisher without a boat).

Straws (1 per student)

Spoons (1 per 'industrial fisher')

Student journal

#### **References:**

[The Fish Bowl Game – instructions for teachers](#)

[Description of different types of fisheries and aquacultures in Mozambique](#)

#### **Procedure:**

1. Familiarize yourself with the game, described in [The Fish Bowl Game – instructions for teachers](#). Do not incorporate the options described in step #12. These will be added in Lesson 6, when the game is played again.
2. Once you have everything ready, ask your students if they know what "sustainable" means. List their ideas on chart paper and as a class attempt to come up with a definition.
3. Tell the class that today they will be playing a simulation game that has to do with fisheries in Mozambique and sustainability. You might want to explain what we mean by "simulation game".
4. You might also want to spend some time explaining each type of fishing using the fact sheet: "Description of different types of fisheries and aquacultures in Mozambique". You could also choose to give each team a card explaining how their group does fishing; once the game is over, they could then explain the technology they use to the other teams.
5. Explain how the game is played.
6. Divide the class into the teams.
7. Distribute materials they will need.
8. Put the recommended number of M&M's (fish) into each team bowl.
9. Play a round/year of fishing and have students record their catch.
10. Add one fish or shellfish to each student's bowl for every fish left. Ask the students if they understand what the added fish represent. Answers would vary but the students need to understand that each fish that wasn't caught survived and reproduced successfully.
11. Play the game for 3-4 more rounds (years).
12. Change half the semi-industrial fishers to industrial fishers, trading their straws for spoons. Play another round.
13. At the end of the round/season, ask the students if they notice a difference. Any special thoughts and feelings from the members of the different teams?
14. Play additional rounds as preferred.
15. At the end of each season, ask the fishers about their strategies. After a few seasons, the students should realize that using good strategies will ensure their survival and the sustainability of their stocks.
16. For the next round, announce a new change. The fishers are now allowed to fish from any bowl they wish, especially if their bowl has been completely emptied. The problem for both types of artisanal fishers is that they can't move! They can use their straw only in a stationary position. Only the semi-industrial and industrial fishers will be able to change location.

- 17.** Play a few more rounds. It should become obvious that the marine resources will be more rapidly depleted.
- 18.** At the end of the game, the students should count the total catch for all the seasons of fishing by each fisheries type.
- 19.** Once the results are tabulated, engage the students in a discussion with questions such as the following:
  1. What trend do you notice after several fishing seasons?
  2. How did you feel in your role as a fisher? The different group should have very different perspective, with the artisanal fishers the most frustrated.
  3. What was your reaction when new components were added to the game?
  4. What were the strategies you used that worked best?
  5. Why is it important to think about sustainability?
- 20.** End the discussion by looking back at the list generated by the students about the concept of sustainability before playing the game. Is there anything the students would like to change or add to their definition? You might also want them to compare their definition with the one proposed by experts in the field.
- 21.** To end the activity, ask each student to write some thoughts in their journal about the activity. They could also write an entry as if they were Rui Falcao on how he might be feeling with the fierce competition he encounters with other fishers, often better equipped than he is.

## **Activity 4**

### **Be a Fisheries Development Consultant**

#### **Method:**

Students role-play as Canadian advisors, and brainstorm in groups on ways to help Rui Antonio Matibe continue to fish, without depleting stocks, and thus improve the life of his family and others in the community.

#### **Time Required:**

60 minutes

#### **Materials:**

Chart paper (placemats)

Student's journal

#### **References:**

[Placemat strategy \(chynablue\)](#)

#### **Procedure:**

This activity will allow the students to play the role of Canadian advisors working in Mozambique and advising Rui on some ways to improve his life and ensure that he can continue fishing without depleting stocks. It will give the students a chance to come up with their own solutions before they find out in subsequent lessons about how Canadian organizations are helping Mozambican fishers and aquaculturists.

1. Start the lesson by reviewing with the class what was learned in the previous activity, the simulation game. Tell them that today they will pretend to be Canadians working in Mozambique to help support Mozambican fishers in their efforts to improve their lives.
2. Review the materials on development aid strategies and what Memorial University and the University of Victoria are doing in their projects in Mozambique (Activities 4 and 5 in Lesson 1). (Hint: look for strategies that will allow people like Rui make better income from his existing catch, the family to diversify their income, and the government to change fisheries management practices; alternatively, the students may look at direct NGO-type aid or other approaches).

3. Divide the class in groups of four students and explain that each group will brainstorm ideas to help Rui and his family improve their lives and their livelihood. They have to come up with a series of suggestions to help preserve sustainability in the type of fisheries Rui is involved in (artesanal). If they have not used the placemat strategy, explain how they will work together (If you are not familiar with the placemat concept go to [chynablue](#)).
4. Give them about 10 minutes to each write ideas on their section of the placemat. Give them about 5-10 minutes to look at each other's ideas and reach a consensus by selecting their best suggestions and writing them in the middle of the placemat.
5. Ask each team to present their ideas to the rest of the class. Look for common threads and unique ideas. You could end the session by asking the students to write in their journal a letter to Rui to let him know about some of the ideas their group came up with to help him with his livelihood. Some students may argue that Rui might not be able to read and if he does, probably not in English since the official language of Mozambique is Portuguese. This could lead to an interesting discussion.



## Activity 5

### Recipe Search

#### Method:

Students search for seafood recipes from Mozambique and Canada in preparation for a feast at the end of lessons in the Mozambique section.

#### Time Required:

30 to 40 minutes

#### References:

[Fried Okra with Shrimp - Food Network](#)

[Mozambique Shrimp \(Camarão\) - Recipe Zaar](#)

[Mozambique recipes and etiquette - University of Pennsylvania](#)

[Mozambique Shrimp - Celtnet Recipes](#)

#### Procedure:

1. Tell your students that at the end of the Mozambique section, the class will have a chance to celebrate their accomplishments by organizing a seafood feast. You might want to ask them if they like the idea. As you get closer to the date, you might want to involve your students in the preparations leading to the celebration. The first step would be to start collecting seafood recipes from Mozambique and Canada.
2. Invite the students to start looking for recipes that could be used for the special meal at the end of the unit. These recipes could be kept in the students' portfolios. Throughout the unit and when they have a moment at the computer lab, encourage the students, possibly in teams, to start searching for Mozambican and Canadian recipes.
3. The following websites would be useful to get the students started:

[Fried Okra with Shrimp - Food Network](#)

[Mozambique Shrimp \(Camarão\) - Recipe Zaar](#)

[Mozambique recipes and etiquette - University of Pennsylvania](#)

## Mozambique Shrimp - Celtnet Recipes

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed learning Outcomes

(Refer to PLO Table)

### Suggestions for Extensions

**Math:** the results of all the fishing seasons in the simulation game could be presented in a graph form

**Visual Art:** posters could be created to show the beauties found on the coast of Mozambique and some of the marine ecosystems.

### Materials and References

#### Activity 1: Types of fisheries and aquacultures

##### Materials:

Atlases

Student journals

[Blank map of Mozambique](#)

[Blank fact sheets](#)

##### References:

[National Geographic](#)

[The CIA World Factbook](#)

[UNICEF](#)

[Mozambique Government](#)

[World InfoZone](#)

[Fisheries and aquaculture in Mozambique](#)

[Aquatic species harvested in Mozambique and their status](#)

[FAO](#)

[Mozambique Ministry of fisheries](#)

[Norway support of fisheries development \(1\)](#)

[Norway support of fisheries development \(2\)](#)

[World Fish center](#)

[Algae Base](#)

## **Activity 2: Meet the family of fisher Rui Antonio Matibe**

### **Materials:**

[Mozambican family - story](#)

## **Activity 3: Simulation game: "The Fish Bowl"**

### **Materials:**

[Tally sheet](#)

M and M's of different sizes

Bowls (1 per team), representing a section of the Indian Ocean where students will be fishing.

Small paper cups (1 per student, except for the artisanal fishers without boats).

Pieces of paper (1 for each artisanal fisher without a boat).

Straws (1 per student)

Spoons (1 per 'industrial fisher')

Student journal

### **References:**

[The Fish Bowl Game – instructions for teachers](#)

Description of different types of fisheries and aquacultures in Mozambique

#### **Activity 4: Be a Fisheries Development Consultant**

##### **Materials:**

Chart paper (placemats)

Student's journal

##### **References:**

[Placemat strategy \(chynablue\)](#)

#### **Activity 5: Recipe Search**

##### **References:**

[Fried Okra with Shrimp - Food Network](#)

[Mozambique Shrimp \(Camarão\) - Recipe Zaar](#)

[Mozambique recipes and etiquette - University of Pennsylvania](#)

[Mozambique Shrimp - Celtnet Recipes](#)

# Global Citizenship in Fisheries and Aquaculture

## MOZAMBIQUE

### Lesson 3

## Comparing Lives - Children and Youth in Fishing Communities of Mozambique

### Students will learn to:

- Understand the UN Declaration on the Rights of the Child
- Compare their lives with the lives of Mozambican children from fishing communities
- Understand the challenges faced by Mozambican children
- Foster empathy and promote action towards social change

### Overview:

Lesson 4 will give students a chance to compare their lives with the ones of Mozambican children living in fishing communities. Children are often keen to find out how children from other parts of the world live as they share some common realities, challenges and dreams. They can usually relate better to people their own age as opposed to adults. The students will be introduced to a variety of Mozambican children and youth and will be asked to look at similarities and differences with their own lives. They will do their investigation within the framework of the UN Rights of the Child with a focus on a variety of aspects such as equal opportunities for good nutrition, shelter, health, education and play. They will look as well at the roles boys and girls have in Mozambican families, and become acquainted with the efforts of Canadian and international organizations that are helping the children of Mozambique meet their basic needs.

**Note to teachers:** More than half of Mozambique's population is under 18. In a country where 2/3 of its people live in poverty, this makes the lives of children particularly difficult and challenging. According to UNICEF, almost half of the 10 million children live in extreme poverty. 1.6 million children are orphans, 470,000 of these because of the parents dying of AIDS related illnesses. The number of AIDS orphans is projected to be over 1 million by 2010. Lack of basic health care, good hygiene and clean drinking water continue to be the leading causes of deaths of children. Education level is very low as only 40% of Mozambican children go to school and the great majority of those who do go only attend up to grade 5. Many girls never get a chance to receive an education.

Mozambique has been hit with many disasters, including a civil war that ravaged the country from 1975 to 1992. Many boys at the time were forced to fight during the war as so-called "child soldiers". Many of the people who survived the war are now young adults, still dealing

with the horrors they had to face as children. Mozambique is also facing the AIDS pandemic like so many other African countries, with serious consequences for the children.. Some children in Mozambique are victims as well of sexual abuse and human trafficking, to countries such South Africa where they are used for child labour and prostitution.

Finally, the country is regularly hit by severe natural disasters, particularly extreme droughts and flooding, again with tragic consequences for the children. When one looks at the overall situation of the Mozambican children, it is hard not to feel despair and powerlessness. As teachers, you might wonder if your students should be exposed to such a bleak reality. It is important, though, for middle school students to be informed about global issues, and more importantly to be given the opportunities to understand those issues and to feel that they can make a difference in the world when given the chance to do so. The activities in lesson 4 are an attempt to present the reality of Mozambican children, particularly from fishing communities. The approach does not hide the challenges faced by the children, but offers hope and empowerment through reading personal stories of courage by children, learning about the efforts of many individuals and organizations that are making a huge positive impact. For more information on Mozambican children, go to:

[UNICEF - Education](#)

[UNICEF - Child Protection](#)

[UNICEF - Child Protection \(2\)](#)

[UNICEF - Child Survival](#)

[UNICEF - Mozambique links](#)

[UNICEF - Country info](#)

[Articles on Human Trafficking](#)

[Save the Children - projects](#)

For more info on child soldiers, the following book is a powerful account of what happened to children during the civil war in Mozambique: *Caught in the Crossfire - Growing up in a War Zone* by Maria Ousseimi, *Chapter 3: Children Killing Children in Mozambique* (published by Walker and Company, 1995)

### **Subject(s):**

Social Studies, English, Math, Visual Arts, Drama

### **Skills:**

gathering, reading for information, interpreting and presenting information, analyzing data, mapping, reflecting

### **Prescribed learning outcomes (PLO):**

[See Appendix](#)

### **Time required:**

5 activities, 60 to 75 minutes each

### **Activities:**

1. [Creating a list of rights that children are entitled to have.](#)
2. [Comparing lives: The rights of children](#)
3. [Comparing lives: Venn diagrams](#)
4. [Comparing lives: Lifestyle data](#)
5. [Supporting Children in Mozambique](#)

### **Suggestions for Extensions:**

[See Appendix](#)

### **Materials and References:**

See individual activities or [Appendix](#)



# Activity 1

## Creating a list of rights that children are entitled to have.

### Method:

Students explore the concept of basic human rights (versus needs). In groups, individual rights are identified and printed on cards - which are then posted on the board and discussed further.

### Duration:

60 minutes

### Materials:

Blank index cards

Chart paper

### References:

[UN Rights of the Child](#)

### Procedure:

1. Explain that the focus for this next lesson will be on Mozambican children and that students will have a chance to look at similarities and differences between themselves and these children.
2. Introduce the students to the idea of rights. Ask them for a few examples of what they feel they are entitled to as children. You might want to first talk about 'needs' and 'wants' to ensure that students are asked to think of basic rights in terms of what they need to survive and lead productive lives.
3. Using the Think-Pair-Share strategy<sup>2</sup>, ask each pair of students to come up with a list of what they would consider the rights of children to be (10 minutes).
4. Combine the pairs to make teams of 4 to 5 students. Ask them to share their lists and decide as a group on what they consider to be the 8 to 10 most important rights. They will

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<sup>2</sup> <http://olc.spsd.sk.ca/DE/PD/instr/strats/think/>

then write them, each right one on a blank card, in letters big enough to be read at the front of the classroom by the other students.

5. After 10 to 15 minutes, ask each team to share their list with the rest of the class. Tell the students that the cards will be taped on the board in clusters. Explain that they will categorize the rights and place the cards under the category they think would fit. For instance, one of the rights might be "to be able to read and write", for which the students might create a category called: "the right to education". The student would then put the card under that category.
6. As more cards are discussed and taped to the board, more categories would be developed, such as health, food, play, love and affection, etc. Taking turns, the students, one at a time, go to the board and tape the card, under a category if it's already in place or deciding on a new category if the student feels it doesn't fit under any of the existing ones. Ask the students to bring only the cards that add something new in order to avoid duplicating (or combine similar cards together later)
7. Once all the cards have been clustered on the board according to the different categories created by the students, ask them to look at their creation and to decide if they would like to change anything. Students might suggest changing the name of category, adding a new one or putting a card under another category if they feel it would be a better fit. Once there is a consensus, congratulate them for a job well done and tell them that at the next class they will compare their list of rights with the one designed by the United Nations in 1959.

## Activity 2

### Comparing lives: The rights of children

#### **Method:**

Students compare the list of rights that they created in Activity #1 with the UN Rights of the Child, write their thoughts in journals and create a poster (if time allows).

#### **Duration:**

60 minutes

#### **Materials:**

Overhead projector

Student journals

Poster-making supplies

List of rights from Activity 1

[UN Rights of the Child](#)

#### **References:**

[Speech on the status of children from the Mozambican president to the UN](#)

[Article: Unicef - 18th Anniversary of Rights of the Child Convention](#)

[Article: European Parliamentarians for Africa - Rights of the Child and additional links / presentations](#)

#### **Procedure:**

1. If you have not talked about the United Nations before, you might want to introduce your students to that organization first, with a focus on agencies such as UNICEF which have been created specifically to help children.
2. Explain that in 1959, the United Nations came up with a list of what they considered the basic rights that every child is entitled to have. Hand out to each group a copy of the [UN Rights of the Child](#). Alternatively, you could also do the activity as a whole class and use the overhead projector to show the rights. Compare the two groups of rights (UN Rights

with those from Activity #1) and look for similarities and differences. Any surprises? What is included in both lists? Any rights that were overlooked by the students?

