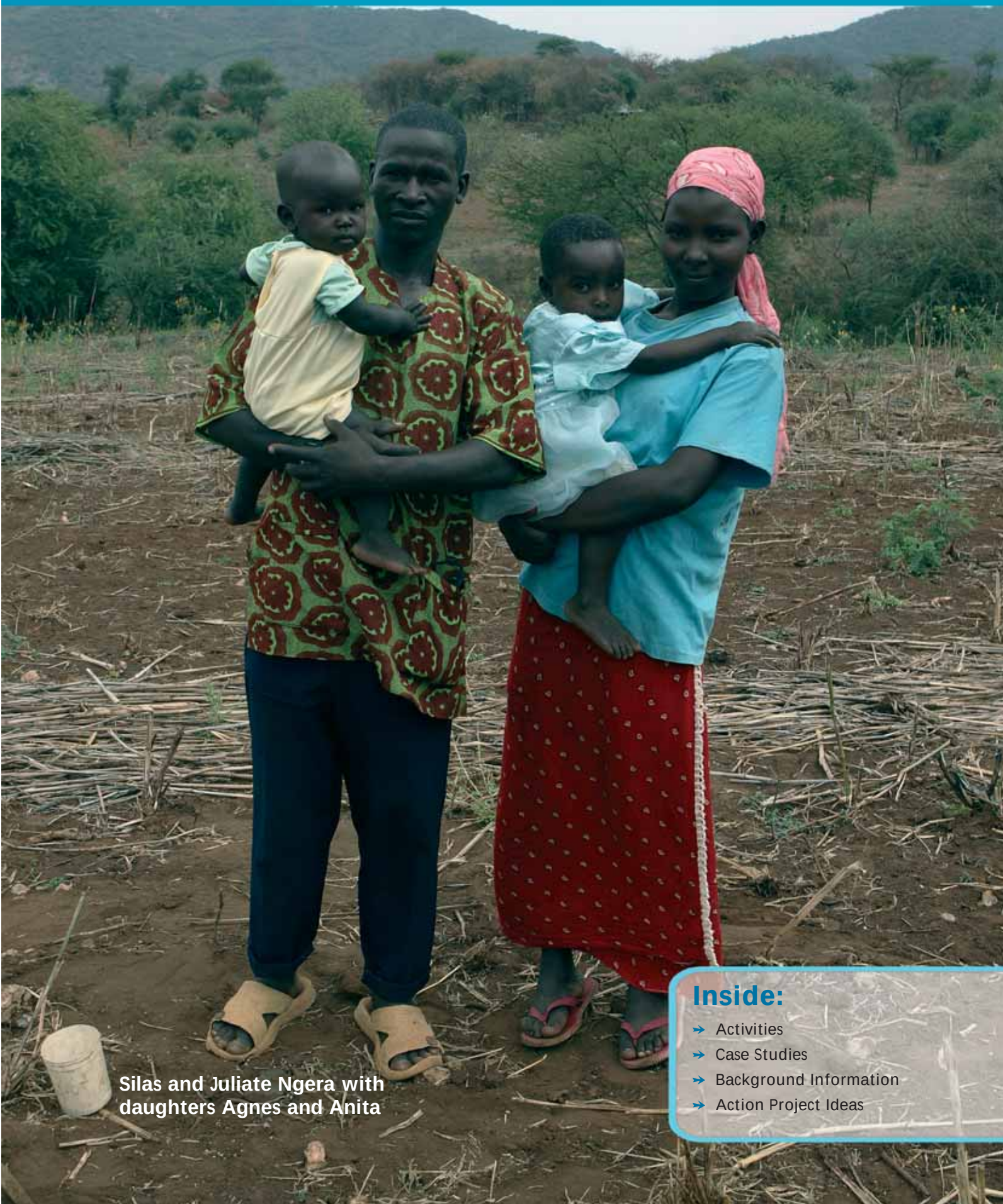
Creating a Climate for Change

TRÓCAIRE
Working for a Just World

A CSPE and Citizenship Resource for Teachers on Climate Change in the Developing World



Silas and Juliate Ngera with daughters Agnes and Anita

Inside:

- Activities
- Case Studies
- Background Information
- Action Project Ideas

This resource is divided into main text and sidebars. The sidebars contain icons to indicate the type of information that is contained

This icon is followed by some interesting information on the related topic.

This icon is followed by a related website.

This will contain additional ideas for activities, methodologies, follow on or homework

Keeping a journal is a great learning tool. Not only does it help the students to record new information and their reactions, it also deepens the learning process and facilitates more considered opinions. Throughout the resource, this space will suggest questions and ideas as prompts for your students to reflect on having completed one or more of the activities.

