THE SMALL FAMILY FARMING CHALLENGE

For 11-18 years old (and adults!)

Learning objective:
Learn about the role of small family farmers in feeding the world’s population, the impacts of climate change and unfair systems on their farms, and how to support sustainable and fair agriculture.

Time: 60-90 minutes

MATERIALS:
- Masking or painting tape
- Recycled paper or newsprint
- Markers/pencil crayons/crayons (1 set per group)
- Ruler (1 per group)
- Calculator (1 per group)
- Scissors (1 pair per group)
- Dice (2 for every 5 groups)
- Red Card (made from coloured GOOS recycled paper or construction paper)

Background information:

70% of the world’s population is fed by small family farmers using less than a quarter of the world’s farmland.

2.2 hectares is the average size of a small family farm. Their size varies from one continent to another.

Subsistence farming is the type of agriculture practiced by most small family farmers. They grow their own food and sell some of the surplus. They use this income to pay for health care, education, clothing, etc., for their families.

1/8 of the world live in hunger. This means they never have enough to eat, and half are small family farmers.

Small family farms are getting smaller while industrial farms are getting bigger. Small family farms are overall more productive than big farms.

Fewer small family farmers. We are fast losing farms and farmers in many places, yet small family farmers continue to be the major food producers in the world.

Women feed the world. Most small family farmers are women.

References: Grain, Feeding9billion
SEE!

Climate change presents major challenges to small family farming, including:

Seasonal changes: In Ethiopia and many other countries, the growing season's length and the rainy season have become unpredictable. Watch the video: devp.org/video-ethiopia.

Variability of rainfall means farmers are unsure of when to plant their crops: too early and the seeds will die from lack of rain; too late and the plants won’t have time to mature before they need to be harvested.

SET-UP:

1. Divide students into groups of 5-7 people; determine how many groups you will need to prepare.
2. For each group, set up a table with enough chairs for everyone. Vary the size of families (from 5-7 people), even if students divide perfectly into uniform groups.
3. On each table, tape a ‘farm plot’ of 60x60 cm.
4. Each table should receive: 1 set of writing tools, 1 pair of scissors, a calculator and a stack of recycled paper or newsprint paper.

Playing the game:

1. Welcome students, and have them sit at the tables.
2. Explain that each group is a small-scale farming family, and ask the members of each group to assign themselves roles. Each family should have a minimum of 2 adults, 2 children, and one infant. Additional family members can be grandparents, children or infants, as the group decides.
3. They can choose the country they are from: Brazil, Ethiopia, Indonesia, Niger, Paraguay or the Philippines. Give them a moment to learn about their country (Find resources about these countries at devp.org).
4. Tell the students that we will be simulating small family farming around the world. The taped rectangle represents their plot of land. They will have to do some math for this game which is scaled with the equation: $y = \sqrt{x}/2$, where metres are represented by centimetres of paper (see example in step 5).
5. Each group should first place a house on their land. Houses tend to come in fairly standard dimensions because of construction processes. Students can assume a house size of 37 m². Students have to calculate the size of the paper they need to represent the house on the land plot by using the equation: $y = \sqrt{x}/2$, and a scale of 1m=1cm. $y$ is the size of the house. Then, students cut out this size of a house and place it on their land with the word ‘house’ or make a drawing of a house.

Example:

$\sqrt{37 \text{ m}^2} = 6.08/2 = 3.04$. So the house would be 3cm X 3cm.

6. Next, they will determine how much land they need to grow the food they will eat for the year. For each family member, they need to have land that measures 1850 m². Students should calculate their dimensions, and then cut the appropriate paper size for each person’s food plot. They can label these papers, or use the markers to draw images of the crops on the plot to identify them.

• Please note: once the paper is cut to the right size, this sized sheet can be cut into smaller sections if needed to fit the space onto the farming plot, as long as the total area is maintained.

7. This crop land will supply a plant-based diet - if families want to add dairy, they can choose to have a goat or a cow (we will assume there is communal pasture-land that they have access to beyond their farm). A goat requires 10 m² to be housed and milked. A cow requires 30 m². The additional benefit of a cow is that the manure will serve as fertilizer for the crop fields. Manure and crop rotation are good methods to maintain soil health.