3. Ask students to choose the right from the UN list that means the most to them. Then invite them to write in their journal why they feel so strongly about that particular right. They could also, if time allows, each design a poster illustrating one of the rights. The poster could include a slogan promoting the right. Ensure that all the rights are visually represented. The posters could then be displayed in the classroom or in the hallway.

## Activity 3

### Comparing lives: Venn diagrams

#### Method:

Students read about and discuss the daily lives of two Mozambique children, in comparison to their own, then create a Venn diagram that illustrates the differences and similarities. Journaling and letter-writing enhances the exercise.

#### Duration:

60 minutes

#### Materials:

Chart paper

Student journals

[A Day in the Life of Felicidade, a 16-year-old girl](#)

[A Day in the Life of Jafet, a 13-year-old boy](#)

#### Procedure:

1. Hand out copies of the two [stories](#) and read them with the class. Ask the students for their general thoughts and feelings about the lives of Felicidade and Ruben.
2. On chart paper, make a list with the class of the chores done by Felicidade and Ruben. Do boys and girls in Mozambique have different roles based on the two stories? Do the students think that Canadian boys and girls also have different roles based on gender? Discuss.
3. Tell the students to choose one of the stories and give each of them a copy of the story they chose. Ask them to reread the story and complete a Venn's diagram. On the left side they write all the aspects of the Mozambican child that are different from their own lives. On the right side, they write aspects of their own lives that are different from the Mozambican child. In the section where the 2 circles intersect they write what they have in common. Ask some volunteers to share their diagram with the rest of the class.
4. Next, ask them to write in their journal what rights they feel Felicidade or Ruben have access to and which ones they don't. They should explain their answers. They should also

include the rights they feel they have in Canada. Another possibility would be to write a letter to either Felicidade or Ruben telling them about what they found similar and different about living in Canada and in Mozambique after reading their story.

## **Activity 4**

### **Comparing lives: Lifestyle data**

#### **Method:**

Students will keep track of their daily activities for a full day beforehand and in class compare their life to that of one of the two Mozambique children from Activity #3. They will create circle graphs based on several summary categories to compare, and then discuss results and conclusions reached.

#### **Duration:**

60 minutes

#### **Materials:**

Compass

Protractor

Chart paper

#### **Procedure:**

1. A day or two before this next activity, tell the students to keep track of all their activities over a 24 hour period from the time they get up in the morning to the time they get up again the following morning (they can choose either a school day or a weekend day). Once they have their chart completed, ask them to group what they did under 6 or 7 categories (such as sleep, school, play time, eating) and figure out the total amount spent for each category. The total should add up to 24 hours.
2. Once the data has been completed, tell the students they will use the data to further compare their lives with the lives of Felicidade and Ruben. Using the story they originally chose, they will figure out how much time is spent in each category by Felicidade or Ruben over 24 hours.
3. Ask them next to construct for each set of data a circle graph (divided into 24 sections). You could provide the students with a circle graph already divided into 24 or challenge them to design their own, using a compass and a protractor (each section would need to have an angle of 15 degrees). The graph should include a title, a legend including the categories and a colour code for each one.

4. Display the graphs and discuss the results. Are there significant differences between the two graphs? What are some similarities? Complete the activity by asking to write at the bottom of the graphs 2 or 3 conclusions.



## **Activity 5**

### **Supporting children in Mozambique**

#### **Method:**

For this research project, teams of students investigate different assigned topics related to children support systems in Mozambique on suggested websites.

#### **Duration:**

60-75 minutes

#### **Materials:**

research outline (one per team)

Chart paper

#### **References:**

[Right to Play - Girls in Mozambique - Video on Youtube](#)

[Right to Play - Mozambique project manager](#)

[UNICEF - Children lead the way](#)

[Save the Children - success stories - child soldiers](#)

[Save the Children - Flooding in Mozambique](#)

[Save the Children - Food security](#)

["Museum of Technology Mozambique" - project blog:](#)

#### **Procedure:**

1. Divide the class into research teams of 2 to 3 students, each being assigned a particular website. Some teams will investigate the roadblocks preventing some Mozambican children from getting what they need in order to live decent lives. Other teams will find out about projects aiming to give the Mozambican children what they are entitled to get according to the UN Declaration of the Rights of the Child.

2. Tell the class about the research project. Before going to the computer lab, assign a site to each team and go over the research outline.
3. Use the UNICEF and Save the Children sites as well as [Right to Play - Girls in Mozambique - Video on Youtube](#).
4. "Museum of Technology Mozambique" - project blog: One individual's effort to help Mozambican children, as opposed to an organization such as UNICEF or Save the Children. The students could be challenged to locate other sites focusing on the work of other individuals.
5. Collect the research sheets for evaluation. You might want to use an extra period to discuss the results of the students' investigations and list on chart paper the success stories they uncovered in one column and the roadblocks in a second one.

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed learning Outcomes

(Refer to PLO Table)

### Suggestions for Extensions:

**English:** read and discuss with the class the book *Limpopo Lullaby* by Jane Jolly. It is a book written for younger grades but could be used effectively with older students. It is based on a true story that took place in Mozambique in March 2000. The country was ravaged by terrible floods (an ongoing problem in Mozambique) and more than 180,000 people were displaced. Sophia Pedro, a woman living by the Limpopo River had to take refuge in a tree with many other people when the river flooded their village. The woman was pregnant and gave birth in the tree where she remained stranded for 3 days before being rescued by helicopter. The main characters, beside Sophia, are children who display their resilience and courage. To order the book and to get more ideas on how to use it, go to: [Jane Jolly](#)

**English:** read the book *Our Stories, Our Songs - African Children Talk about AIDS* by Deborah Ellis. The author traveled to Zambia and Malawi and collected inspiring stories of children affected by AIDS.

**Social Studies, Drama and Visual Arts:** as an extension to activity 2, the students could be asked to do more research on the Rights of the Child and present their findings as art form. They could produce in small groups short TV commercials promoting a particular right. They could also prepare short skits on a specific right. Their art work and skits could be presented at a school assembly.

**Physical Education:** play should be an important part of a kid's day yet lots of children in Mozambique are denied that right because they have little time to spare after working for several hours each day. Brainstorm with the students some reasons why play is so important. Introduce the students to the Right to Play organization.

Ask them to check what Right to Play does in Mozambique and what kind of games they promote. Play those games for P.E. Point out to students that often the games are organized

not only for Mozambican children to have fun but also to educate them on issues such as hygiene and AIDS prevention. Example: right to play storyboard.

**Physical Education:** research other African games and play some for P.E.

**Physical Education:** ask the students to look at the pictures found on this photo site at [PBase](#). Concentrate on the pictures from Mozambique. Discuss the different ways the children entertain themselves. Play jump rope games.

**Social Responsibility:** as an extension to activity 5, the students could be challenged to come up with a concrete project to help Mozambican children. Note that lesson 7 will be addressing more specifically the issue of how students can be involved in global change.

## **Materials and References**

### **Activity 1: Creating a list of rights that children are entitled to have.**

#### **Materials:**

Blank index cards

Chart paper

#### **References:**

[UN Rights of the Child](#)

### **Activity 2: Comparing lives: The rights of children**

#### **Materials:**

Overhead projector

Student journals

Poster-making supplies

List of rights from Activity 1

[UN Rights of the Child](#)

#### **References:**

[Speech on the status of children from the Mozambican president to the UN](#)

[Article: Unicef - 18th Anniversary of Rights of the Child Convention](#)

[Article: European Parliamentarians for Africa - Rights of the Child and additional links / presentations](#)

### **Activity 3: Comparing lives: Venn diagrams**

#### **Materials:**

Chart paper

Student journals

[A Day in the Life of Felicidade, a 16-year-old girl](#)

[A Day in the Life of Jafet, a 13-year-old boy](#)

### **Activity 4: Comparing lives: Lifestyle data**

#### **Materials:**

Compass

Protractor

Chart paper

### **Activity 5: Supporting children in Mozambique**

#### **Materials:**

research outline (one per team)

Chart paper

#### **References:**

[Right to Play - Girls in Mozambique - Video on Youtube](#)

[Right to Play - Mozambique project manager](#)

[UNICEF - Children lead the way](#)

[Save the Children - success stories - child soldiers](#)

[Save the Children - Flooding in Mozambique](#)

[Save the Children - Food security](#)

["Museum of Technology Mozambique" - project blog:](#)



# Global Citizenship in Fisheries and Aquaculture

## MOZAMBIQUE

### Lesson 4

#### Comparing Lives:

#### Men and Women in Fishing Communities of Mozambique

##### Students will learn to:

- Understand the relationship between family dynamics and fishing livelihoods
- Understand how AIDS is affecting fishing communities
- Look at the roles of men and women in Mozambican fishing communities and the issue of gender equity and how the traditional roles are changing

##### Overview:

In this lesson, the students will learn about the lives of two Mozambicans from a fishing community, a man by the name of Sergio Machel and a woman called Maria Dgambo. Through these stories, the students will have a chance to explore the roles that men and women have in the fishing communities and how those roles are changing. They will look at the opportunities, or lack thereof, that each gender has and how factors such as poverty and AIDS affect their lives.

**Note to teachers:** In lesson 5, the students will learn more about the lives of men and women from Mozambican fishing communities. Two issues will be examined, AIDS and gender equity. AIDS in Africa is now being described as a pandemic and has destroyed the basic fabric of human life in many countries. AIDS in Mozambique is a very serious problem as it is estimated the virus has infected 16 to 20% of the population. It has had a very negative impact on fishing communities. The links below will give teachers more background information on the AIDS situation. This is a difficult but yet important issue to discuss with middle school students, as they need to know how a serious health and social problem can affect the quality of life of human beings. As has been the case in previous lessons, the focus will go beyond the terrible reality in order to offer students a portrait of hope and courage on the part of the Mozambican people and of global solidarity.

[FAO](#)

[VSOCAN](#)

[ICAD-CISD](#)

Gender equity is also an important issue. Mozambique like most African nations has had a long pre-colonial history with a variety of ethnic groups living in different areas of what is now known as Mozambique. There was a great diversity of social systems, including both matriarchal and patriarchal systems. Some had very differentiated roles for men and women whereas others weren't as specific. Under colonial rule, the Portuguese imposed their own value system, including the Catholic religion, which again influenced the roles of men and women. Other religions, such as Islam, have also influenced gender views. In the last 20 to 30 years, especially since the end of the civil war in 1992, more changes are emerging as new models are slowly replacing the traditional roles. Those changes are affecting Mozambican fishing communities as more women are working as fishers, wishing to improve their livelihood by doing work traditionally performed by men. In the Bay of Maputo, one of the most important coastal fishing areas, 25% of the fishers are now women that own small boats. It is not an easy transition, as men in particular have to adapt to a new reality that they sometimes are slow to accept. It is also a challenge for women to be accepted as equal partners and find the financial support needed to realize their goal of moving out of poverty and make a decent living, More background information can be found at the following sites:

[ICSF](#)

[Oxfam](#)

### **Subject(s):**

Social Studies, Science, English, Drama, Visual Arts

### **Skills:**

Gathering, researching, reading for information, interpreting and presenting information, analyzing data, prioritizing, comparing

### **Time required:**

5 activities, 45 to 90 minutes each

### **Activities:**

1. [Gender Expectations](#)
2. [Maria Dgambo's story](#)
3. [Introduction to the AIDS pandemic in Africa](#)
4. [Sergio Machel's Story](#)
5. [Making Handbooks on Gender Equity and AIDS](#)



## **Suggestions for Extensions:**

See [Appendix](#)

## **Materials and References:**

See individual activities or [Appendix](#)

# Activity 1

## Gender Expectations

### Method:

Students individually fill in an activity worksheet that has been explained and then go around to share their results with at least four other students. At the end, the class discusses the students' ideas, and answers some concluding questions.

### Duration:

45 minutes

### Materials:

Felt pens

Chart paper

[Gender Expectations Worksheet](#)

### References:

[Gender equity](#)

[Gender equity search engine \(enter "Mozambique"\)](#)

[Women Heroes in Mozambique, article](#)

[Thesis on women in the Mozambican civil war](#)

[AWID - Gender and natural disasters](#)

[Gender and Landmines](#)

[Domestic Violence in Mozambique, article](#)

[UN - Africa Recovery](#)

[OXFAM - Family and Women's rights](#)

### Procedure:

1. Hand out to each student the [Gender Expectations worksheet](#). Go over the sheet with the students to make sure that they understand what is expected. You might want to discuss the meaning of the word "gender".
2. Ask the students to quietly fill out the 4 squares with as many examples as they can think for each of the square. They can leave a square blank if they can't think of any specific examples.
3. After 10 to 15 minutes, ask the students to move around the classroom in order to share and discuss what they wrote. You could post a chart with A and B partners and rotate the A partners every 2 minutes or so in order that everybody ends up sharing with at least four other students, 2 boys and 2 girls if possible. As a variation, you might pair up according to gender, pairing girls with girls and boys with boys, which could lead to an interesting class discussion afterwards.
4. Ask the whole class to regroup after 10 minutes or so. Ask them to report on similarities and differences found for each of the squares. Write their answers on chart paper. At some point during the discussion, you might want to ask students if there is a difference between sex and gender. You could offer Pike and Selby's definition (p.143): sex is "the biological characteristics that define male and female"; gender is "society's construction of a system that identifies what is masculine and what is feminine".
5. Conclude by asking questions such as:
  1. Are gender differences determined biologically or culturally?
  2. Do some expectations for each gender limit the potential of individuals of that particular gender? Give some examples.
  3. Do you think that boys and girls have equal opportunities in our society?
  4. Do schools or families tend to reinforce what is expected for a boy and for a girl?
  5. How can some of the limitations for each gender can be changed and overcome?
6. Conclude by pointing out that Mozambique is indeed a very poor country facing many challenges, but that many of its people, are working hard to improve their lives. Some richer countries such as Canada are helping out, both through its government and individual Canadians, We will look at examples of this in the lives of fishers and their communities in the subsequent lessons and activities.

## Activity 2

### Maria Dgambo's story

#### **Method:**

In small groups students read a story of a Mozambican fisher and answer questions. Next they fill in a chart of “roadblocks” and “hopes” based on what they’ve read and discussed and report back to the class. If time allows skits could be created and performed.

#### **Duration:**

45-60 minutes

#### **Materials:**

Chart paper

[The life of Maria Dgambo](#)

#### **Procedure:**

1. Tell the students that today they will learn about the life of Maria Dgambo, a Mozambican fisher. Divide the class into groups of 4 to 5 students and hand out a copy of [the story](#) to each group. You might want to assign a role to each student such as the reader, the scribe, the facilitator, etc. Ask each group to read the story and answer the following questions:
  1. Is Maria's role in her fishing community a traditional one for a woman? Explain
  2. What are some of the traditional roles for a woman in a Mozambican fishing community?
  3. What roadblocks is Maria facing as a woman trying to make a living as a fisher?
  4. What hopes does she have to improve her livelihood?
  5. Why does she want to work as a fisher?
2. Give chart paper to each group and ask them to divide it into two columns, one labeled "roadblocks" and the other "hopes". They fill each column, using what they learned from the reading and their discussion of it. If not stated in the story, they can write their own suggestions that would help Maria fulfill her hopes. Each group could then report to the class. If time allows, you might ask each group to prepare 2 short skits, one involving Maria facing the roadblocks and one where she finds what she needs to earn a livelihood as a fisher. Groups could then volunteer to perform their skits to the class.

## **Activity 3**

### **Introduction to the AIDS pandemic in Africa.**

#### **Method:**

Students will learn about AIDS in general (one session) and how it affects Mozambicans (one session) through journal brainstorming, class discussion, handouts, and peer teaching.