INTRODUCTION TO CLIMATE CHANGE

'The world's wealthiest countries have emitted more than their fair share of greenhouse gases. Resultant floods, droughts and other climate change impacts continue to fall disproportionately on the world's poorest people and countries, many of which are in Africa.' – Archbishop Desmond Tutu, June 2005

'Up until perhaps four years ago, the cycle of flooding and droughts was predictable. However, there has been a trend now for more frequent, and significantly higher impacting droughts and floods'– UN, Kenya July 2007

'The dynamics of changing weather means that we are facing new challenges everyday. Before we were winning, now we are losing…because the rains have changed' – Steven Waweru, Caritas Nyeri (a community based organisation, part-funded by Trócaire), Kenya, July 2007

'Nowadays, there is much more drought and it was not like this before. There used to be a lot more trees growing in this area which bore fruit for both animals and people. The trees have long since died' – Christina Amodoi, 75-year old Turkana woman, Kenya 2007

Why is Trócaire addressing Environmental Justice and Climate Change?

In recent times Trócaire staff and partners have witnessed how changes in climate patterns are challenging the lives of the most vulnerable people in the world. The impact of climate change in developing countries is undermining poor people's ability to survive. One particular challenge faced by those we work with and support is how to deal with erratic rains and increasingly prolonged droughts.

The majority of people in Africa are dependent on rain-fed agricultural production in order to meet their own food needs and to generate some additional income. The global pattern of extremes in weather conditions is making this way of living more and more precarious and risky. Too much rain is washing soil and seeds away and crops are wilting due to drought.

Climate change is exacerbating cycles of poverty. Hard won development gains over the years are being rapidly eroded as people are forced to survive as best they can through increasingly desperate coping mechanisms that include the sale of assets, migration and further degradation of the environment.

Since its inception, Trócaire has been firmly committed to issues of global injustice. We see the impacts of climate change on the world's poorest and most vulnerable as one of the 21st century's greatest injustices. While rich countries continue to consume and use energy levels far beyond what is fair and sustainable, the greatest impact is being felt by the poorest people who are least able to cope. As the enormous impact of climate change on the earth becomes increasingly evident, Trócaire is driven by the fact that the poorest communities are being forced to deal with those changes today.

This Resource

This resource has been designed specifically for teachers and students of CSPE and Citizenship, looking at the concepts of **Interdependence and Stewardship**. It has a particular focus on **action and skills** and will set out clear steps in order to take action on climate change and illustrate how it is impacting on people in the developing world. Activities and case studies included will facilitate the students to develop a deeper understanding of the issue which will ensure a knowledgeable and reflective approach to action. In addition, the information included in this resource will provide a good foundation for the students to make a case for the need to Act on Climate Change Now!

CLIMATE CHANGE

What is Climate Change?

Climate change refers to the variation in the Earth's global climate. Recently, causes have been ascribed to human activities, through the burning of fossil fuels, the most common of which is Carbon. Carbon then reacts with oxygen in the air to make carbon dioxide (CO2). Carbon dioxide helps to keep the earth warm enough for life to exist. Too much however prevents excessive heat escaping and traps it in the atmosphere. This is known as the Greenhouse Effect.

Research shows that there has been a rapid and unprecedented growth in the burning of fossil fuels and concentrations of CO2 since the time of the beginning of the Industrial Era around 1850.

In 2007, an assessment report of the UN Intergovernmental Panel on Climate Change (IPCC), drawn from the research of over 2000 scientists and endorsed by 130 governments, including Ireland, stated with 90% certainty that human activities are responsible for higher concentrations of CO2.

Some of the clearest signs of global warming are changes in temperature, sea levels and changes in glaciers and snow levels.

- The climate is now 0.76 degrees Celsius warmer than pre 1850. 11 of the 12 warmest years recorded since 1850 have occurred in the last 12 years (IPCC 4th Assessment Report)
- Sea levels have risen by 17cm in the last 100 years
- About 67% of glaciers in the Himalayas are already receding (DFID)

The IPCC estimates that if we do not change our emitting habits, we could see a rise in temperature of anything between at least 1.8 - 4 degrees Celsius. A 2 degree Celsius rise in global temperatures has been for some time recognised as a dangerous tipping point for sustainable living. Anything above this would unleash almost certain runaway climate change on a global scale.

Climate Change and Africa

Africa is singled out as the continent likely to face the worst impacts, through a combination of the effects of climate and geography but also because of peoples' vulnerability, poverty and reliance on rain-fed agriculture.

While Africa's climate has always been erratic, the tendency now is moving towards greater extremes and increased unpredictability.

This was witnessed by Trócaire staff in Kenya in July 2007. We met many farmers who no longer knew when to sow their precious and few seeds. Planning is more and more difficult and security, both in terms of food and income, increasingly uncertain. For those farmers, and many more, the impacts of climate change are real and inevitable. The question now is how can they adapt and what role can we play?

Climate Change and Water

Few natural resources have a more critical bearing on human security and survival than water. Water scarcity is a clear illustration of how climate change is affecting the poor. Around one third of the world's population live in countries experiencing moderate to high water stress and a rise of 2-3 degrees Celsius will lead to water scarcity for 2 billion people. Climate change, manifested through drought and unpredictable rainfall patterns, is increasingly disrupting agricultural production and as such peoples' lives, their access to food and additional income.