8. With access to a communal well, our basic needs of food, water and shelter are met. Next, the family must consider other needs and wants: clothing, school, healthcare, meat, etc. To make an income or to be able to barter, the family must grow additional crops based on the statements below. If a family chose not to have an animal, they will need additional crops they can sell to purchase fertilizer.

- Clothing and household items (the family is very frugal!): 200 m²
- School (for each child, includes supplies and transport): 950 m²
- Healthcare (for 1 illness, randomly assign tables between 1-3 illnesses): 250 m²
- Meat (for 1 meal per week for the year, groups can decide how many times a week they want to eat meat and attempt to fit it into their plot): 500 m²
- Fertilizer (for families who chose not to have a cow): 400 m²

Larger families will need to make certain choices as they will not have enough space for all the items listed.

9. Finally, to pay for taxes, all families require 100 m² for crops that they will sell to cover this expense.
Challenge: 
**Niger, in the Sahel region of Africa, is experiencing a drought**

Having experienced drought and the resulting crop failures for many years, you need to change the way you farm. To represent the new irrigation techniques you have learned from your Development and Peace sponsored co-op, fold each of your crop areas accordion-style, and add additional paper to each section to ensure the same area is covered for each item. Does increased labour mean that more time and effort are required?

**Consequences:**

These techniques only help to capture what little rainfall there is. Continued drought can mean that even with new techniques, there is simply not enough rain to grow crops. Provide the group dealing with this challenge with a die: immediately, and each time a new group faces their assigned challenge, this irrigation group must roll the die to find out if there is a rainfall. A roll of a 6 means rain is on its way. If 2 ‘seasons’ (other challenges) go by without any rain, and two crops fail, this family becomes reliant on food aid. Check back with this group after each challenge to see how they are doing.

**Challenge:** 
**Unpredictable rainfall in Ethiopia due to climate change**

The growing season’s length and the rainy season have become unpredictable in Ethiopia. Watch this video to find out more: [devp.org/video-ethiopia](http://devp.org/video-ethiopia). The variability of rainfall means farmers are unsure of when to plant their crops: too early and the seeds will die from lack of rain; too late and the plants won’t have time to mature before they need to be harvested. Crops are failing.

**Consequences:**

Less food and not enough to feed the family. Farmers must buy their food at the market with money they earn from other jobs.

When a farm is in difficulty, sometimes family members will move away to find another job to provide income to help support the family. This means disruption to the family, less adults to care for the children, and less labour to work on the farm. Will the children have to quit school in order to make up for the reduced adult labour on the farm or to help take care of younger siblings?

Allow the groups to decide who will be the labourer that moves away: the father or an older child. This person has to move away from the table. The rest of the group must now assign each individual’s labour capacity. An adult can work 2 tasks, a child 1 task, and an infant none. Each food-lot size, or its equivalent, is 1 task. Attending school (assuming land to pay for school is being worked by another person), is 1 task. Tending the animals is 1 task. One task also needs to be assigned for household chores (fetching water, cooking, etc). Students should write their names on their task indicators, and remove any plot allocations that are unable to be attended to. They will have to make choices about which tasks are done. Roll a die to find out if the worker finds a job: 1-2 means no work was found, 3-4 means the pay is equivalent to 1 person’s food plot, 5 means the work is equivalent to 2 person’s food plot, and 6 means the income is adequate to supplement 2 food plots and 1 extra expense such as taxes, household costs, or school. These plots can be added back onto the farm, with ‘income’ noted. Ensure red cards are used when needed.

**Challenge:** 
**Land grabs (for 2 groups from Asian or Latin American countries)**

As food prices rise and companies need to keep making more money, multinational companies are buying up land around the world. Many small family farmers have simply farmed their land for generations, and do not hold deeds to prove ownership. Therefore, when the land is sold, legally or not, these farmers are pushed off their land and have to start anew. Other times, the state approves a purchase, and farmers are paid a nominal sum before being forced to leave.

**Consequences:**

Assign one family to lose 1/3 of their land – they now have to rework their land allotment and select their priorities. What does this decrease mean for their ability to feed the family?