#### **Duration:**

2 sessions of 45-60 minutes each

#### **Materials:**

Student journals

[AIDs Primer](#)

[The AIDS Situation in Mozambique](#)

Overhead projector

transparencies

#### **References:**

[K-W-L](#)

[AIDS pandemic situation in Africa](#)

[Background Information on Tuberculosis and HIV/AIDS in Mozambique](#)

[CLN - AIDS education](#)

[CUSO - AIDS related work](#)

[AAC - AIDS education](#)

[Stanford University - AIDS education](#)

[UNICEF - AIDS mentoring guide](#)

[UNESCO - AIDS and Human Rights - Youth](#)

[Peace Corps - AIDS](#)

[Saskatoon Ed. - AIDS education](#)

[Stephen Lewis Foundation](#)

[Women and AIDS in Africa, article](#)

[UN - AIDS - Mozambican women](#)

[AIDS and Intergenerational relationships in Mozambique](#)

### **Procedure:**

1. Tell the students that in the next two activities, they will look at AIDS as another roadblock in the lives of Mozambican fishers. Add that today they will first learn about AIDS in general.
2. Using K-W-L, ask students to write in their journals everything they know about AIDS / HIV in one column and everything they'd like to know in a second column.
3. Using the activity sheet [AIDS Primer](#), engage the students in a discussion about AIDS. You might want to give copies of the primer to each student or use a transparency of the primer and an overhead projector. As a teacher, you need to gauge what is appropriate or not for the age level of your student and their maturity level. The discussion might cause some embarrassment to some students. You might choose to put less focus on the sexual aspects of AIDS / HIV and more on the social impact. You might want to do regular personal feeling checks throughout the discussion. There is still a lot of misinformation and misconceptions out there about AIDS / HIV and the discussion with the students should help in clarifying about the virus and its consequences. Read one section at the time and allow enough time to talk about what was read.
4. If time allows, move on to the AIDS pandemic situation in Africa or you might want to use a second session instead to do this part of the activity.
5. Hand out a section of [The AIDS Situation in Mozambique](#) to groups of 4 to 5 students. The text has been divided into six sections and each group is to work with one of the sections. Explain to the students that their task is to get ready to teach the rest of the class about the information provided in their section of the handout. They must agree as a team on the main ideas of the text and share them afterwards with the class. You might want to do this using a jigsaw strategy instead.
6. Once the groups are ready they will teach the rest of their classmates about what they learned or move to their home groups if the jigsaw strategy is being used.
7. At the end of the activity, ask the students to write in their journal three general things they learned about AIDS / HIV today and three things more specifically related to Africa and

Mozambique. If you did the activity in 2 sessions, the general comments are written at the end of the first session and the comments specific to Mozambique at the end of the second session.

## Activity 4

### Sergio Machel's Story

#### Method:

In small groups students read a story of a Mozambican fisher and answer questions. Next they fill in a chart of “roadblocks” and “hopes” based on what they’ve read and discussed and report back to the class.

#### Duration:

60 minutes

#### Materials:

Chart Paper

[The life of Sergio Machel](#)

#### Procedure:

1. Tell the students that in today's activity, they will learn about another Mozambican fisher, a man by the name of Sergio Machel.
2. Divide the class into groups of 4 to 5 students and hand out a copy of [Sergio Machel's story](#) to each group. You might want to assign a role to each student such as the reader, the scribe, the facilitator, etc. Ask each group to read the story and answer the following questions:
  1. What is a working day like for Sergio?
  2. What type of fisher is he?
  3. How is AIDS affecting his life?
  4. How does the rest of his community treat him?
  5. What are his dreams and hopes for the future?
3. You could choose to follow the same procedure as was used with Maria's story to conclude the activity, with the chart paper with the two columns that each team would then present to the rest of the class or you might choose a different way to share the findings as a class and conclude the activity.



## **Activity 5:**

# **Making Handbooks on Gender Equity and AIDS**

### **Method:**

Following class discussion on AIDS and gender equity, students research, think about ways to help others and to creatively produce a comic handbook in groups on either AIDS prevention or gender equity.

### **Duration:**

60 - 90 minutes (several sessions might be needed depending on interest and depth of research).

### **Materials:**

Overhead projector

transparencies

[Profile of a Canadian helping with AIDS / HIV](#)

### **References:**

[UNESCO - AIDS and Human Rights Kit](#)

[UNICEF - Poster: Lifeskills](#)

[Oxfam - women's roles changing in Mozambique](#)

### **Procedure:**

1. Producing informative handbooks on gender equity and AIDS – (this activity would be more appropriate for older students or modified with younger ones)
2. Review with the students the main concepts that were learned in previous activities. Check to make sure that the students have a good understanding of what was taught about AIDS and gender equity in Mozambican fishing communities and through the stories of Sergio and Maria.
3. Emphasize the courage and determination of these two people and many others in Mozambique who are working to move away from poverty. Explore with the students the

strength and resilience of people like Maria and Sergio. What moves them to go forward everyday in the hope of bettering their lives in spite of the hardships and roadblocks? Review with the students some of those roadblocks and hopes.

4. Ask your students: "How would you feel if you were in Maria's or Sergio's shoes?" (Answers could vary from feeling hopeless, powerless, and depressed to not wanting to give up, hopeful, etc.). Then ask them to talk about the actions they take when they feel overwhelmed by something or unsure on how to get something they need. Do they tend to rely solely on their own strengths and skills? They might say that their parents, teachers or friends are also there to help.
5. If some students feel particularly bad about what they learned so far about Mozambican fishing communities in spite of the focus given on the positive, make sure that you create opportunities for the students to discuss those feelings. Remind them about stereotyping and biases: human beings from affluent countries such as Canada tend to look at people from poorer countries with mainly negative feelings and a tendency to see only the worst aspects found in those countries. They forget that often fairly destitute people in places such as Mozambique have great inner strength often transmitted culturally. They may find joys in being with their families and spending time with their children. Excessively consuming goods like we do in the Western world is not one of their preoccupations. Often they look after their elders much better than we do. Encourage the students to think of other ways we can learn from people in less affluent countries. It's important for students to realize that there are beauties and flaws in every culture and nation.
6. Tell the students that just like they mentioned in the previous discussion about getting external support to meet their needs, it is exactly the same for Mozambicans: they work hard to leave poverty behind but they can also benefit from countries like ours to share with them some of our wealth and skills. Add that to conclude this lesson, they will have a chance to find out how some Canadians are helping Mozambican fishers and their families. They will also have a chance to design their own handbooks to help with AIDS prevention and gender equity.
7. Introduce the [profile of a Canadian helping with AIDS / HIV prevention in Mozambique](#), using the overhead projector. Discuss the role played by that person.
8. Following the discussion, ask the students to pretend that this particular worker has approached them to work on the project. She needs handbooks to be produced on the subjects of AIDS prevention and gender equity. She would like the handbooks to be done in a cartoon form with easily understood messages.
9. If you decide to go ahead with the projects, several sessions will be needed as students will need time to do their research mainly at the computer lab, to organize their data and plan the handbook before producing it as a comic book.
10. Divide the class into working groups. Assign a topic to each group; half the groups could be working on the AIDS booklets and the other half on gender equity. This is not an easy assignment as one of the challenges is to avoid being preachy, patronizing or offering advice that is not suitable to the Mozambican situation. It is still a valid exercise that is

asking students to research their topic, to think about helping others and to creatively produce the handbook.

Some possible sites to use for ideas:

[UNESCO - AIDS and Human Rights Kit](#)

[UNICEF - Poster: Lifeskills](#)

[Oxfam - women's roles changing in Mozambique](#)

11. Once the handbooks are completed, they could be shared in the format of a class comic book fair. They could also be displayed in the library.

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed learning Outcomes:

(Refer to PLO Table)

### Suggestions for Extensions:

**Math:** figure out how many students in the class would be affected by AIDS, based on the figures for Mozambique (16 to 20%). How many students in the whole school?

**Social Studies (1):** find out about some Mozambican women who are considered heroes in Mozambique. [Profile of Josina Machel](#), revolutionary fighter [Profile of Celina Cossa](#) who fights hunger. [Profile of Maria Mutola](#), Olympic gold medalist.

**Social Studies (2):** for homework, ask the students to have one of their parents and one of their grandparents do the same exercise they did in the first activity ([Gender Expectations Worksheet](#)), using the gender expectations work sheet. As a class, you can then chart how gender expectations have changed over time.

### Materials and References:

#### Activity 1: Gender Expectations

##### Materials:

Felt pens

Chart paper

[Gender Expectations Worksheet](#)

##### References:

[Gender equity](#)

[Gender equity search engine \(enter "Mozambique"\)](#)

[Women Heroes in Mozambique, article](#)

[Thesis on women in the Mozambican civil war](#)

[AWID - Gender and natural disasters](#)

[Gender and Landmines](#)

[Domestic Violence in Mozambique, article](#)

[UN - Africa Recovery](#)

[OXFAM - Family and Women's rights](#)

## **Activity 2: Maria Dgambo's story**

### **Materials:**

Chart paper

[The life of Maria Dgambo](#)

## **Activity 3: Introduction to the AIDS pandemic in Africa.**

### **Materials:**

Student journals

[AIDs Primer](#)

[The AIDS Situation in Mozambique](#)

Overhead projector

transparencies

### **References:**

[K-W-L](#)

[AIDS pandemic situation in Africa](#)

[Background Information on Tuberculosis and HIV/AIDS in Mozambique](#)

[CLN - AIDS education](#)

[CUSO - AIDS related work](#)

[AAC - AIDS education](#)

[Stanford University - AIDS education](#)

[UNICEF - AIDS mentoring guide](#)

[UNESCO - AIDS and Human Rights - Youth](#)

[Peace Corps - AIDS](#)

[Saskatoon Ed. - AIDS education](#)

[Stephen Lewis Foundation](#)

[Women and AIDS in Africa, article](#)

[UN - AIDS - Mozambican women](#)

[AIDS and Intergenerational relationships in Mozambique](#)

#### **Activity 4: Sergio Machel's Story**

##### **Materials:**

Chart Paper

[The life of Sergio Machel](#)

#### **Activity 5: Making Handbooks on Gender Equity and AIDS**

##### **Materials:**

Overhead projector

transparencies

[Profile of a Canadian helping with AIDS / HIV](#)

##### **References:**

[UNESCO - AIDS and Human Rights Kit](#)

[UNICEF - Poster: Lifeskills](#)

[Oxfam - women's roles changing in Mozambique](#)

# Global Citizenship in Fisheries and Aquaculture

## MOZAMBIQUE

### Lesson 5

#### Canada's Contribution to Mozambican Fishing Communities

##### Students will learn to:

- Become familiar with the work of Canadian organizations supporting Mozambican fishing communities
- Promote career awareness in the field of international development

##### Overview:

In this lesson the students will be exposed in more details to what Canada is doing to help Mozambican fishing communities. They had initially been introduced to Canada's contribution in lesson 3. Lessons 4 and 5 also gave them a chance to discuss the need for affluent countries to help less fortunate ones, reinforcing the idea that we live in a global community and that we need to look beyond national boundaries. Global cooperation is needed as the issues and challenges we are facing are universal. In lesson 6, the students will become familiar with the work of CIDA (Canadian International Development Agency), Memorial University in Newfoundland and the University of Victoria, British Columbia.

##### Skills:

Gathering, reading for information, interpreting and presenting information, analyzing data

##### Subject(s):

Social Studies, Social Responsibility, English

##### Prescribed learning outcomes (PLO):

[See Appendix](#)

##### Time required:

3 activities, 45 to 60 minutes each

## **Activities:**

1. [Introduction to CIDA and its work in Mozambique fishing communities](#)
2. [Interview with Ed Durnford, Marine Institute of Memorial University](#)
3. [Introduction to the SOED project & the Centre for Global Studies, UVic](#)

## **Suggestions for Extensions:**

[See Appendix](#)

## **Materials and References:**

See individual activities or [Appendix](#)



# Activity 1

## Introduction to CIDA and its work in Mozambique fishing communities

### Method:

In pairs students complete an information scavenger hunt on the CIDA website to learn about CIDA and some of its work in Mozambique.

### Duration:

60 minutes

### Materials:

Student Journals

[CIDA Scavenger hunt worksheet](#)

### References:

<http://www.acdi-cida.gc.ca/cidaweb/acdicida.nsf/En/Home>

[Introduction to CIDA – activity sheet](#)

[CIDA and IDRC - brief description and Mozambique project info](#)

[Additional info on CIDA and IDRC projects in Mozambique involving fisheries and aquaculture](#)

### Procedure:

1. Before going to the computer lab, review with the students what was learned in lesson 5. You might want to play a jeopardy type game with questions related to AIDS and gender equity. Review also what was learned from developing the handbooks, particularly in terms of helping the Mozambican fishing communities. Ask for a few volunteers to state reasons why we need to help others.
2. Tell the students that in today's lesson, they will find out more about Canada's contribution to Mozambique's fishing communities.

3. Ask them if they know what the acronym "CIDA" stands for. In all likelihood the students won't know the answer. Tell them that they will discover what CIDA stands for and what kind of work it does by exploring the CIDA website. Add that they will be doing a scavenger hunt with a partner to find the information. Pair up the students and hand out the [scavenger hunt worksheets](#), ensuring that the assignment is understood before going to the lab.
4. Once in the lab, have the students go to the following site: <http://www.acdicida.gc.ca/cidaweb/acdicida.nsf/En/Home> and begin their assignment. Give them about 30 to 40 minutes to complete it.
5. Back in the classroom, go over each section of the scavenger hunt as a class and collect their sheets for evaluation
6. To conclude, ask the students to write in their journals three things they found interesting about CIDA and two things about CIDA's involvement in Mozambique.

## Activity 2

### Interview with Ed Durnford from the Marine Institute of Memorial University

#### **Method:**

Students are first introduced to Marine Institute International, then after reading an interview with a Canadian working in fishing communities of Mozambique answer questions in groups and present findings to class.

#### **Duration:**

60 minutes

#### **Materials:**

Student journals

Chart paper

[Summary of the Poverty Reduction through Fisheries Project in Mozambique](#)

[Interview with Ed Durnford](#)

#### **References:**

[http://www.mi.mun.ca/mi\\_international/about\\_us.htm](http://www.mi.mun.ca/mi_international/about_us.htm)

#### **Procedure:**

1. Tell the students that in today's activity, they will get to know Ed Durnford, a Canadian working on the field in fishing communities of Mozambique but that first, they will find out about the project he is a part of. If you are internet connected in your classroom and have access to a projector, go to the following site:  
[http://www.mi.mun.ca/mi\\_international/about\\_us.htm](http://www.mi.mun.ca/mi_international/about_us.htm). If you prefer, you can use instead copies of the project summary: [Interview with Ed Durnford](#) (the information is organized in the form of a press release).
2. As a class, answer the following questions:
  1. What do the letters "MI" stand for?

2. Where is Memorial University located?
  3. What is the mandate of their Marine Institute?
  4. If working from the website, click on "Projects" and then on "Mozambique". What is the name of that particular project?
  5. Who is funding the project?
  6. How much money is allocated for it?
  7. Read the first paragraph of the project description. What are the main goals of the project?
  8. Who are the two staff members involved in the project?
3. Divide the class into 7 groups and hand out to each group a copy of the [interview with Ed Durnford](#) and a piece of chart paper. Each group is responsible to write in point form the main ideas of the answer given by Ed to a particular question. Use the following questions: # 7, 8, 9, 11, 12-13 (2 questions for the same group), 14 and 15.
  4. Once all the answers are completed, ask each group to present their findings and post their work in the classroom.
  5. To conclude and if time allows, ask the students to write in their journal as if they were Ed describing one of his days in a Mozambican fishing village. If time is short, you might choose instead to spend a few minutes with the class discussing their thoughts about the work Ed is doing in Mozambique and in what ways it can make a difference in the lives of Mozambican fishers.

## Activity 3

### The SOED project and Centre for Global Studies, UVic

#### **Method:**

Students read a press release and answer related questions in pairs concerning the Southern Education and Development Project (SOED) and aquaculture development in Mozambique.