Because the rains have changed;

- the life and work of small scale farmers and their families are increasingly uncertain and difficult
- women are spending increasing amounts of time collecting water – this prevents them from getting involved in other activities and adds to already heavy work loads.
- Children are being pulled from school to work to assist with these workloads
- People are being forced to adopt negative ways of coping with drought and crop failure which can lead to increased migration and cause further degradation of the environment, such as the chopping down of trees for charcoal which can then be sold for additional income.
- People are leaving rural areas and moving to the cities as the land can no longer sustain their livelihoods and leads to overcrowding in urban areas.
- The traditional and ancient lifestyle of Pastoralist communities, who depend on their livestock to survive, is under threat.

TAKE ACTION! CELEBRATE EARTH DAY

Action and Skills are the main focus of this resource. On page 4 you will find 2 action suggestions which can be taken as individual action projects or combined as decided by you and your students as part of a larger action.

It is recommended that the activities on Pages 5,6,7 & 9 are carried out before embarking on the action component. They should however be seen as a key contributor to the action project. These activities will inform your students' knowledge of issues of climate change and facilitate a deeper and more reflective understanding of their action and its significance. Activities on Pages 10 & 11 should be seen as part of the Action component.

Skills are a key element of CSPE and active citizenship. Potential skills to be developed in each activity will be highlighted and articulated throughout the resource. Those quoted are taken from the NCCA CSPE Guidelines for Teachers.

It is suggested that you take the focus of **Earth Day**, held on April 22nd every year, as focus for your activities, taking the opportunity to publicise what you and the students have done on that day as a way to Celebrate Earth Day and the work you have done.

By 2020, between 75 and 250 million people in Africa will be exposed to an increase of water stress due to climate change.

www.ipcc.ch. Check out the Intergovernmental Panel on Climate Change's website for reliable information.

Some of the information on this page could be used by the students for their Awareness Event.

TAKING ACTION

Per capita, Ireland is the 5th worst polluter (emitter of carbon) in the world.

www.ncca.ie - check out the National Council for Curriculum and Assessment for full Guidelines for CSPE Teachers

Look at the Trócaire Admit leaflet which comes with this pack for more ideas for actions that your students can take as part of their project

The reflections your students write as they carry out the activities and actions in this pack can assist them in the writing up of their Action Project report.

ACTION	Working Groups and Tasks	SKILLS
How Cool is Our School? The students carry out a survey of their school to investigate how energy efficient the school is. The survey can be followed up by a report issued to the school Principal, outlining some suggestions to make the school more environmentally friendly.	**Possible Groups include;** Creating a Survey on the computer Carrying Out the Survey – receiving permission etc, organise/decide who will survey what areas of the school Collating the information – could include graphs, illustrations etc Presenting the Survey and Recommendations – speaking, powerpoint etc Organising the Presentation – location, timing, invitations etc **Tasks** Establish whether a survey has been carried out before, if so, what changed, what didn't. Discuss with the students what areas of the school they think need to be investigated Draw up a list of questions for investigation. Use the checklist on Page 11 for ideas. Obtain permission from the school Principal to carry out the survey Decide who will design the survey, who will ask the questions, who will write responses, who will collate them, who will present them and how Discuss with the class the findings and what they might suggest to the school as a result Discuss what recommendations they will make and how they will present them – a letter to the Principal first, their school council and then a presentation on Earth Day/at assembly? What can they do to ensure that real action is taken and the some of their recommendations are taken on board?	**Identification and Awareness Skills** including; asking questions, interviewing people, carrying out surveys **Analysis and Evaluation Skills** including; preparing graphs, diagrams **Communication Skills** including; listening to others, presenting a point of view, negotiating with others and using a computer. **Action skills** including; identifying steps to be taken to tackle the issue
Think Global, Relax Local! The students prepare an **Awareness Event for Earth Day**, April 22nd. Taking the stories and information they have explored in this resource, they can focus on how climate change is impacting on peoples' lives in the developing world, using facts, graphs, photos and stories to illustrate this in a visual and creative way. They can also provide information as to what they recommend people do to be part of a solution – eg. Change some daily actions, support Trócaire's campaign… If they have carried out the 'How Cool is Our School' survey, present the findings and recommendations on this day. Other options include, the screening of An Inconvenient Truth' and the DVD in this pack, a leaflet for each classroom noticeboard on how individuals/class can be more energy aware and more	**Possible Groups include;** Display area/room – seeking permission, space to hang information, table for leaflets etc Writing - information for the Awareness event and designing it for the public Visual/Creative – designing art/poster/graphs, photos etc for part of the Awareness Display Survey Group – present finding of the survey and recommendations Trócaire campaign – contact Trócaire for leaflets and information on their campaign. And more…. **Tasks** Agree with the class on the day and location of the Event and decide what exactly the components will be – eg, a display, leaflets, a guest speaker Seek Permission from the Principal and other members of staff Advertise the event Gather and Collate all the information, art materials needed. Contact Trócaire for information on the campaign Organise a rota for the day – who will take responsibility for what and at what times Prepare the space where the event is to be held Agree with the class what the main message of the event will be – what do they want their school to know and what will they encourage others to do about it	**Identification & Awareness Skills** including; reading and reviewing, gathering facts **Analysis & Evaluation Skills** including; designing a leaflet **Communication Skills** including; discussing issues, presenting a point of view, making appointments **Action Skills** including; identifying steps to be taken to prepare for the day, setting up the display area/ room, preparing materials, disseminating materials.