Assign another family to be pushed off their land entirely. They have to start anew, in a new location (perhaps the floor to emphasize the discomfort), and restart their farm. Point out that during the years that it takes to make a new farm productive, they will be reliant on food aid or other sources of income. Ensure they have a red card during the time it takes to set up their farm.

Either family can choose to take time to put together a contingency to present to their local government in an effort to overturn the land sale and keep their farm. Explain to students that when time is taken away from farming, families risk hunger, but that it is the only way for them to regain their land. Where

---

**Stop and assess:**

Engage the students in discussion about their situations and challenges; allow families to walk around and see the realities of other families.

**Challenges faced by small family farmers:**

Through discussion with the whole class, ask students to identify possible challenges (e.g. reduced rainfall) faced by small family farmers due to climate change. Assign one of every 5 groups to deal with each challenge listed.

Within their respective groups, ask students to consider what some of the possible consequences of that challenge might be (e.g. drought, malnutrition, hunger, reduced income). If the challenge is preventing a family from producing enough food for itself, the group must place a red card at their table to indicate their family’s need for food aid.
will they get their food while they put their efforts into advocating for their land rights? If they are suffering from malnutrition and hunger, how will they have the energy to take care of their children and fight to get their land back?

Challenge: Access to local markets

Crop buyers are not always interested in buying the small harvests of small family farmers. As well, the global prices of crops fluctuate up and down, which makes the earnings of small family farmers inconsistent. These factors combined with lack of government support for small family farmers make it difficult for them to compete in the market and obtain fair prices for their crops. Watch this video: bit.ly/2a5L3ar.

Consequences:

When this group takes their crops to the market, it sells for 50% of what they had expected. With only half as much income, this group must decide which bills they will pay – taxes are not optional, so choices must be made between schooling, clothing, fertilizer and healthcare in proportionate ways. In addition, this group must find a way to double the size of the crops that are sold to pay for taxes, schooling, clothing, healthcare and fertilizer, assuming the same low selling price for the next season.

Farmers’ markets enable small family farmers to sell their produce to their local communities at a better price than what large crop buyers will pay. By selling directly to the members of their communities, they make a better living, and people in their community know where their food comes from.

Can you think of other ways of making the selling and buying of agricultural products fairer? What do you know about ‘fair trade’ and local farmers’ markets?

Stop and assess the situation:

- How many families are able to grow enough food?
- How many families are able to grow some food?
- How many families are in a hunger crisis?
- Are any families able to send their children to school? How many of their children are able to attend school despite the family’s challenges?

JUDGE!

Discussion Guide:

Care for Creation. We must acknowledge our role in contributing to climate change and its negative impacts on the most poor and vulnerable (see devp.org/activities, and particularly Climate Balloons if this topic needs discussion). How can we protect all of God’s creation by reducing our carbon footprint and limiting the current temperature rise of the planet?

Preferential Option for the Poor. Small family farmers feed the majority of the population, yet global economic policies marginalize them and make it difficult for them to earn a dignified livelihood. In addition, they are now suffering from the negative impacts of climate change. What can the government of Canada and Canadians do to ensure that the voices of small family farmers are heard and included in the decisions that affect them?

Rights and Responsibilities. By supporting family farmers in their right to access land and local economies, here at home and around the world, we can help ensure small family farmers have access to markets. How can we promote fair access to markets for small family farmers?

ACT!

Action Plan: sign the Action Card, join the movement!

Take a picture of your farm and send it to your MP with a message about what you learned, advocating for the support of small family farming. You can also share the picture with us via Twitter @devpeace.

Sign the 2016 Education and Action campaign action card! Go to devp.org/act to sign online, or use the action cards (available by online order or through your local animator) to ask the Canadian government to support small family farmers in the Global South who are severely affected by climate change.

Learn about Development and Peace’s 50 years of solidarity in support of the poorest and most vulnerable communities in the Global South and actions to build a just world. Read our 50th anniversary resources, such as our online or printed timeline. Get in touch with your local animator and invite a Development and Peace member to come speak to your class or group to share their experiences. Learn about our activist role models! Find your animator’s contact info at devp.org/contact.