#### **Duration:**

45 to 60 minutes

#### **Materials:**

Chart paper

[Article about the SOED Fisheries and Aquaculture Project in Mozambique, Centre for Global Studies \(University of Victoria\)](#)

#### **Procedure:**

1. Tell the students that in today's activity, they will be introduced to a second project involving Canadians working with fishing communities of Mozambique.
2. Divide the class into A and B partners and give each group a copy of the [press release announcing the University of Victoria project](#). The partners work together, first reading the text, then answering the following questions:
  1. Which Canadian institution is leading the project? (The University of Victoria)
  2. What is the name of the project? (Southern Education and Development Project, SOED for short.)
  3. Who is funding the project? (CIDA)
  4. How much money was allocated for it? (\$1,000,000)
  5. The press release states that in Mozambique "fishing is in decline" but that the UVic project "is offering the area's citizens hope for a better life". What are they proposing to do in order to achieve that goal? (To establish training sessions in aquaculture, train leaders who will teach others, help local citizens start their own aquaculture business.)
  6. What animals will be raised in this aquaculture project? (Shrimps and molluscs)
  7. In what other ways is the project going to help? (Give opportunities to women to work in aquaculture without being too far from home in order for them to still look after their families, involve children but giving them at the same time a chance to go to school, help with AIDS awareness.)

8. Why is it a good idea to have experts from Brazil involved as well? (UVic has trained people in Brazil in the past, thanks to a previous CIDA funded project; the Brazilians share a common language with the Mozambicans (Portuguese) and can therefore share more easily the expertise they originally received from Canadians. It is a neat way to establish international cooperation and new global links.)
  9. Who are the two main partners from Mozambique involved in the project? (The School of Marine and Coastal Sciences, part of Eduardo Mondlane University in Quelimane and the Ministry of Fisheries).
3. After 20 minutes or so, bring the class back together and go over the questions and answers. End by asking why they think the two particular Canadian universities involved with fisheries and aquacultures in Mozambique are, one from the Pacific coast and the other from the Atlantic coast. (Being located right by the ocean, it would make sense for these two universities to have marine programs and have many experts such as marine biologists and oceanographers who could help countries such as Mozambique).
  4. Before ending the activity, you might want the class to locate in their atlas the coastal town of Quelimane, from which the project is going to be based.

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed learning Outcomes:

(Refer to PLO Table)

### Suggestions for Extensions:

**Social Responsibility, Career Development:** provide an opportunity for students to investigate the work done by other Canadian field workers in Mozambique. Ask the students if they would like to work in the field of international development one day. What would they find appealing? Challenging? They might be interested in further researching what type of studies would lead to a career in international development. The following site introduces a Canadian field worker: <http://www.acdi-cida.gc.ca/CIDAWEB/acdicida.nsf/En/FRA-121162327-T48>.

**Social Studies, Social Responsibility:** put together a gallery of "Canadian Unsung Heroes". Have your students search the [CIDA website](#) and other sites listed as resources for examples of Canadians working in Africa, and more particularly in Mozambique. Ask each student or pair of students to find one example and prepare a poster about that Canadian, including their name, where they are involved and what they do. The poster could include a portrait of the person (if a picture was posted on the website). All the posters could be displayed in the hallway under the banner: "Gallery of Unsung Canadian Heroes".

[Additional info on CIDA and IDRC projects in Mozambique involving fisheries and aquaculture](#)

**Social Studies:** find out if there is in your community a person who has worked abroad for an NGO (non profit organization/non government organization) or is a CIDA staff. Invite that person to your class and ask the students to plan and perform an interview.

**Math:** ask the students to prepare a booklet listing some statistics based on success stories from a variety of CIDA funded projects in Mozambique. Challenge your students to present the numerical information in different ways. Use the following sites:

[Health Care improvements](#)

[Teaching the teachers](#)

[Mosquito nets](#)

## **Materials and References:**

### **Activity 1: Introduction to CIDA and its work in Mozambique fishing communities**

#### **Materials:**

Student Journals

[CIDA Scavenger hunt worksheet](#)

#### **References:**

<http://www.acdi-cida.gc.ca/cidaweb/acdicida.nsf/En/Home>

[Introduction to CIDA – activity sheet](#)

[CIDA and IDRC - brief description and Mozambique project info](#)

[Additional info on CIDA and IDRC projects in Mozambique involving fisheries and aquaculture](#)

### **Activity 2: Interview with Ed Durnford from the Marine Institute of Memorial University**

#### **Materials:**

Student journals

Chart paper

[Summary of the Poverty Reduction through Fisheries Project in Mozambique](#)

[Interview with Ed Durnford](#)

#### **References:**

[http://www.mi.mun.ca/mi\\_international/about\\_us.htm](http://www.mi.mun.ca/mi_international/about_us.htm)

### **Activity 3: The SOED project and Centre for Global Studies, UVic**

#### **Materials:**

Chart paper

[Article about the SOED Fisheries and Aquaculture Project in Mozambique, Centre for Global Studies \(University of Victoria\)](#)



# Global Citizenship in Fisheries and Aquaculture

## MOZAMBIQUE

### Lesson 6

#### Taking Action - Sustainability, Climate Change and Fair Trade

##### Students will learn to understand:

- How global environmental damage can affect the lives of Mozambican fishing communities
- That climate change requires action to reduce its effects and adaptation to new conditions
- That fair trade could be a means to alleviate poverty among Mozambican fishing communities.

##### Overview:

The students will review factors affecting sustainability of the livelihood of Mozambican fishers, aquaculturists and their families. Two new issues will be introduced: climate change and fair trade. Through a variety of activities including simulation games, the students will look at how both Canadian and Mozambican families can take action to design sustainable ways of harvesting and raising aquatic resources and to plan for greater resilience in their livelihoods. As a concluding activity, the "Fish Bowl" game will be played again but at a more complex level, integrating the new knowledge and understanding gained from lesson 3.

**Note to teachers:** Two new issues are introduced in this lesson, climate change and fair-trade. It is not the intent of the lesson to provide an in-depth study of those complex issues, as it would require many teaching hours devoted to those subjects. For teachers interested in spending more class time to study them, several resources, many available online, are listed in the resource section. The main goal of lesson 7 is to explore the right to a decent livelihood for Mozambican fishing communities, taking into account sustainability, fair markets and adaptation to climatic changes. Two of the activities in the lesson introduce the students to climate change and fair-trade but they can be skipped if those topics have already been studied in class. The conclusions reached by some experts in the field on climate change are bleak and particularly so for the African continent as additional severe droughts, flooding and water shortages are forecasted. These effects could be very damaging for the Mozambican fishing communities: for instance, some studies have shown that coral reefs, home to many fish and shellfish are already dying off as a result of rising temperatures of the Indian ocean\*. As it was the case in previous lessons, the focus will be to look at solutions and good problem solving strategies. Students will again be given opportunities to look at how Mozambican fishers and aquaculturists and their Canadian partners are taking action. As they reflect back on the many challenges faced by Mozambican fishing communities, the students will also be given opportunities to take action.

\*Sheppard, C., British University of Warwick, "Nature"

## **Subject(s):**

Social Studies, Science

## **Skills:**

Gathering, reading for information, interpreting and presenting information, analyzing data, mapping, reflecting

## **Time required:**

5 activities, 60 to 75 minutes each

## **Activities:**

1. [Introduction to Climate Change](#)
2. [Climate change & Mozambican fishing communities](#)
3. [An introduction to Fair Trade](#)
4. ["The Fish Bowl" simulation game - Part 2.](#)
5. ["Students, Take action!"](#)

## **Suggestions for Extensions:**

[See Appendix](#)

## **Materials and References:**

See individual activities or [Appendix](#)

# Activity 1

## Introduction to Climate Change

### Method:

Students look at climate change and global warming through brainstorming, class discussion, Materials, and group work.

### Duration:

60-75 minutes

### Materials:

Chart paper

Student Journals

[Primer on Climate Change](#)

### References:

[Wild BC - climate change education](#)

[Global Warming Kids](#)

[EPA - kids climate change site](#)

[Sierra Club Primer on climate change](#)

[FAO - Climate Change](#)

[VIDEA - CIDA funded handbook on appropriate technology, solar cookers](#)

[EOCCC - Grade 6 unit on trading fairly](#)

[United Nations - Climate Change in Africa - Videos - includes story from Mozambique in the "Escaping Floods" video](#)

### Procedure:

1. Explain that this new lesson will include a number of activities that will give them a chance to review some of the things that have been learned so far and to also be exposed to new issues. Add that, as the last pieces of our Mozambican puzzle are being put in place, the class can be in a better position to look at the whole picture, from the time they found out where the seafood they eat came from and discovered the coastal and aquatic regions of Mozambique to their deepening exploration of important issues facing these communities. You might want to list them with the class and do some quick review. The list would include: sustainability, AIDS, gender equity and the Rights of the Child. You might want them to recall some of the personal stories they heard in previous lessons.
2. Continue the discussion by pointing out that as they are getting closer to the conclusion of the unit, the focus will remain on the steps Mozambicans are taking to better their lives, the support from Canadians involved through CIDA funded projects and the actions the students can take to make their own positive impact.
3. Announce that today they will look at climate change and global warming. Using a K-W-L strategy, ask the students to list in their journals everything they know about climate change and everything they would like to know. The activity could also be done with partners or in small groups. After a few minutes, ask for volunteers to share their thoughts and write them on chart paper divided into two columns ("What we know" and "What we want to know")
4. As a class go over the activity sheet [Primer on Climate Change](#). Focus particularly on the carbon cycle, the long and short one. Discuss the greenhouse effect. Point out to students that the greenhouse effect is a natural process that is essential for life on Earth. Without that effect, the temperature on Earth would be too cold to sustain life. The problem arises when too much of the so-called greenhouse gases accumulate in the atmosphere, trapping more heat and causing a rise in global temperature. Most of the added greenhouse gases are a result of human activity.
5. Have students work in small groups. On large sheets of paper, have them draw the carbon cycle and the greenhouse effect. Ask the students to complete their chart of the greenhouse effect by labeling the different sections and writing on the left side of their diagram everything they do that could cause a rise of green house gases (e.g. being driven to school instead of walking or taking the bus) and on the right side, the things they do to reduce their impact (e.g. biking to school, composting, planting a tree)
6. If you would like to do a more in-depth study on climate change, please refer to the resource section to help you in planning other lessons. • Possible sites for primer on climate change:
  - a. Wild BC - climate change education
  - b. Global Warming Kids
  - c. EPA - kids climate change site
  - d. Sierra Club Primer on climate change

## **Activity 2**

### **Climate change & Mozambican fishing communities**

#### **Method:**

Working in groups, students investigate how climate change might affect Mozambican fisheries using different internet websites. Groups summarize findings and present to class.

#### **Duration:**

60 minutes

#### **Materials:**

Chart paper

Aquaculture Fact Sheet

#### **References:**

[Destruction of coral reefs - article](#)

[Climate Change in Africa](#)

[DFID's mission in Mozambique](#)

[EU agricultural and fisheries market access](#)

[NOAA](#)

[EHP Online](#)

[World Fish Center](#)

[ACIAR](#)

[FAO](#)

#### **Procedure:**

1. Explain to the students that they will do an investigation of how climate change might affect Mozambican fisheries and in what ways the fishing communities might be able to adapt to the changes.
2. Divide the class into investigative teams of 4 to 5 students. Assign to each group one of the sites listed below. Explain that their task is to read the information from the site relevant to climate change in relation to Mozambican fisheries and do a written summary.

[Destruction of coral reefs - article](#)

[Climate Change in Africa](#)

[DFID's mission in Mozambique](#)

[EU agricultural and fisheries market access](#)

[NOAA](#)

[EHP Online](#)

[World Fish Center](#)

[ACIAR](#)

[FAO](#)

3. Once all the team have completed their task, do a class discussion and list on chart paper the problems that could affect fishing communities and some of the solutions. Brainstorm other possible solutions not mentioned in the investigated sites.
4. Investigate with the class the use of aquaculture as a possible adaptation to declining fish stock due to global warming. Use the [fact sheet on aquaculture](#) from lesson 3 to review the advantages of aquaculture in Mozambique. If time permits, each student or team of students could draw an aquaculture system that could be useful for fishing communities.

## **Activity 3**

### **An introduction to fair trade**

#### **Method:**

Students play "Fair Trade Soccer Game" to become familiar with what fair trade is.

#### **Duration:**

60-75 minutes

#### **References:**

[Fair Trade Soccer Game](#)

[The Banana Game](#)

[The Coffee Game](#)

[The Trading Game - In The Global Classroom vol.2, by Graham Pike and David Selby, Pippin Publishing, 2000, p.188](#)

#### **Procedure:**

1. A fun way to introduce the students to fair trade would be to play the "Fair Trade Soccer Game" listed in the suggested extensions section. You could also play other simulation games such as:

[The Banana Game](#)

[The Coffee Game](#)

[The Trading Game - In The Global Classroom vol.2, by Graham Pike and David Selby, Pippin Publishing, 2000, p.188](#)

## **Activity 4**

### **"The Fish Bowl" simulation game - Part 2**

#### **Method:**

Students will play "The Fish Bowl" game with more levels and complexity to more closely relate the reality of Mozambican fishing communities.

#### **Duration:**

75 minutes

#### **Materials:**

Student journals

[Tally sheet](#)

M and M's of different sizes

Bowls (1 per team), representing a section of the Indian Ocean where students will be fishing.

Small paper cups (1 per student, except for the artisanal fishers without boats).

Pieces of paper (1 for each artisanal fisher without a boat).

Straws (1 per student)

Spoons (1 per 'industrial fisher')

Student journal

#### **References:**

[The Fish Bowl Game – instructions for teachers](#)

#### **Procedure:**

1. Re-familiarize yourself with the [Fish Bowl Game](#). New elements will be added (described in step #12 of the instructions) to take into account what has been learned in previous lessons. The game will now be played at a more complex level and will be a simulation more closely related to the reality of Mozambican fishing communities. The students will



find the game more challenging and they will be encouraged to use strategies to help them survive.

2. The new elements that could be incorporated and how they might affect fishing methods include:
  - The introduction of aquaculture can add more resources for food and livelihood, so that some of the fishers in the game become aquaculturists
  - The effect of the European Community agreement on industrial fisheries in Mozambique could result in only 40% of the fishers coming from Mozambique.
  - Changing the fishing boundaries for industrial fishing from 2 km to 6 km giving a better chance to artisanal fisheries
  - The effect of climatic variation with more extreme weather could introduce flooding one season, which might bring more fish to artisanal fisheries but might wipe out or damage some of the aquaculture systems. More typhoons could wipe out the industrial fleet for one or more seasons, giving an advantage to artisanal fishers and creating a hardship for the fishers employed by transnational corporation
  - Access to education gives a chance to artisanal fishers to upgrade their skills and learn ways to fish sustainably
  - AIDS may affect some of the fishers
  - A marine protected area, if added, means that fishing is not allowed
3. Review how the game is played with the students.
4. Divide the class into teams.
5. Distribute materials they will need.
6. Put the recommended number of M and M's (fish) into each team bowl.
7. Play a round/year of fishing and have students record their catch.
8. Add one fish or shellfish to each student's bowl for every fish left.
9. Play the game for 3-4 more rounds (years).
10. Incorporate a new element from the suggested list in Step #12 of the Fish Bowl Instructions
11. Play one or more rounds, as you prefer.
12. As time permits, try some of the other game ideas.
13. At the end of each season, ask the fishers for their thoughts on the new game element.
14. To end the activity, ask each student to write some thoughts in their journal about what they have learned.

## Activity 5

### "Students, Take action!"

#### Method:

Students participate in a class project that once complete will lead to concrete actions that can make a difference in the world.