Ideas and Instructions for activities on climate change

Introductory Activities

The following techniques can be used according to your class or size of room.

Aim: to develop in the students the skills of critical thinking and reflection, reading and reviewing, discussing and debating, collating and gathering facts.

1. Oh, that's so Predictable!

Predictability is one of the first casualties of climate change for people in the developing world. Farmers can no longer depend on certain rainfall patterns that they have relied on for decades to give them good harvests and certain access to water.

Here in Ireland, we can tend to look on predictability as something boring and negative.

In small groups, ask your students to think of all the words they associate with predictability. Feed this back to the larger group, noting key words as you go. Are these words largely negative or positive? Can students think of examples in their own lives when predictability is a good thing, eg. When they wake there will be water to wash their teeth, there will be food for breakfast….

Explain to the students that for people in the developing world, predictability is everything. The vast majority depend on agriculture to survive and as a result, the vast majority of the people are dependent on the climate to survive. Climate change is already affecting poor people, in that they can no longer predict when the rains might fall and for how long they will fall. Without predictable rainfall patterns, their entire livelihoods are increasingly uncertain and under threat.

2. Brainstorming

Using two pieces of flipchart paper, headed 'What I know about climate change' and 'What I'd like to know about Climate Change', ask the students if they've heard of 'climate change' and to discuss this first as in small groups of 4 or 5 and then feedback to the class. Note their comments on the flipchart, and agree what comments might need to be clarified and what questions the class will agree to find the answers to.

3. Walking Debate

Possible statements could include;

- Climate change is caused by humans
- We are responsible for climate change
- Climate change affects everyone in the world equally.
- There is nothing we can do to reduce the impact of climate change

4. Newspaper review

Bring a selection of newspapers to class, break the students into small groups and ask them to identify articles relating to climate change. Encourage them to take note of the newspaper, what the journalist is saying about climate change and how reliable they think the information in the article is.

Agree with the class on a few key areas of research to follow up with that have arisen.

5. Because the rains have changed

See Page Three for background notes for this activity

Explain to the students that climate change is already affecting people in the developing countries such as Kenya. One of the most visible signs of this is how rainfall patterns have changed and are increasingly unpredictable.

Take the bullet points from Page 3 'Because the Rains have changed' and display them for the class. Discuss what the students think they mean.

Then divide the class into smaller groups, agree that each group takes one of the bullet points and ask them to illustrate that impact in the form of a mime, freeze frame or drawing.

Each group will present their illustration and explain the central meaning of their message.

Activity One: Website Research Activity (student worksheet, page 6)

The internet is a powerful source of information. However, there is nothing to regulate information or the accuracy of information on the web. CSPE students need to learn the skills to be aware of this and use the internet in a critical and analytical way.

This activity can be taken as one class period, a homework exercise or 2 class periods.

Aim: to develop the students' research skills, including reading and reviewing, gathering facts, identifying other views and judging them, critical analysis.

Provide the students with a list of websites collated from the back page and along the sidebars. Agree how these will be divided and which students will explore which sites. Encourage them to also find one other website on the issue.

Encourage the students to fill out the worksheet as they go

Students report back on their findings, what sites they felt are reliable and interesting and what sites are not and why.

Agree as a class, which sites you will use for information, graphs etc for your action project.

Activity Two – Stories from Kenya (student worksheet, page 7)

Personal stories are a strong and powerful way to bring an issue to life. Encourage your students to read these stories keeping in mind what they have learned so far and how they apply to the lives of these Kenyans.

Aim: to develop the students' skills of applying knowledge to different scenarios.

Key words: Depending on the abilities of your students, you could discuss these key words with your students, before reading the story, discuss what they mean and then encourage them to link the words in the story.

Give each pair of students either Mary's or Silas's story to read. Ask them to discuss the story between them and answer the questions on the sheet.

Invite one student to share Mary's story and one to share Silas's – what issues are the same/ different for both of them? What do you think life will be like for Mary when she is Silas's age if our earth keeps warming?

As homework, the students could take on the role of either Mary or Silas and write a diary entry in their journals.

By 2050, there could be 150 million environmental refugees, many created as a result of disasters associated with climate change.

www.oxfam.org/coolplanet. Check out this website for more classroom activities on climate change

Introductory activities are a great way to establish where the students are at in terms of an issue, to explore perceptions as opposed to fact, to identify some of the gaps in knowledge and to bring out ideas as to how to proceed.

Take a few minutes at the end of each activity for the students to reflect on what they knew beforehand and what they have learned. Ask them to think particularly about the impact of climate change on people in the developing world. They should also begin to identify what else they would like to learn about the issue.

INVESTIGATING CLIMATE CHANGE
WEBSITE RESEARCH

WEBSITE ADDRESS	**ORGANISATION** (eg, NGO like Trócaire, government, UN…),	**What does it say about Climate change** (5 pieces of information)?	**Does it raise any more questions for you?**	**Is it a reliable website? Why?**
1.				
2.				
3.				
4.				
5.				

INVESTIGATING CLIMATE CHANGE

Mary Amodoi's story

My name is Mary Amodoi. I am from Turkana in northern Kenya and live with my father, my grandmother and my 3 younger brothers. Our home dwelling is located in a very rural and isolated part of Turkana with the closest town 50kms away. My mother died last December during childbirth and since then, I have had to take on a lot of responsibility for my family and our home. My grandmother helps me as does my father and brother, Nangiro. I have never been to school as it is not the tradition for Turkana girls who live in rural areas to do so. During the day, my first job is to go and fetch water from the river, which is about 1km away. Sometimes, when there is drought, we must dig deep down to find some water we can use. I also prepare the meals for my family. In good times, we will eat twice a day. We eat a dish called posho, which is like a porridge made from maize flour.

Here in Turkana, most of the people are pastoralists. The land is very dry. It used to be a semi-arid area, now it is arid. People say that in time, it will be classified as a desert. Because it has always been dry in my region, traditionally we depend on our livestock to survive and provide us with milk. It is Nangiro's job to look after the goats and ensure they get enough pasture to eat so that they will produce enough milk for the family.

Life is hard for us because of drought. When my grandmother was my age, she says life was so much smoother. People knew when there was going to be drought so they could prepare. Also, droughts didn't occur so often, so communities had time to recover from one before the next drought hit. Nowadays, there is much more drought and fewer trees and pasture. Lake Turkana, which isn't too far from our home is slowly drying up also. Sometimes, we have no food at all and we depend on the food relief distributed through our community*.

My grandmother is now about 75 years old. I wonder what our land will be like when I am her age.

* This food relief is funded by Trócaire

key words

Mary, Kenya, rural, school, water, drought, Posho (porridge), arid, goats, Lake Turkana, drying

Silas Ngera's story

Hello my name is Silas Ngera. I'm 38 years old and live with my wife and 3 daughters in Tharaka which is not far from Mount Kenya to the north east of the capital, Nairobi. I have lived in this area for the past 20 years and in that time, there has been a negative change in rainfall patterns and the quality of my harvests. I am a small-scale farmer with a small plot of land just beside my home. My family depend on this land to provide us with enough food to eat and maybe even some left over to sell on to earn some money.

My farm has produced nothing at all this year. My millet crop failed and produced no food. When I planted the seeds in March I was hopeful for a good crop but the rains were too short so nothing came of all our hard work. I am going to try to plant again in October but am unsure what will happen as I'm not sure that the rains will come. My wife has already run out of food supplies for this year so I may have to sell the small number of goats that we have. I am worried to think what we will do if the next crop fails and we have no goats to sell then.

Before, we used to get two rains every year. The short rains between October and December when it would rain for a short time most days and the long rains between March and April when we would get heavier and longer lasting rains. Now, you can never be certain so if you plant your seeds in March and the rain doesn't come, those seeds have been wasted, and, if it rains in May, I may not have any money left so buy more seeds or be sure that it will rain long enough for the crop to grow. Life has become so uncertain and insecure.

It is difficult to know what to do when the crops fail. Sometimes, I travel to nearby towns to find work but then my wife is on her own. An organisation called Caritas Tharaka* encourages us farmers to stay at home and provide training in ways to try to improve the soil on our farms and prevent against soil erosion. They also supply us with food for our families while we are working and training with them.

My oldest daughter, Sharon, is 5 years old. I wonder what her life will be like when she is my age.

*Some of Caritas Tharaka's work is funded by Trócaire.

key words

Silas, wife and 3 daughters, Mount Kenya, farmer, Land, crop (millet), two rains, life, insecure, Caritas Tharaka, training, soil, food

Mary Amodoi

How different is my life compared to that of my relatives years ago?

Can you tell my story on 3 sentences?

What am I thinking?

How does climate change affect my life?

Silas Ngera

RESPONDING TO CLIMATE CHANGE

Almost 3 times more disasters have been recorded in the last decade than were recorded in the 1970s.

www.epa.ie. Ireland's Environmental Protection Agency's website

Ad-Mit to Climate Change! This is a handy play-on-words to help your students to remember the 2 current responses to climate change– adaptation and mitigation.