#### Duration:

(several sessions might be needed):

#### Materials:

[Ecological Footprint](#)

[Ecological Footprint Questionnaire](#)

[Ecological Footprint of Nations](#)

#### References:

FAO - Climate Change - Website

VIDEA - CIDA funded handbook on appropriate technology, solar cookers

EOCCC - Grade 6 unit on trading fairly

United Nations - Climate Change in Africa - Videos - includes a story from Mozambique in the "Escaping Floods" video

[Ecological Footprint](#) (from Chemsoc website)

[Middle School Portal](#)

Zero Footprint Kids

#### Procedure:

1. Challenge the students to make a difference in the world by selecting a class project that would lead to concrete actions. The goal is to help students understand that by doing some positive things locally, they're connecting globally with Mozambican fishers and

aquaculturists who are also working to make a positive impact on their environment while improving their livelihoods.

2. Brainstorm ideas with your students. You might want to precede the brainstorming with a look at our [ecological footprint](#). Refer to for an explanation of the concept. Ask your students to fill out the [Ecological Footprint Questionnaire](#). The results would give students some ideas on how they could reduce their ecological footprint. It would be interesting for them to look at the table showing the [ecological footprint of Nations](#). They would easily see that industrialized nations such as Canada have much bigger footprints - or negative impact - on Earth than poorer nations such as Mozambique.

Some possibilities for the ecological footprint questionnaire:

- [Ecological Footprint](#) (from Chemsoc website)
- [Middle School Portal](#)
- [Zero Footprint Kids](#)

3. Concrete ideas for action can be found on many websites. You might want to do a search with your students to locate useful sites. Some of them are listed in the resource section.
4. Rather than focusing on climate change, the action could be based on fair trade.
5. Once the ideas are listed, decide as a class which one you will focus on. Together develop an action plan including goals, actions taken and timeline.

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed learning outcomes (PLO):

(Refer to PLO Table)

### Suggestions for Extensions:

**Physical Education:** to understand fair trade at an active level and fun way, play [The Fair Trade Soccer Game](#).

### Materials and References

#### Activity 1: Introduction to Climate Change

##### Materials:

Chart paper

Student Journals

[Primer on Climate Change](#)

##### References:

[Wild BC - climate change education](#)

[Global Warming Kids](#)

[EPA - kids climate change site](#)

[Sierra Club Primer on climate change](#)

[FAO - Climate Change](#)

[VIDEA - CIDA funded handbook on appropriate technology, solar cookers](#)

[EOCCC - Grade 6 unit on trading fairly](#)

[United Nations - Climate Change in Africa - Videos - includes story from Mozambique in the "Escaping Floods" video](#)

## **Activity 2: Climate change & Mozambican fishing communities**

### **Materials:**

Chart paper

Aquaculture Fact Sheet

### **References:**

[Destruction of coral reefs - article](#)

[Climate Change in Africa](#)

[DFID's mission in Mozambique](#)

[EU agricultural and fisheries market access](#)

[NOAA](#)

[EHP Online](#)

[World Fish Center](#)

[ACIAR](#)

[FAO](#)

## **Activity 3: An introduction to fair trade**

### **References:**

[Fair Trade Soccer Game](#)

[The Banana Game](#)

[The Coffee Game](#)

[The Trading Game - In The Global Classroom vol.2, by Graham Pike and David Selby, Pippin Publishing, 2000, p.188](#)

## **Activity 4: "The Fish Bowl" simulation game - Part 2**

### **Materials:**

Student journals

[Tally sheet](#)

M and M's of different sizes

Bowls (1 per team), representing a section of the Indian Ocean where students will be fishing.

Small paper cups (1 per student, except for the artisanal fishers without boats).

Pieces of paper (1 for each artisanal fisher without a boat).

Straws (1 per student)

Spoons (1 per 'industrial fisher')

Student journal

### **References:**

[The Fish Bowl Game – instructions for teachers](#)

## **Activity 5: "Students, Take action!"**

### **Materials:**

[Ecological Footprint](#)

[Ecological Footprint Questionnaire](#)

[Ecological Footprint of Nations](#)

### **References:**

FAO - Climate Change - Website

VIDEA - CIDA funded handbook on appropriate technology, solar cookers

EOCCC - Grade 6 unit on trading fairly

United Nations - Climate Change in Africa - Videos - includes a story from Mozambique in the "Escaping Floods" video

[Ecological Footprint \(from Chemsoc website\)](#)

[Middle School Portal](#)

[Zero Footprint Kids](#)

# Global Citizenship in Fisheries and Aquaculture

## MOZAMBIQUE

### Lesson 7

#### Mind mapping & Seafood Feast

##### Students will learn to:

- Review the main concepts and issues explored in the unit
- Reinforce the idea that as Canadians, we have a connection with Mozambican fishing families

##### Overview:

In this concluding lesson, the students will have a chance to review all the main pieces of the "fisheries puzzle" they encountered since lesson one. A seafood feast is held to celebrate all that has been accomplished in the last several weeks.

##### Subject(s):

Social Studies, English, Drama, Home Economic, Visual Art

##### Skills:

Gathering, reading for information, interpreting and presenting information, analyzing data

##### Time required:

4 activities, 60 to 75 minutes each

##### Activities:

1. [Mind mapping concepts](#)
2. [Preparing the Feast!](#)

##### Suggestions for Extensions:



[See Appendix](#)

## **Materials and References:**

See individual activities or [Appendix](#)

# Activity 1

## Mind mapping concepts

### Method:

Working in groups, students use all work from previous lessons to create a “mind map” focused on “Sustainable Livelihoods in Mozambique” and present it to the class.

### Duration:

60 minutes

### Materials:

Student journals

Chart paper

### References:

Background info on [mind mapping](#) from Wikipedia

Nancy Marquies, Mapping Inner Space

Barrie Bennet and Carol Rolheiser, Beyond Monet , Chapter 10

### Procedure:

1. Explain to the students that this lesson will bring to a close the exploration of fisheries and aquacultures in Mozambique with all its interrelated connections, local and global. They will now have a chance to review and put together the whole picture. As a class they will also have a chance to celebrate what was achieved in their learning and their work.
2. If students are not familiar with [mind mapping](#), you might want to spend a session before, working with the whole class on developing a simple mind map. You could also provide visual examples.
3. Divide the students into small groups of 4 to 5 students. Ask them to have ready all the written work, including their journals, and reading material related to the unit.
4. Explain that each team has to put together a mind map using chart paper. In the middle of the chart, they write the words: "Sustainable Livelihoods in Mozambique". Their task is to

make as many connections as they can to the words in the middle of the paper. You might want to assign each member of the group a specific role (using a more structured cooperative learning approach).

5. Ask the groups to do some brainstorming first, looking at what they have in their journals and other written and reading material.
6. Next they should work on a first draft, agreeing as a group about what should be included.
7. Once they have a plan, invite them to start the actual mapping on the chart paper. Encourage them to use colours and visuals in addition to words.
8. When all the maps are completed, organize a "gallery tour", selecting one person in each group to put up their mind map. A second person is selected to explain the map to members of other groups who will be going around, looking at each other's maps. Rotate students every two minutes or so.
9. After the tour, debrief with the class about the process and about the learning. (How well did the group work together? What were some of the challenges and difficulties? What are the main connections made in relation to Mozambican fisheries and aquacultures?)

## **Activity 2**

### **Preparing the Feast!**

#### **Method:**

Students get to celebrate their hard work with a seafood feast.

#### **Duration:**

(1 or 2 sessions to prepare the feast, one session to celebrate)

#### **Materials:**

Kitchen facilities (optional)

#### **References:**

Internet resources (to research recipes)

#### **Procedure:**

1. Tell the class that it is now time to celebrate all the good work that was accomplished in the last several weeks. Decide as a class how they will prepare for the seafood feast. Students in small research groups could search the internet for Mozambican seafood recipes, others for Canadian recipes.
2. This activity could also involve the home economic teacher and the food prepared in the home ec classroom.
3. You might want the students to decorate the classroom, write invitation and menus.
4. You might also want to give your students an experience of eating as if they were Mozambicans, with much smaller portions and much less variety. You can then add more food and variety.

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed learning outcomes (PLO):

(Refer to PLO Table)

### Suggestions for Extensions:

**Visual Arts, English:** "Arms Becoming Art " CIDA funded project. Check the website with the students. Discuss the project and come up with your own equivalent peace art project. Peace poetry could also be added to the art work.

### Materials and References:

#### Activity 1: Mind mapping concepts

##### Materials:

Student journals

Chart paper

##### References:

Background info on [mind mapping](#) from Wikipedia

Nancy Marquies, Mapping Inner Space

Barrie Bennet and Carol Rolheiser, Beyond Monet , Chapter 10

#### Activity 2: Preparing the Feast!

##### Materials:

Kitchen facilities (optional)

**References:**

Internet resources (to research recipes)

# Global Citizenship in Fisheries and Aquaculture

## MALAWI

Malawi is a small south-central African country adjacent to Mozambique, famous to many in Europe and North America because of David Livingston's famous adventures in the late 1880s. This is also where the remains of ancient humans were first discovered, where extremely diverse cichlid fish of Lake Malawi, and where several celebrity adoptions have taken place. Many images of African stereotypes come from this region. However, it is also a country that suffers from one of Africa's lowest human development indices, and is the target of substantial aid programs.

The Malawi series of lessons encourages students to think critically about African stereotypes by reviewing pre- and post- colonial history including the slave trade. They discuss why European countries sought control of African countries, and learn how and when Malawi regained independence.

Malawi's social, economic and political development is considered through comparisons with other African countries and with Canada. The country's geography is studied and related to settlement patterns and the role fishing has played in the country's development is explored. An understanding of Canada's contribution to Malawi's well-being through fisheries projects is gained and the students are introduced to a Canadian who is working with Malawi's fisheries.

Students are asked to imagine life as a child living in Malawi and are introduced to a Malawi fishing family. Through this family students gain an understanding of everyday life in Malawi and what it means to be a fisherman in Malawi. Students are asked to consider elements that may be helpful to Malawi's future.

### Lessons

- 1 Introduction to Malawi
- 2 Canadian Developmental Aid in Malawi
- 3 Helping Malawian Fishing Families

# Global Citizenship in Fisheries and Aquaculture

## MALAWI

### Lesson 1

#### Introduction to Malawi

##### **In this lesson, students will learn to:**

- Increase their understanding of social conditions in fishing communities of Malawi
- Increase their appreciation of how history can affect today's situations, challenges, and diversity
- Foster critical thinking, cross-cultural understanding, and global citizenship

##### **Overview:**

In these activities, students explore the history of Malawi and how this has affected the country's development. Students will be encouraged to think critically about how they view Africa in the world, and to discuss the development of one of the countries in this continent. Fisheries are considered as one of the factors that is particularly important to the people living in poverty or at subsistence level. Questions that are raised include:

1. How do ancient and recent histories influence today's situations?
2. How is "development" defined, and how has it evolved in the case of Malawi?
3. What perceptions do Canadians have of Africa and Malawi, and do these compare with current realities?
4. How have fisheries and aquaculture contributed to development in Malawi?
5. How have and are foreign aid projects contributing to development in Malawi?

The final parts of the lessons ask students to reflect on the history of their own country, and discuss how they think history influences development and explore how this affects the human condition at the level of the fishing villages in Malawi and coastal communities in Canada.

The lessons will provide background and questions for units dealing with other countries, as well as providing opportunities for further research.

Much of the Malawi unit is a discussion-based resource that builds research skills, but is possibly better for older students and/or home schooling.

##### **Subject(s):**

Social Studies



**Skills:**

Gathering information, presenting information, reflecting, critical thinking

**Time required:**

4 activities, 30 to 60 minutes each

**Activities:**

1. [Discussion of stereotypes and history](#)
2. [Colonization: Create a poster](#)
3. [Development: Essay and journaling](#)
4. [Geography: mapping, filling in a fact sheet, discussion](#)

**Suggestions for Extensions:**

[See Appendix](#)

**Materials and References:**

See individual activities or [Appendix](#)

# Activity 1

## Discussion of stereotypes and history

### Method:

With class discussion and a Malawi backgrounder handout students are introduced to some history, stereotypes, and global perceptions of Africa and Malawi.

### Time required:

30 minutes

### Materials:

[Malawi Background Information](#)

Maps of African migration patterns:  
<http://www.eduplace.com/kids/socsci/ca/books/bkf3/imaps/>

### References:

### Procedure:

1. Introduce this module by having a general discussion of Africa and pre-conceived ideas students might have regarding this continent and its inhabitants, including the idea that history starts with European colonization.
2. In the past, Africa was referred to as the “Dark Continent” by Europeans (dark as in unknown or mysterious). Ask students what they think of this label. Other questions could be:
  1. How and why might this generalization and label persist, and what might the connotations be?
  2. Does something that is unknown or not understood need to be feared or controlled?
  3. How does this influence the way Africans were treated and/or the way Africa is viewed today? Discuss.
3. Investigate the stereotypes we have regarding Africa. For example, “Africa” is often generalized as if it is one country when in fact it is a diverse continent of 53 countries including many tribes, cultures, and languages. Africa is often portrayed as poor and troubled throughout, which can often strengthen stereotypes. Encourage students to think

critically about their sources of information and to keep an open mind when considering cultures and nations other than their own.

4. Optional research: Look for recent news releases about Africa and tabulate what the main issues are that are being reported on and how many consider the diversity of the continent.
5. Pre-contact history: Referring to the [background document on Malawi](#), have students map the migration of peoples in Africa prior to European contact and discuss the questions of displacements.
6. Discuss what role waterways and fishing may have had in these movements?
7. Ask students what kind of social structures could have existed during these times?
8. Optional research: investigate the migration of people in and out of Africa. (See maps at <http://www.eduplace.com/kids/socsci/ca/books/bkf3/imaps/>). Genetic diversity in a single African village can be greater than that in all of a European country, as the modern human species originated in Africa, with all Europeans originating from an estimated 8 individuals of those that moved north. Genetic information also is showing that cattle and sheep herding developed in southern Africa before the Bantu arrived. How do human migrations and technological innovations intersect?
9. Colonization and the Slave Trade: The slave trade is something often identified with early colonial history with Africa. After reading the [Malawi Background Information handout](#), discuss the slave trade with students. Were they surprised to learn that Africans practiced slavery long before Europeans arrived there? Where else in the world was slavery present at the time? (Students may not know that long ago, northwest coast First Nations people also practiced slavery.)
10. Optional research: Does slavery still exist today?
11. Compare the effect of Europeans' arrival in Africa with their arrival in North America, and the subsequent major impact on the way of life of the original inhabitants in both locations. Consider the introduction of trade goods such as weapons, utensils and alcohol, and the influx of diseases. What was the role of fishing resources in colonization?
12. Compare the colonization history of Malawi and Mozambique. How were they different?
13. How could Malawi be characterized towards the end of the colonial period? Was it economically stable? What was the level of "development" relative to other parts of the world? How is "level of development" defined? How equitable was the level of development? How is "equity" defined?
14. Independence movement: What factors drove the independence movement in Malawi? How did it become a reality? What was the path of development after independence? What is the "level of development" currently? How equitable is it? What is the relationship

between pre-colonial social structure and current social structures? How about in the fishing villages?

## **Activity 2**

### **Colonization: Create a poster**

#### **Method:**

Working in groups, students create a poster advertising for British colonists to come to Malawi in the 1860s. Discussion is then carried out on how this influences the indigenous people.

#### **Time required:**

45-60 minutes

#### **Materials:**

Poster-making materials

#### **Procedure:**

1. Make a Poster advertising Malawi for colonizers: Using information gained in this lesson and previous lessons, divide the class into groups of 2 or 3 students, and ask them to create a poster that might have been used to attract British colonists to the African country of Malawi in the 1860s. At this time, Britain was looking for willing recruits to come to the colony and establish plantations to grow crops (tea, sugar cane, coffee, peanuts) for export to Europe and other parts of the world. Ask students what kind of personal qualities might be desirable for immigrants (e.g. adaptability, ingenuity, entrepreneurial spirit, sense of adventure, etc). How were local native people considered in this colonization promotion? Was fisheries part of the sales package? What other role could fisheries have played during this time?