What do I think about the different responses to climate change? How do I feel about my global footprint? What can I do to improve it?

Tackling climate change requires unprecedented levels of cooperation and commitment from everyone. Efforts need to be made at every level if we are to even stabilise the concentrations of greenhouse gases in our atmosphere. International institutions, rich and poor countries and individuals need to realise the impact they are having on the environment and make concerted efforts to ensure that that impact is a positive one.

There are two internationally recognised responses to Climate Change – Adaptation and Mitigation.

Adaptation

Climate change is happening. It already poses many challenges for the most vulnerable people in the poorest countries. For these people the primary focus now is to learn to adapt to the impact of climate change on their ability to secure food through agricultural production.

The costs of adaptation are considerable. So, who should pay? Climate change can be seen as one of the greatest injustices in the world today. As we in rich countries consume and pollute far beyond what is equitable, it is those who pollute the least, and have the least capacity to adapt, that are faced today with the impacts of climate change. So the case for funding adaptation processes, by way of compensation, in developing countries go beyond an argument for an increase in overseas aid and looks to who is responsible and who is most capable of financing such efforts.

Under the UNFCCC, there exists a number of adaptation funds targeted at the developing world. As of May 2007, rich countries have *pledged* a mere $182 million to a Special Climate Change Fund. In contrast to that, rich countries are also planning multi billion dollar adaptation projects at home. In the UK for example, the government there has allocated $347 million for investing in cooling systems for the underground, partly in preparation for climate change. In Ireland, €23 million of the National Development Plan has been allocated to Coastline Protection to help protect our coastline from flooding and erosion which the EPA explicitly links to climate change.

As of April 2007, Ireland has pledged and delivered approximately, $5 million to the UNFCCC's adaptation funds.

Trócaire too, is looking to how best we can work with our partners and beneficiaries overseas to cope with the increasingly frequent and severe changes to their climate. A number of initiatives include;

- addressing water management through supporting irrigation systems at household and community levels and supporting water harvesting projects that capture rainwater to use during dry seasons.
- Supporting communities to look at the risk of drought and how they might be ready to respond
- Supporting communities to diversify their crops and livelihood strategies
- Supporting initiatives aimed at improving environmental management

Mitigation

Mitigation looks at the levels of greenhouse gases in our atmosphere and aims to stabilise, if not reduce, the concentrations of greenhouse gases at a level that would prevent dangerous changes to our climate.

At an international governmental level, at the Earth Summit in Rio de Janeiro in 1992, rich countries finally recognised their historical responsibility to act first to curb their pollution. The United Framework Convention on Climate Change (UNFCCC) was established. In 1997, the Kyoto Protocol was agreed as an amendment to that framework. This protocol assigned mandatory emission limitations for the reduction of greenhouse gas emissions to those countries who signed the agreement. As of December 2006, 169 countries have ratified the agreement, with the notable exceptions of the United States and Australia. For those who have ratified the protocol, all must commit to

1. reducing their emissions of carbon dioxide and 5 other greenhouse gases
2. engaging in emissions trading if they maintain or increase emissions of these gases.

Ireland has a shocking record in greenhouse gas emissions. Per capita, we are the 2nd worse polluter in the European Union and the 5th worst polluter in the world. Taking carbon emissions alone, Ireland emitted 10 tonnes per person in 2003, while people in Africa are responsible for less than 0.1 per person.

Under the 1997, Kyoto Protocal, Ireland agreed to limit the growth of our emissions to 13% above 1990 levels by 2012. To date however, we have failed to curb our emissions. In fact the EPA (Environmental Protection Agency) recorded that in 2005, Ireland was polluting at twice the level of its target.

Ireland's poor performance on a per capita emissions level, makes a strong case for individuals to look at our own lifestyles and our impacts on and responsibilities towards the environment.

Instructions for Activity Three – see page 9

Instructions for Activity Four – How Environmentally Friendly Are You?

Aim: to encourage the students to reflect on their own environmental impact and to highlight areas, such as transport, that are heavy in C02 emissions.

Student worksheet on Page 10

Encourage each student to fill this out individually. When finished, share their findings with their neighbour – how do they compare? Can they find out what made a real difference to their results?

Discuss results as a class. Who scored very well? Why? Who scored badly? Can they see why? Are there small actions the students could take from today on to improve their result, eg, how about a car pool?
As the students feed back, record on a piece of flipchart paper some of the key activities that are environmentally friendly and leave them hanging on the wall.

Instructions for Activity Five – Environmental Audit

Student worksheet on Page 11

Check out Page 4, How Cool is Our School?, for some ideas on working groups and tasks for this activity.

Once the students have completed the survey, they will need to collate their findings, discuss what their reaction is to them – do they think their school is cool or could it being doing better? – and finally, decide on some concrete action they would like to suggest to the school to keep it cool and reduce the school's footprint. How can they ensure their recommendations will be put into practice?

RESPONDING TO CLIMATE CHANGE

Instructions for Activity Three – Responding to Climate Change

Aim: to develop in the students the skills of analysing information, judging it and making informed decisions.

Student worksheet on Page 9

Having researched and discussed the causes and impacts of climate change, encourage your students to begin to think about possible responses to it. Agree with the class a number of criteria for a good response to climate change, eg. it reduces the amount of CO2 in the atmosphere, supports a family to deal with climate changes, doesn't have a negative impact on the environment, will it have long terms effects?

In your own words, explain that internationally, there are two responses, mitigation and adaptation. Ask the class, can they think of any support or actions that could be taken to help how either Nangiro or Silas cope with changes to their climate and lives.

In small groups, the students must read all 5 responses below and then rank them in order of what they think is the best response to the least effective.

Please note! One of the responses, Response D – is a red herring! The cutting down of trees to make charcoal leads to further environmental degradation. However it is a reality for poor people who are left with no other option or means of earning money to buy some food.

Each group feeds back, giving their top 5 and why. As a full class, try to agree on the top 3 responses encouraging the students to give strong arguments for and against!

A. Samuel Mwangi's response

Samuel Mwangi has been farming on the same piece of land for nearly 24 years. He says that ' drought is becoming worse and worse, the amount of rain is getting less and shorter each year'. The result has been that the community around him haven't had as much access to food recently. Samuel however, is a model farmer. He says, 'I have hands, I have eyes, I can work'. Some of that work has included; building a small pan (pond) over 12 years which is filled with rain water to water his crops, catching water for his family from the roof when it rains, using a sprinkler head on his hosepipe to conserve water and leaving some of his land as a meadow to avoid soil erosion.

B. The Quinn's Response

The Quinn's live in Dublin city with their children and are more and more aware of how their actions can have an impact on the environment. A few years ago, they decided to take some small steps to try to reduce any negative impacts they might have. How they dispose of their rubbish was one of the first things that changed. They also looked at the light bulbs in their house and make efforts only to turn on the lights when it's necessary. As much as possible, they use public transport when they can, and are now even thinking of selling one of their two cars.

C. Lara's response

Lara is concerned about the impacts of climate change on the developing world and the impact that Irish people have on the environment. She knows that per person, Irish people are the 5th biggest polluters in the world! She is also aware that in 1997, the Irish government signed the Kyoto Protocol. Under this agreement, the Irish government committed to reduce the growth at which we were emitting carbon. The government has failed to achieve this target and as of 2007, we are polluting at twice the rate we were when the agreement was signed. Lara, and others, have been writing to the Minister for the Environment and the Minister for Overseas Development to inquire as to why the Kyoto targets have not been met and also to ask what the government is doing to support developing countries deal with the impacts of climate change.

D. The Leduda's response

8-year old Thomas Leduda lives on a small plot of land that is not owned by his family. He lives there with his mother, 3 sisters and 2 brothers. Life is difficult for the family as the have no means of making any money and do not grow crops.

In an attempt to earn some money to buy some food, Thomas helps his family to produce charcoal. They do this by cutting down trees in the nearby area, chopping them up into small pieces and then letting the pile smoulder for a few days until the charcoal forms. They can then sell the charcoal on. One bag will earn them about 100 shillings. A piece of soap will cost them 10 shillings.

E. Caritas Nyeri's Response

Caritas Nyeri is a community based organisation, in Kenya. The staff here have been witnessing the impacts of changes in weather patterns on farmers and families in their local area since about 2000. Between 2000 and 2003, there were massive droughts. Caritas Nyeri provide food relief to 200,000 people for that time. The relief would generally consist of maize and vegetable oil. In 2005, there was further drought and again in late 2006, early 2007 and more food relief was needed. Food relief is generally only requested during times of emergency. What Caritas Nyeri now see is that they cannot afford to continue to offer all this food relief on a continuous basis.

As a result, they have started to look at other responses to climate change, such as training farmers, like Samuel above, to save water when it does fall, to use it sparingly and to think about growing other types of crops that are not as dependent on rainfall. Behind their office, they have a demonstration farm where they train farmers in new techniques.

HOW ENVIRONMENTALLY-FRIENDLY ARE YOU?