## **Activity 3**

### **Development: Essay & journaling**

#### **Method:**

As a class, students discuss “Development in Malawi” and either write an essay on the future of development in Malawi, and/or write a journal entry on what it would be like to live in Malawi and how it compares with Canada.

#### **Time required:**

45 minutes

#### **Materials:**

Backgrounder on Malawi

Chart paper

Student journals

#### **Procedure:**

(For older students)

1. Have students read the backgrounder on Malawi and discuss the “level of development” of Malawi throughout history. How is “development” defined?
2. Have the class create a mind-map of the factors influencing development through time and how the definition of development may change. Consider specifically the question of how equitable benefits of development may be.
3. Malawi is currently considered one of the world's most “underdeveloped” countries. Do the students agree with this? Why or why not? What factors have led to this situation?
4. Students may choose to argue that colonization and European influence has led to Malawi's underdevelopment, or they may choose to argue that dictatorship, lack of resources, and inherent “African” problems are the root causes. Students may also opt to argue that a variety of causes are responsible.
5. Discuss how “underdevelopment” is reflected in the more rural fishing villages compared with urban areas. How has fishing changed during this time, and what role may it have played during the “development” path?

6. Discuss what kinds of things could be addressed in the future to improve the development situation.
7. Older students could write individual essays on options for the future, considering experiences from the past. Writing should demonstrate critical thinking and an understanding of the historical data.
8. Journaling: After discussing the history of Malawi, have students reflect on life in a “developed” country as compared to life in a “developing” country. How do they think their life would be different if they lived in an underdeveloped nation? Would it be different if they lived in a city, in a rural village, or in a fishing village? What would it be like to trade places with a Malawian child? Why do you think Canada and Malawi are so different in terms of development? Is fishing in Malawi different from fishing in Canada?

## **Activity 4**

### **Geography and Basic Facts**

#### **Method:**

Students research geography information on Malawi, fill in a map and a fact sheet, and then discuss related questions in groups.

#### **Time required:**

60 minutes

#### **Materials:**

Student Journals

Chart paper

[World map](#)

[Blank map of Malawi](#)

[Malawi fact sheet](#)

#### **References:**

[National Geographic](#)

[CIA World Fact book](#)

[UNICEF](#)

[World Info Zone](#)

#### **Procedure:**

1. Introduce this section to students by explaining that they will be learning about Malawi geography so that they can better understand the lives of Malawians. This will be useful information when they learn more about people who live in fisheries and aquaculture communities.



2. Ask the students if they know where Malawi is located. Have them look at a world map in the class and ask for a volunteer to locate Malawi. Ask the students if, by looking at Malawi on the map, they can guess why fishing might be important (possible answers: a huge lake, many rivers).
3. Hand out the [blank map of Malawi](#), one for each student. Using their atlas or looking on the internet, the students add the main geographical features, main cities, lakes, rivers and adjacent countries.
4. Have the students fill out information on the country on the [fact sheet form](#). Students can research details on the internet on sites such as [National Geographic](#), [CIA World Fact book](#), [UNICEF](#) and [World Info Zone](#).
5. Ask the class to come up with some conclusions about Malawi by answering the following questions - either individually in their journals, in small groups or as a whole class:
  1. Would you say that Malawi is a poor or rich country? Can this only be measured in terms of money? Explain your answer by comparing their standard of living with the one found in Canada using different indicators such as per capita income, mortality rate and literacy rate.
  2. What are some reasons why it is a challenge for Malawi to develop?
  3. Why do you think fisheries and aquaculture might be important for people in Malawi?
  4. Conclusions may point out that Malawi is indeed a very poor country facing many challenges but that many of its people, with the support of countries such as Canada, are working hard to improve their lives. To illustrate this we will focus on the lives of fishers and their communities in the subsequent lessons and activities.

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed Learning Outcomes:

(Refer to PLO table)

### Suggestions for Extensions:

**Home Economics:** Start collecting recipes including ingredients that are staple crops in Malawi.

**Social Studies:** For homework, ask the students to look for newspaper, magazine, or internet articles featuring Malawi or other African nations. How often is Africa featured in the news, when it is, and consider how it is portrayed for example, negatively or positively, success or tragedy?

**Visual Arts:** In a multimedia project (painting, drawing, collage, etc) of the students' choice, have them display "Africa" as a concept. Compare the students' works and discuss themes and possible stereotypes.

**Mathematics:** Compare Canadian and Malawian statistics and percentages for factors such as HIV/AIDS, education, infant mortality from the UN Human Development Index.

**Creative Writing:** Write a newspaper article on the colonization Malawi. Choose to write this from either a European point of view or from a Malawian point of view. Have students share their articles and reflect on the differences.

Using information from the [background on Malawi history](#) and geographic information learned in this module, have some students imagine that they are the famous missionary and explorer [David Livingstone](#) (one of the first Europeans to visit Malawi in the 19th Century). Have them compose a letter to someone in Britain describing what he has seen and learned about the people and land in Malawi. Students can choose to write to family, friend, church board member, government official, etc. Suggest that they include topics such as methods of travel, foods he has tried, what villages looked like, people he met, etc. Have other students write about Livingstone's appearance from the point of view of a villager living on the shores of Lake Malawi.

Link to the David Livingstone Wikipedia Page

## **Materials and References:**

### **Activity 1 - African stereotypes**

#### **Materials:**

[Malawi Background Information](#)

#### **References:**

[Maps of African migration patterns](#)

### **Activity 2 - Colonization: Create a poster**

#### **Materials:**

Poster making materials

### **Activity 3 - Development: Essay & journaling**

#### **Materials:**

Chart paper

Felt pens

Student Journals

### **Activity 4 - Geography and Basic Facts**

#### **Materials:**

Student Journals

Chart paper

Felt pens

[World map](#)

[Blank map of Malawi](#)

[Malawi fact sheet](#)

#### **References:**

National Geographic – website

CIA World Fact book – website

UNICEF – website

World Info Zone – website

# Global Citizenship in Fisheries and Aquaculture

## MALAWI

### Lesson 2

#### Canadian Developmental Aid in Malawi

##### **In this lesson, students will:**

- Become familiar with the current food situation in Malawi
- Discover the various factors affecting the livelihood of many people living in Malawi
- Understand the challenges and benefits of a sustainable fishing industry in Malawi

##### **Overview:**

In this lesson, the students will discuss Malawi's food situation and the aid it has received and continues to receive from Canada to assist with establishing sustainable food practices through areas of education, health, equality of women and men, and ways to manage government. The benefits of a sustainable fisheries industry is understood as are the challenges faced in obtaining and maintaining such an industry. The role that climate, government, AIDS/HIV, global market practices, and environmental disasters, all play in establishing such an industry is discussed. Students are introduced to the Fisheries and Marine Institute of the Memorial University in Newfoundland and their projects 'Sustainable Fisheries for Food Security' and the 'Malawi college of Fisheries.' The students will also learn about the 'WorldFish Centre' and some of the projects they are involved with in Malawi.

##### **Subject(s):**

Social Studies

##### **Skills:**

Comprehension, critical thinking

##### **Prescribed Learning Outcomes:**

[See Appendix](#)

##### **Time Required:**

1 activity, 30 minutes

**Activities:**

1. [Canada's contributions to Malawi well-being](#)

**Suggestions for Extensions:**

[See Appendix](#)

**Materials and References:**

See individual activities or [Appendix](#)

# **ACTIVITY 1**

## **Canada's contributions to Malawi well-being**

### **Method:**

Class discussion of what factors affect fishing and life in general in Malawi, as well as how Canada is contributing to sustainable fisheries and aquaculture in Malawi.

### **Time required:**

30 minutes

### **Materials:**

### **References:**

[Fisheries and Marine Institute of the Memorial University in Newfoundland - website](#)

[Sustainable Fisheries for Food Security project - website](#)

[Malawi College of Fisheries - website](#)

[Worldfish Centre - website](#)

[CIDA](#)

[Worldfish Centre in Malawi – PDF](#)

### **Procedure:**

The topics below will supplement a discussion on Canadian contributions in development projects in Malawi.

As experienced in the earlier components of this unit, Malawi is a small country with lots of people living in the countryside depending on agriculture both at the large “estate” level and the family subsistence level. They are thus quite sensitive to changes in the climate and global market conditions. At the grass-roots level, other factors (like conflicts) that may affect their reliable access to land and water are also extremely important. Fisheries help to buffer families from this variability, and provide a large proportion of the protein that people eat, though they do not show up very much on the international trade balance sheets. They are thus very important to the livelihoods of the poor, but are also not yet very well managed.

At the moment, despite a supportive democratic government, development conditions in Malawi are probably going downhill. Global market factors, environmental disasters such as droughts, and a high incidence of AIDS/HIV are contributing to this situation. Nevertheless, the official development vision of the government is for the country to be: “secure, ecologically balanced, democratically mature, environmentally sustainable, self-reliant with equal opportunities for and active participation by all, having social services, vibrant cultural and religious values and technologically driven” by the year 2020.

Canada has provided aid to Malawi since its independence in 1964, but more extensively since the democratic elections of 1994. This aid now consists of both direct aid of food and supplies, coordinated with that provided by other countries and institutions, and a program that focuses on improving the capabilities of people to develop themselves. This aid works within the areas of education, health, equality of women and men, and ways to manage government.

### [Malawi information - CIDA](#)

The [Fisheries and Marine Institute of the Memorial University in Newfoundland](#), is a Canadian organization that has had several projects in Malawi funded by [CIDA](#). It's [Sustainable Fisheries for Food Security project](#) with the [Malawi College of Fisheries](#) helps to develop better ways to process the catch of small-scale fisheries and to make fishing practices more sustainable. A key component of this project is also to help develop, together with the College, locally appropriate ways to teach revised practices to the local communities and/or develop revised practices together with the communities.

### [Malawi Projects - Memorial University](#)

The [WorldFish Centre](#), an international non-governmental organization based in Malaysia, also has projects in Malawi – some of them in partnership with the Marine Institute and Canadian funding. These works include both improved management of fisheries that incorporates environmental impacts in the whole watershed and development of small-scale aquaculture that is integrated with agriculture. This aquaculture project trains farmers to grow fish in small ponds in combination with their other family-based agricultural activities. This takes advantage of some of the extra products from the farming (like chicken poop) and provides the family with an extra home-grown source of protein and income.

### [Worldfish Centre in Malawi – PDF](#)



# APPENDIX

**Prescribed learning Outcomes**

**Suggestions for Extensions**

**Materials and References**

**Prescribed learning Outcomes:**

(Refer to PLO table)

**Suggestions for Extensions: to come**

**Materials and References:**

**ACTIVITY 1 - Canada's contributions to Malawi well-being**

**Materials:**

**References:**

[Fisheries and Marine Institute of the Memorial University in Newfoundland - website](#)

[Sustainable Fisheries for Food Security project - website](#)

[Malawi College of Fisheries - website](#)

[Worldfish Centre - website](#)

CIDA

[Worldfish Centre in Malawi – PDF](#)

# Global Citizenship in Fisheries and Aquaculture

## MALAWI

### Lesson 3

#### Helping Malawian Fishing Families

##### **In this lesson, students will learn to:**

- Make subjective comparisons between their own family life and the life of a Malawian fishing family
- Increase their understanding of the challenges faced by the Malawian fishing communities

##### **Overview:**

In these activities, students meet a Malawian family and a Canadian who is helping Malawians. Through these, the students make comparisons between their own family life in Canada and the life of a Malawian fishing family. Students will apply their critical thinking skills to answer questions and present their answers to the class. Finally the students are asked to reflect what they have learned in their journals and to consider what it would feel like to travel to Malawi to work in a small fishing village, the activities they would participate in and the challenges they might encounter.

##### **Subject(s):**

Social Studies

##### **Skills:**

Critical thinking, reflecting, presentation skills, journaling

##### **Prescribed learning outcomes (PLO):**

[See Appendix](#)

##### **Time required:**

2 activities, 45 minutes each

##### **Activities:**

1. [Meet a Malawian family](#)
2. [Meet a Canadian who is helping Malawians](#)

### **Suggestions for Extensions:**

[See Appendix](#)

### **Materials and References:**

See individual activities or [Appendix](#)

# Activity 1

## Meet a Malawian Family

### Method:

Students read a story of a Malawian fish farmer and answer questions in a group, then present to the class.

### Time required:

45 minutes

### Materials:

Chart paper

[Malawian Family Story - handout](#)

Lesson 1 map

### References:

### Procedure:

1. Tell the students that they will get to know a Malawian family, and the father's name is Osman Mohammed, a fish farmer from the southern part of the country.
2. Hand out a copy of the [story](#) to each student. Divide the students into groups of 4 or 5.
3. Ask each of them to quietly read the story.
4. As a group they should answer the following questions and present one answer to the whole class when complete (also on the printout):
  1. Describe where the Mohammed family lives. Have the students locate Mchengawede on their map from Lesson 1 (Activity 1).
  2. What does Osman Mohammed do for a living? How many people does he support? Compare this with how many people work for a living in their own home, and how many people they support.
  3. What does "food security" mean? Discuss why this is important to the Mohammed family, and compare it to the food security where you live.

4. Imagine you lived in Osman's village. Describe what it would be like compared to your life here in Canada.

## **Activity 2**

### **Meet a Canadian who is helping Malawians**

#### **Method:**

Students read an interview of a Canadian working with fishing communities in Malawi. Questions are then discussed small groups and presented to the class. Students also journal about what it would feel like to work in a small Malawi fishing village.

#### **Time required:**

45 minutes

#### **Materials:**

Student journals

[Interview with Glenn Penney of the Marine Institute](#)

#### **Procedure:**

1. Tell the students that they will now learn about a Canadian from Newfoundland who works with fishing communities in Malawi. His project is also helping a college teach classes that help people learn more about better fishing and fish farming.
2. Give each student a copy of the handout about an interview with Glenn Penney of the Marine Institute.
3. In small groups the students should answer the questions (what questions)
4. When complete, have a few groups report to the class some of their answers until all questions are covered.
5. Journaling: Students can write a few paragraphs about what it would feel like traveling to Malawi to work in a small fishing village. What kind of activities would they like to do? What kind of challenges would they find?

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed learning Outcomes:

(Refer to PLO table)

### Suggestions for Extensions: n/a

### Materials and References:

#### Activity 1 - Meet a Malawian Family

##### Materials:

Chart paper

Felt pens

[Malawian Family Story - handout](#)

Lesson 1 Map

#### Activity 2 - Meet a Canadian who is helping Malawians

##### Materials:

Student Journals

Interview with Glenn Penney of the Marine Institute – handout

##### References:

[USAID - A story about small-scale aquaculture in a Malawian village](#)

# Global Citizenship in Fisheries and Aquaculture

## BOLIVIA

Bolivia is a small, central South American country with a rich, mysterious human history and diverse, intriguing natural beauty. It has experienced substantial changes over the last century and a half, including many internal civil wars, but retains some of the richest native populations of the countries colonized by Spain. It also remains the poorest country in South America, with many development issues on the horizon as the new indigenous-led government confronts the challenges of its history.

How do the diverse grass-roots communities in the country live in this situation? How does this relate to Canadian life? This series of lessons leads students through a visit to the country and challenges them to create an international development project to make a difference.

### Lessons

- 1** Introduction to Bolivia
- 2** Adventures in Bolivia - On our way!
- 3** Adventures in Bolivia - getting to know and help San Buenaventura: an Amazonian fishing community



# Global Citizenship in Fisheries and Aquaculture

## BOLIVIA

### Lesson 1

#### Introduction to Bolivia

##### Students will:

- Understand how history and geography shape a cultural identity
- Become familiar with Bolivia and its geography including its ecosystems, with a particular focus on the hydrology (watersheds, lakes and rivers)
- Become familiar with different types of fisheries and aquacultures found in Bolivia
- Become aware of the needs and challenges of people living in poorer regions of the world
- Research in a holistic fashion – combining environmental, historical, and social factors
- Make inferences on what the researched information means to real people
- Present research results to others
- Apply research results to a practical situation

##### Overview:

In this unit on Bolivia, the students will embark on a simulation voyage of adventures to that country. They are going on a very special fact finding mission about fisheries in Bolivia. They were asked by a Victoria based NGO, World Fisheries Trust, to gather information about fishers and their families and communities. Areas of focus will include Lake Titicaca and the Amazon River basin which includes the Beni River. Based on their findings and with members of the communities they visited, they will prepare a proposal for a CIDA-funded project which would help the Bolivian fishers be better equipped to fish in a more sustainable way. In the first module, the students will get ready for the trip. They will look at the practical details such as obtaining a passport, purchasing a plane ticket, finding out about visa requirements and vaccination. They will also be introduced to the geography and history of Bolivia with a focus on its fisheries.

This first lesson will help students understand our role as Canadian citizens with respect to world affairs and the need to connect and help people from poorer regions of the planet: in other words, how to become good planetary citizens. In order to prepare yourself for the lesson, you might want to consult the following websites:

[World Atlas](#) - general background info on Bolivia

[Food and Agriculture Organization \(FAO\)](#) - introduction to fisheries in Bolivia

**Subject(s):**

Social Studies

**Skills:**

Gathering, reading for information, interpreting and presenting information, analyzing data, mapping, reflecting

**Prescribed learning outcomes (PLO):**

\*Note: These PLO's are taken from the BC Ministry of Education website and may be achieved by doing some of the suggested activities and/or by making small adjustments to them to suit your way of addressing the curriculum.

**Time required:**

4 activities, 20 to 60 minutes each

**Activities:**

1. [Adventure & Hands-on Research in Bolivia](#)
2. [Fishing Villages and Geography of Bolivia](#)
3. [A Day with Maximo Catari – Fishing in Lake Titicaca](#)
4. [Are Fish Important?](#)

**Suggestions for Extensions:**

[See Appendix](#)

**Materials and References:**

See individual activities or [Appendix](#)

# Activity 1

## Adventure & Hands-on Research in Bolivia

### Method:

Students fill in a map of South America and an activity sheet to learn more about Bolivia. The concept of an imaginary trip to Bolivia to investigate the health of fishing and fish farming communities is also introduced by brainstorming ideas about what information they will need to learn about Bolivia and fishing before going.

### Time required:

30-45 minutes

### Materials:

White board or chalk board

[World Map](#)

[South America Map](#) - fill in the blank activity sheet

[Bolivia Background Information](#)

### Procedure:

1. Tell the class to imagine that they are planning a trip to Bolivia. A Victoria-based organization called “World Fisheries Trust” (WFT) is asking them to investigate the health of fishing and fish farming communities. Their goal is to develop a project that will improve the lives of people in fishing communities and improve the environment that people and fish live in. Upon returning to Canada, they will write up a proposal to fund a project that would benefit one of these communities.
2. To get started, ask them if they know where Bolivia is located. Which continent? Check a world map in the classroom to locate South America, and then Bolivia. What can we learn about this country just by looking at the map? To learn a bit more about where Bolivia and its neighbours are located, hand out the [South America Map fill in the blank activity sheet](#). Students can report some of the findings and everyone can check answers as a group.
3. Over the next few classes, the students will be gathering various kinds of information to get ready for the trip. Ask students to name some of the things they need to learn about Bolivia and fishing before traveling and what kind of preparations they need to make. This

casual brainstorming list can be written on the whiteboard / chalkboard, and will help "prime" the students for this assignment. In a subsequent lesson, students will work in groups to come up with a more detailed list.

Many of the concepts behind why "developed" countries choose to help "developing" countries are complex. We have prepared a [Bolivia Background Information sheet](#) that explores a variety of contributing factors in ancient history, colonization, fisheries, and aquaculture. Parts of or this entire document can be a useful supplement for the students to better understand the basis for development projects in Bolivia specifically. It might be challenging to understand some of the text for some students.

## Activity 2

### Fishing Villages and Geography of Bolivia

#### **Method:**

Students fill in a map and a fact sheet on Bolivia and answer questions based on this information.

#### **Time required:**

45 minutes

#### **Materials:**

World Map

Students Journal

[Blank Map of Bolivia](#) – activity sheet

[Blank Fact sheet](#) – comparing Bolivia with Canada

#### **Procedure:**

1. Look again at the class world map. Ask the students if by looking at Bolivia on the map, they can determine that fishing might be important (possible answers: Bolivia doesn't have access to the ocean, but there are many rivers and some big lakes.)
2. Hand out the [Blank Map of Bolivia activity sheet](#), one for each student. Using their atlas or looking on the internet, the students should add bordering countries, main cities, rivers and main lakes. The blank map provided contains a few lakes and principal rivers that will help illustrate where fisheries issues are important. Confirm the answers with the students in a participatory fashion.
3. Now the students can take a look at basic country statistics and how they compare to those of Canada by filling out the [Blank Fact sheet](#). This is best done through internet research, though an atlas could work as well.
4. Ask the students to draw some conclusions about Bolivia by answering the following questions – either individually in a journal, in small groups, or as a whole class:

1. Would you say that Bolivia is a poor or rich country? Explain your answer by comparing their standard of living with the one found in Canada using different indicators such as per capita income, mortality rate and literacy rate.
  2. What do you think some of the challenges might be for that country?
  3. Do you think fisheries and aquacultures might be an important source of livelihood and food in Bolivia?
5. Conclude by pointing out that Bolivia is indeed a very poor country facing many challenges but that many of its people, with the support of countries such as Canada, are working hard to improve their lives.

## **Activity 3**

### **A day with Maximo Catari - Fishing in Lake Titicaca**

#### **Method:**

Students read a story about an experienced fisherman from Lake Titicaca to gain a better picture of fishers in Bolivia. They then research types of fishing in Bolivia in small groups

#### **Time required:**

60 minutes

#### **Materials:**

[Story - A Day with Maximo Catari](#)

[Bolivia Background Information Sheet](#)

#### **References:**

[Lake Titicaca fishing – online photo journal](#)

[Maximo's family and home on Lake Titicaca](#) – online photo journal

#### **Procedure:**

1. In this lesson, the students will read a story about a visit with Maximo Catari on Lake Titicaca, and also research fishing techniques used in Bolivia. This experience will help students better understand key challenges faced by small-scale artisanal fishers.
2. Hand out the [Story - A Day with Maximo Catari](#). Maximo is now in his seventies and is an experienced fisherman from Lake Titicaca. This story was written by a Canadian teacher who visited Maximo and his family to learn about fishing communities in the area. Luckily, Maximo's son Eric speaks English and was a great translator. Students should take notes in their own words about what they learn in the story - some suggested topics:
  1. What challenges do fishermen and women have on Lake Titicaca?
  2. What kind of help does Maximo think the fishermen and women need?

If internet access is possible, there are two photo based journals online that give students a visual description of lake fishing in Bolivia for Maximo and others. Photos and descriptions are courtesy of Yves Parizeau:

[Lake Titicaca fishing](#)

[Maximo's family and home on Lake Titicaca](#)

- 3.** In small groups, students should spend about 15 minutes to gather information on fishing in Bolivia from the [Bolivia Background Information sheet](#).



## **Activity 4**

### **Are Fish Important?**

#### **Method:**

In small groups students research how fish are important in Bolivia, keeping in mind their mission to create a development project.

#### **Time required:**

20 minutes

#### **Materials:**

[Bolivia Background Information](#)

#### **Procedure:**

1. Fish are a small component of the diet of most Bolivians – beef and pork are preferred by a fairly wide margin. However, fishing and aquaculture are often promoted as ideal ways to improve food security and income of the very poor. Have students research this question in small groups,, referring to the [Bolivia Background Information sheet](#) and other references as they see necessary. The students should be reminded of their mission to bring a development project to Bolivia, and this research will help them develop their plan. Some questions to be researched could include:
  1. How has fishing changed during the history of Bolivia?
  2. Who does the fishing in Bolivia?
  3. What kinds of fish are caught and cultured in Bolivia?

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed learning Outcomes:

(Refer to PLO table)

### Suggestions for Extensions:

**Social Studies:** Colonization and Warfare - Why does Bolivia need help?

Explain to students that there is a very difficult challenge to try and solve the problem of poverty in the least developed nations. "Why are less developed nations, less developed?"

- There is no one answer to the question. There are many partial answers and if we put these together we might be able to better understand the situation. We are going to tackle a very difficult question and it will require us to stretch our minds to answer it!

- The great French philosopher Rene Descartes said, "Divide each problem into as many parts as possible; that each part being more easily conceived, the whole may be more intelligible." This can be good for initial analysis, as we will do here, but it is good to remind the students that often "the whole is more than its parts," particularly in social situations.

- Ask students what they think this could mean in the context of addressing poverty and other UN Millennium Development Goals. Encourage discussion and brainstorm ideas of the different "parts" to consider such as geography, economy, health, resources, and conflict.

Optional: Look up definitions of synergy, and think of examples in the students' lives. Discuss how this factor could explain how history sometimes creates unexpected consequences or benefits that may not be expected if only considering the parts.

- Continue the lesson by telling the class that in this lesson you are going to look at this difficult question of underdevelopment or less development by studying Bolivia.

-Hand out copies of the [Bolivia Background Information](#) and give students time to read it and go over it as a group.

DISCUSS/EXPLAIN the concepts of kingdoms, empires and colonies

- A kingdom is a realm governed by a monarchy

- An empire is a state that extends dominion over populations distinct culturally and ethnically from the culture/ethnicity at the center of power
- A colony is a territory under the immediate political control of a state. Generally, a kingdom and its colonies form an empire.
- Teachers may want to discuss the term “nation” as well, although it is a relatively ambiguous and difficult term to define. The term nation can be used to describe an imagined social and cultural community similar to an ethnic group, but also a politically organized body of people under a single government.

BRAINSTORM other current or past examples of kingdoms, empires, and colonies.

Have students research the Inca settlement patterns in ancient South America that led to their settlement in what is now Bolivia. Portray these migratory patterns on a map.

Was there someone in Bolivia before the Incas came? Who were they? When did the Inca arrive?

How did the European colonizers take over lands in South America? What advantages did the European colonizers have that facilitated this takeover?

Consider this statement from the [Bolivia Background Information](#) paper: Bolivia is a “donkey sitting on a gold mine.” What kinds of “gold” does Bolivia have? What are the factors that prevent Bolivia from prospering? How could Bolivians and other countries use this “gold mine”?

[Map](#) exercise (COLONIALISM):

Ask students if they can name other countries that were colonized around the same time by the Spanish. Have students draw a map to show how Spain and other European countries divided up South America. Have them use textbooks, Internet resources, and atlases to label the countries and name their colonizers.

Resource:

<http://www.enchantedlearning.com/subjects/continents/Southam/label/labelsa.shtml>

Discuss/Explain RACISM. How do you think racism affected Bolivians during the colonial era? How did the racism amongst the Incas and other First Nations groups affect the new relationship with Spanish Colonizers?

Note to teachers: you might want to address the stereotypes we have regarding developing countries, including those in South America. For example, while some traditional indigenous villages still exist, modern cities, cars, and clothing may not be so different from Canada. South America, along with Africa, is often portrayed or considered as poor and troubled, which can cause the continuation of stereotypes. Encourage students to think critically about their sources of information and to keep an open mind when considering cultures and nations

other than their own. If the class has examined any African nations, have students compare and contrast the types of stereotypes that exist for South America and Africa.

**Social Studies:** Bolivia has just adopted a new Constitution after many months of struggling between the people in Bolivia who still own most of the land and the wealth and the indigenous people who make up 70% of the population. In 2006, for the first time in its history since the Spanish conquest, Bolivia elected a president of fully indigenous ancestry, Evo Morales. In the new constitution, all the indigenous groups of Bolivia are listed. It states they have a right to self-determination, to their distinctive culture and to speak their own language. The [list of languages \(all 36 of them!\) can be found here](#). Can the students come up with a list of 36 First Nations languages from Canada? Can they imagine what it would be like in Canada if 70% of Canadians were First Nations, many still talking their own language and wearing their traditional clothes? Do they think that our ways of living would be more sustainable and closer to the natural world? Would the First Nations be sharing the wealth of the nation or would they be more like the indigenous people of Bolivia who mainly live under the poverty line? If you have a good knowledge of Spanish and would like your students to find out more about the different indigenous groups of Bolivia, you might find the following site very useful: <http://www.amazonia.bo/pueblos.php>.

As can be expected, not everyone in Bolivia is super excited about Evo's leadership and reforms. Have the students explore this question. What are the factors that would be the basis of opposition? Where else in the world do these factors play a role in politics? How does this compare to the situation in Canada?

An interesting starting point is the Wikipedia entry on Evo Morales: [http://en.wikipedia.org/wiki/Evo\\_Morales](http://en.wikipedia.org/wiki/Evo_Morales).

**Social Studies:** Bolivia's territory used to be much bigger. Between 1884 and 1938, Bolivia lost large parts of its territory following some disastrous wars with neighbouring countries. In 1894, Bolivia became a land locked country after losing its access to the sea to Chile. Ask the students to find a map on the internet showing the changing territory of Bolivia over time. Can they find out if Bolivia had an important sea fishing capacity before the war against Chile?

**Social Studies and Science:** have the students do more in-depth research on totora boats using the following web sites. It could lead to an actual science project of building models of reed boats and testing them in water basins.

<http://www.archaeology.org/interactive/tiwanaku/project/experiment.html>

<http://www.oneworldprojects.com/products/reed-boats.shtml>

<http://www.reedboat.org/The%20Boat/theboat.html>

You could also ask your students to investigate the famous Kon Tiki expedition led by the Norwegian Thor Heyerdal and find out about the connection it had with the Andean people of Peru and Bolivia: <http://www.greatdreams.com/thor.htm>

**Visual Arts:** posters could be created to show the beauties found in some of the lake and river ecosystems. The students could do research first in order to include some of the native plants and animals of Bolivia. Of particular interest might be the giant Titicaca frog. What fish species have been introduced to Lake Titicaca?

## **Materials and References**

### **Activity 1: Adventure & Hands-on Research in Bolivia**

#### **Materials:**

White board or chalk board

[World Map](#)

[South America Map - Fill in the blank](#)

[Bolivia Background Information](#)

### **Activity 2: Fishing Villages and Geography of Bolivia**

#### **Materials:**

World Map

Students Journal

[Blank Map of Bolivia](#) – activity sheet

[Blank Fact sheet](#) – compare Bolivia with Canada

### **Activity 3: A day with Maximo Catari - Fishing in Lake Titicaca**

#### **Materials:**

[Story - A Day with Maximo Catari](#)

[Bolivia Background Information Sheet](#)

#### **References:**

[Lake Titicaca fishing – online photo journal](#)

[Maximo's family and home on Lake Titicaca – online photo journal](#)

### **Activity 4: Are Fish Important?**

#### **Materials:**

[Bolivia Background Information](#)

# Global Citizenship in Fisheries and Aquaculture

## BOLIVIA

### Lesson 2

### Adventures in Bolivia – On Our Way!

#### Students will:

- Search effectively through the Canadian International Development Agency (CIDA) website for information on various projects that are assisting the Bolivians
- Understand the role of Canada and non-profit organizations in international development
- Plan effectively for a successful development project in Bolivia
- Plan effectively for successful implementation of the project
- Determine what information is critical to the success of their project and where and how they will collect this information
- Discover each others' interests and skills during assignment of roles in the proposed project
- Understand how cultural differences, languages, weather, geography and other elements will impact the logistics of their project and impact its success
- Work together, recognizing each others' skills and interests
- Research information for planning international travel
- Divide up responsibility for components of a common goal

#### Overview:

In this lesson on Bolivia, the students research the various roles and activities that Canada plays in international development. The CIDA website is explored and students acquaint themselves with projects specific to Bolivia. Students will discuss how to determine an appropriate focus for a project to address the needs of Bolivians, and, based on this, set objectives for the trip that they will be planning. The trip plan will be developed with roles assigned including that of photographer, translator, fund raiser, project manager, interviewer, travel planner, etc. Post trip reporting will conclude the lesson, with students determining how the information that they gathered while in Bolivia will contribute to a successful project proposal.

This lesson will help students understand CIDA, the various projects it funds and specifically those projects in Bolivia. The students will understand the effort and challenges of international development work, and appreciate the value of participative work.

**Subject(s):**

Social Studies, Science

**Skills:**

Research, reading comprehension, critical thinking, analyzing information, presentation skills, planning, interpretation

**Prescribed Learning Outcomes:**

[See Appendix](#)

**Time Required:**

2 activities, 30 to 120 minutes each

**Activities:**

1. [CIDA in Bolivia: Scavenger Hunt!](#)
2. [Planning the first trip to Bolivia](#)

**Suggestions for Extensions:**

[See Appendix](#)

**Materials and References:**

See individual activities or [Appendix](#)

# Activity 1

## CIDA in Bolivia: Scavenger Hunt!

### Method:

Students complete an information scavenger hunt on the CIDA website to learn about CIDA and some of its work in Bolivia.

### Time required:

30 minutes

### Materials:

[Scavenger Hunt handout](#)

### References:

CIDA Website

### Procedure:

In this lesson, students will become acquainted with CIDA and their projects in Bolivia. They will also learn about the role of a Canadian non-profit organization in international development projects. Internet access is needed for this activity.

Students can go on a scavenger hunt in the CIDA website to discover more information about how Canada contributes to the lives of Bolivians. The [Scavenger Hunt handout](#) will lead the way.

Have the students specifically investigate these questions:

- 1) What are the development priorities that CIDA has agreed on with the Bolivian government?
- 2) What kinds of Canadian-funded projects are going on, or have happened, in Bolivia?
- 3) What are the foreign aid organizations currently active in Bolivia? (this search could go beyond the CIDA website to search the UNEP, DFID, USAid, WWF, Conservation International, and GTZ websites. Church-based aid projects, particularly by Mennonites, are very common in Bolivia).



## Activity 2

### Planning the first trip to Bolivia

#### **Method:**

In small groups students fill out an activity sheet to help them plan their trip and development project in Bolivia.

#### **Time required:**

90-120 minutes (2-3 sessions)

#### **Materials:**

White Board or Chart Paper

[Adventures in Bolivia!](#)

#### **References:**

[Short Travel video – Bolivia Culture and sights](#) (optional)

#### **Procedure:**

1. Tell the class that they are now better prepared to organize their trip with the background knowledge they learned such as geography, history, fisheries data, and what kind of foreign aid currently exists in the country or has taken place in the past.
2. Divide the class into smaller groups (3-5 students), each group planning their own trip and project. This will not only make it easier to plan logistics, but will also provide an opportunity for some diversity in the projects proposed. Hand out the [Adventures in Bolivia!](#) sheet to help in this exercise. The first step for each group is to choose an objective for their visit and the proposed project.. Determining this is a challenge , and it would be good to suggest a process and provide some options: Have the students discuss the potential goals of a project that are of particular interest to the students? For example:
  1. Help a community design a sustainable fishing plan
  2. Provide guidance to a community to organize small-scale fish farming
  3. Bring new business ideas for communities that need help
  4. Develop environmental education for kids and adults
  5. Invite scientific experts to exchange information on better fishing techniques
  6. Work with the community to make a documentary video about their situation

7. Organize a fish market and ways to sell their fish in distant cities
8. Research different ways to process/preserve fish (e.g. smoked, dried)
9. Encourage better communication between communities, government, and business
10. Design a plan for dealing with over-fishing and making fish stocks healthier
11. Anything that the Bolivian community requests (e.g. schools, food, clothing, medicines?)

It is important to think about what kind of interest the students have, what kind of organization they imagine themselves belonging to, what kind of aid can be provided, and what they feel they want to do with their aid. Students should be free to decide amongst themselves which kind of strategy they think is appropriate to follow. The worksheet "[Development Aid Strategies](#)" can be distributed to stimulate this discussion.

3. What kind of information do they need to collect while in Bolivia? They will need to make a trip report that includes a proposal to carry forward the chosen project, so they should be organized to get the information they need before departing.

What are the roles of each student in the group? For example: photographer, translator, interviewer, project manager, technical expert, fundraiser, travel planning, etc.

3. Ask the students in their small groups to do a brainstorming session about what they will need to go traveling. One member of each group should write their list on a whiteboard or large sheet of paper for the rest of the class to see. Many groups will likely find that they might want to add some more items after seeing what the other groups are including. Do they think their list is complete? Anything else that could be added? Compare their list to the [one provided in the activity resource section](#).
4. Where in Bolivia are they going, and how are they going to get there? Itinerary and travel logistics: duration of visit, flight schedules, passports, visas, languages (Spanish, Quechua, others), time zones, spending money, cultural differences and customs, weather. Students should explore these details with internet searches.

\* If time allows, it could be interesting to include a short travel video on different sights and cultures of Bolivia.

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed learning Outcomes:

(Refer to PLO table)

### Suggestions for Extensions: n/a

### Materials and References:

#### Activity 1 - CIDA in Bolivia: Scavenger Hunt!

##### Materials:

[Scavenger Hunt Handout](#)

##### References:

[CIDA Website](#)

#### Activity 2 - Planning the first trip to Bolivia

##### Materials:

White Board or Chart Paper

Felt Pens

[Adventures in Bolivia!](#) – Hand out

Development Aid Strategies – Hand out

Trip supplies list – hand out

**References:**

(Short Travel video – Bolivia Culture and sights) optional

# Global Citizenship in Fisheries and Aquaculture

## BOLIVIA

### Lesson 3

#### **Adventures in Bolivia: Getting to know and help San Buenaventura: an Amazonian fishing community**

##### **In this lesson, students will learn to:**

- Understand some of the causes that lead to fish stock depletion
- Understand the challenges faced by a fishing community in a poor country
- Promote career awareness in the field of international development
- Compare fishing techniques and determine how sustainable they are
- Promote action that can foster positive changes in a Bolivian fishing community

##### **Overview:**

The students have arrived in Bolivia. They landed in La Paz and from there flew in a small plane to the Amazon region. They land in San Buenaventura on the shore of the mighty Beni River where they are met by Marcos who will be their guide. They will learn about river fishing in Bolivia, will have a chance to go on a fishing expedition and hear from local fishers about their lives. At the end of their trip, they will be asked to help the local fishers' association to develop a proposal to obtain Canadian funding to start an aquaculture project.

##### **Subject(s):**

Social Studies, English, Math, Visual Arts, Drama, Science

##### **Skills:**

Gathering, reading for information, interpreting and presenting information, analyzing data, reflecting

##### **Prescribed Learning Outcomes:**

[See Appendix](#)

##### **Time Required:**

3 activities, 60 to 75 minutes each

**Activities:**

1. [Meeting with Marcos](#)
2. [Dilma's village project](#)
3. [Helping the Fisher's Association](#)

**Suggestions for Extensions:**

[See Appendix](#)

**Materials and References:**

See individual activities or [Appendix](#)

# Activity 1

## Meeting with Marcos

### Method:

Students are introduced to Marcos and his childhood memories about fishing and growing up in the Amazon. Students are also asked about their own fishing experiences, and then create a Venn diagram comparing Marcos' and their own experiences.

### Time required:

60-75 minutes

### Materials:

Student Journals

Poster Sheets

Felt Pens – 2 colours

[Marcos' story](#)

Venn's Diagram

### Procedure:

1. This is the first meeting with Marcos. He shares his childhood memories, particularly his fishing adventures. The students in return share some of their memories including their own fishing experiences.
2. Have the students work in groups. One of the members of each group will play the role of Marcos and the others will be the traveling students. Hand out the story of Marcos to each group. The student playing Marcos reads the story to the students.
3. Once the story is read, ask the students to share their impressions about growing up in the Amazon. What did they like the best about Marcos' story? What surprised them the most? Would they have liked to live like Marcos? Why or why not?
4. Marcos is also interested in the lives of the students. Have them in each group talk about their own childhood memories. What are their best memories? Did they have a chance to spend time in rural areas and go fishing?

5. As a group, ask the students to do a Venn's diagram. In the left circle they write details of Marcos' childhood memories in point form. On the right circle, they write details of their own childhood in Canada. Anything that is similar between the two is to be written where the 2 circles intersect. These diagrams can then be posted in the classroom and could be used for further discussion.
6. Conclude the lesson by asking students to reflect quietly individually, recording their thought in their journals. Ask them to divide a page in 2 columns. On the left side, they write a minimum of three things about the life of Marcos as a child, focusing particularly on his fishing adventures. On the right side, they write about some of their own childhood memories, including any fishing outings.



## Activity 2

### Dilma's Village Project

#### **Method:**

Students read a story about Marcos' mother, Dilma, who started a project to help neighbouring indigenous people that are living in extreme poverty. In groups, students also create a short skit based on the story and present it to the class.

#### **Time required:**

60-75 minutes

#### **Materials:**

Projector

Student Journals

#### **References:**

[Dilma and the Esse Ejja's story](#)

Internet site: <http://picasaweb.google.ca/yparizeau/RiverFishing1?authkey=MDauCF4kE8Y#>  
(students pretend these are the pictures they took while visiting Dilma and the village she created in San Buenaventura, Bolivia)

#### **Procedure:**

1. The students meet again with Marcos who tells them how his mother Dilma started a project to help a group of poor indigenous people, the Esse Ejja; later on they meet with Dilma who gives them a tour of the village she created. The students are provided with a bank of pictures that they pretend they took while visiting San Buenaventura.
2. Have the class work in groups. Hand out Dilma's story to each group. Give them some time to read the story. The bank of pictures could be made available to the students by using a projector in the classroom.
3. Discuss the story with the whole class. What are the main ideas in the story? Who is Dilma? Who are the Esse Ejja?

4. Next ask them to develop a short play or skit illustrating how Dilma was able to help the Esse Ejja. Their play should emphasize how the creation of the village and the fishing opportunities have helped the Esse Ejja lead a much healthier life. The pictures would be useful to give the students a visual reference.
5. Have each group present their short play and allow some time for discussing how each group dealt with the details of the story.
6. If time permits, have the students write a new entry in their journal about their impressions of Dilma and her work with the Esse Ejja. How do they think that people like Dilma can make a difference in the world?

## **Activity 3**

### **Helping the Fisher's Association**

#### **Method:**

Students work in pairs and fill out an activity sheet on the fishing situation in San Buenaventura. Groups share ideas, and as a class develop a project on aquaculture to help compensate for the decline of the fish stocks in the Beni River.

#### **Time required:**

60-75 minutes

#### **Materials:**

Drawing materials

Chart paper

[Fishing situation in San Buenaventura](#) – Hand out

[Maximo's family and home on Lake Titicaca](#) – on-line photo journal

#### **References:**

[World Fisheries Trust](#)

[CIDA](#)

#### **Procedure:**

1. The students meet with their guide, Marcos, one last time before going back to Canada. They find out about the fishing situation in San Buenaventura and they have a chance to go on a fishing expedition with Dilma and other fishers. They are asked to develop an idea for a project to help the fishers' association. The plan is to be presented to World Fisheries Trust after the students come back to Canada.
2. Have the students work in pairs. Hand out to each pair the sheet entitled "Fishing situation in San Buenaventura". Also have the pictures that the students took while in San Buenaventura (Maximo's family and home on Lake Titicaca) available on a projection screen (if available)..

3. Using both the text and the pictures, have each group produce a diagram or drawing of the artisanal fishing techniques that they observed while on the fishing expedition. Around the drawing they list the main obstacles to sustainable fishing as told by Marcos.
4. Then have each pair meet another pair. They share their drawings and discuss a plan of action to help the fishers' association. Explain that the association would like to do some aquaculture to help compensate for the decline of the fish stocks in the Beni River. Have them write their main ideas in big letters on chart paper. Explain that the whole class will come up with a project following the initial discussions in smaller groups. The project will be submitted to World fisheries Trust, an NGO based in Victoria, British Columbia as well as CIDA as a possible source of funding.
5. Have each group present their ideas and develop a class project on aquaculture to be submitted to WFT.

# APPENDIX

## Prescribed learning Outcomes

## Suggestions for Extensions

## Materials and References

### Prescribed learning Outcomes:

(Refer to PLO table)

### Suggestions for Extensions:

**English, Science:** have the students make a list of the [species of fish mentioned by Marcos](#) or any other species that are commonly fished in the Amazon region of South America. They could find on the internet a picture of each fish; write a short description for each species and their status (abundant or threatened?) as well as fishing techniques used to catch those species. Are the techniques used sustainable?

**Information technology, English, Social Responsibility:** have the students use [Dilma's story](#) and the [photos](#) attached to it to create a power point presentation to explain and publicize her project. The students could instead research and create their own project to help a real group of people in a poor country such as Bolivia.

**English:** have the students develop a story based on their fishing expedition, using lots of exciting details. They can look at the [pictures](#) again and reread [Marcos' story](#) to help them develop their own report. It could be done as a newspaper article, an email message to their parents, or a blog.

**Science:** more time could be spent studying [different types of aquaculture](#), listing the main advantages and disadvantages of each. Which ones are environmentally friendly and sustainable? Which ones are not?

### Materials and References:

#### Activity 1 - Meeting with Marcos

#### Materials:

Student Journals

Poster Sheets

Felt Pens

Marcos' story

**References:**

[Venn Diagram](#)

**Activity 2 - Dilma's Village Project**

**Materials:**

Projector

Student Journals

[Dilma and the Esse Ejja's story](#)

[Dilma's Village in San Buenaventura, Bolivia](#) – on-line photo journal

**Activity 3 - Helping the Fisher's Association**

**Materials:**

Drawing materials

Chart paper

[Fishing situation in San Buenaventura](#) – Hand out

[Maximo's family and home on Lake Titicaca](#) – on-line photo journal

**References:**

[World Fisheries Trust](#)

[CIDA](#)

# Global Citizenship in Fisheries and Aquaculture

## MILLENNIUM GOALS and DEVELOPMENT STRATEGIES

Coordinating the international effort to solve problems of poverty and underdevelopment has long been a difficult challenge. However, in September of 2000, one of the largest meetings on this topic, sponsored by the United Nations, agreed to a *Millennium Declaration* that outlined eight Millennium Development Goals (MDGs) considered of greatest priority:

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality and empower women
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS, malaria, and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development

*All of the countries participating in the meeting agreed to these goals, and some countries (including Canada) committed to invest increased amounts of money into resolving these – particularly in Africa. However, there are still different strategies to arrive at these goals, and Canada generally negotiates with the countries receiving their aid what priorities should be addressed. World Fisheries Trust and other organizations also have their particular strategies that they feel will address the MDGs. In this “Global Citizenship in Fisheries and Aquaculture” teaching resource, themes that we promote, and feel contribute to the question of the MDGs include:*

- Sustainable livelihoods
- Sustainable and equitable resource management
- Environmental and social responsibility
- Gender and race equality

- Challenges and opportunities for youth
- Factors contributing to poverty and strategies for its alleviation
- Natural and social disasters – impacts on human development
- Effects of Climate change

The table below provides an overview of how the MDGs are addressed within the lessons. Further information on the millennium goals and the status of their resolution is presented on the Millenium Project website (<http://www.unmillenniumproject.org/goals/index.htm>) and their report.



UN Millennium Goals	Intro.		Mozambique					Malawi			Bolivia				
	Lesson No.														
	1	2	1	2	3	4	5	6	7	1	2	3	1	2	3
Eradicate extreme poverty and hunger		X			X			x							X
Achieve universal primary education					X										
Promote gender equality and empower women						X					X				
Reduce child mortality					X										
Improve maternal health															
Combat HIV/AIDS, malaria, and other diseases						X									
Ensure environmental sustainability		X		X				X	X		X		X		X
Develop a global partnership for development				X		X	X	X	X		X		X	X	X