1. How often do you travel to school by car?
   a Always
   b Sometimes
   c Never

   Answer ❑

2. When brushing your teeth do you
   a Always leave the water running
   b Sometimes leave the water running
   c Never leave the water running

   Answer ❑

3. If you're thirsty for water, do you
   a buy a bottle of water
   b save a bottle and refill it
   c always wait until you can get tap water

   Answer ❑

4. Is your mobile charger
   a always plugged in
   b plugged in most of the time
   c only plugged in when your mobile in charging

   Answer ❑

5. When your TV is off, do you
   a never turn the stand by button off
   b sometimes turn the stand by button off
   c always turn the stand by button off

   Answer ❑

6. How many flights have you ever taken?
   a more the 10
   b between 5 and 10
   c less than 5

   Answer ❑

7. When disposing of waste, do you
   a never recycle
   b sometimes recycle
   c try to recycle everything you can

   Answer ❑

8. Do you eat strawberries or summer fruits
   a all year round
   b mostly in the summer
   c only in the summer

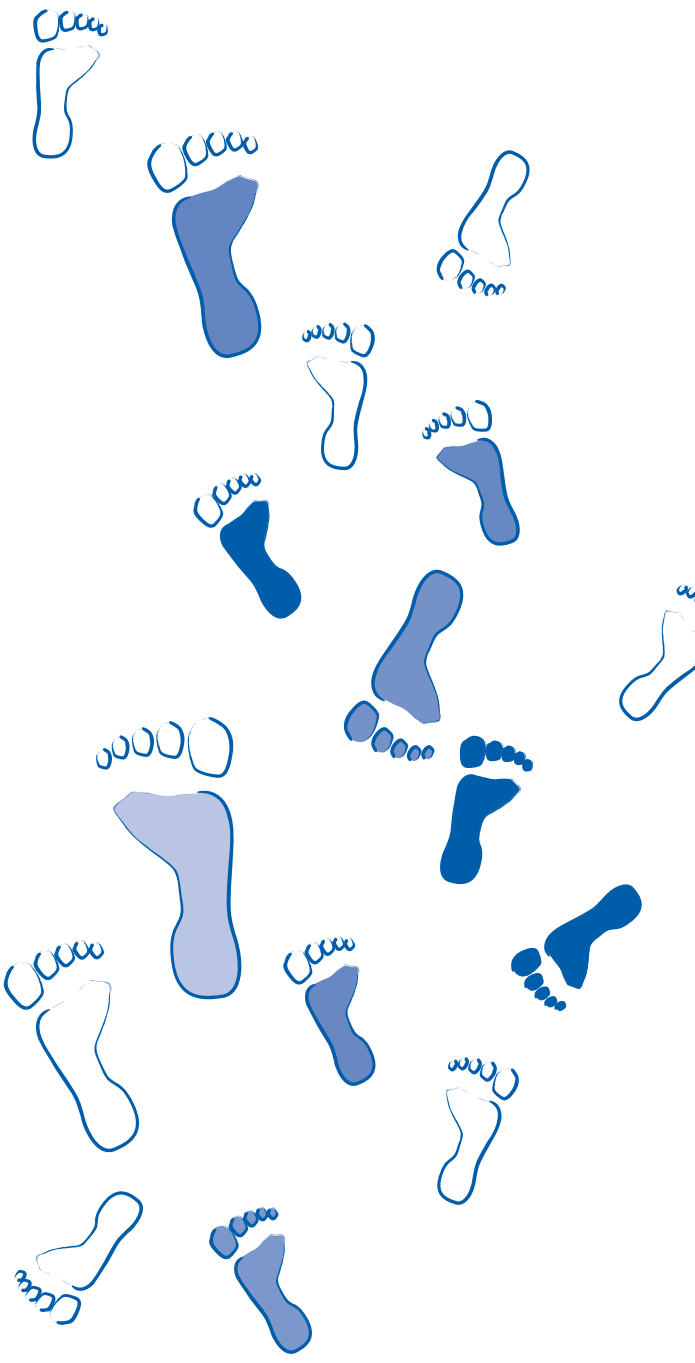
   Answer ❑

9. If the room you are in is too cold, do you
   a turn the heating up
   b close all windows and doors
   c wear an extra jumper

   Answer ❑

10. When buying copybooks, do you
   a buy the first one you see
   b sometimes check to see if it's made from recycled paper
   c only buy one if it's made from recycled paper

   Answer ❑



If you have ticked;
mostly As – you need to think about your eco footprint! Find out from your classmates how you can improve!
mostly Bs – not bad. You do your bit but maybe you could do even more…?
mostly Cs – well done – you are an eco warrior! Let others know how you did so well!

CHECKLIST: HOW COOL IS OUR SCHOOL?

Choose one area of your school to carry out this survey. Use the checklist below to identify where your school is/is not cool. Use the space at the end of the survey for your notes and further areas of investigation you feel are important for your own school.

Waste

Does your school recycle? (eg. Tins, paper, plastic) Yes No

Are students encouraged to buy copybooks made from recycled paper? Yes No

Do students have a way to ensure they keep handouts and notes? (eg, stick them in copybook, folder to file them) Yes No

Lighting

Do any empty rooms have the lights on? Yes No

If so, how many?

Does the school have energy efficient light bulbs? Yes No

Are there lights on unnecessarily? Yes No

Is someone in each classroom responsible for turning off the lights when they are not needed/when everyone leaves? Yes No

Equipment

Are all unused computers turned off? Yes No, if so, how many?

Are all TVs turned off? Yes No, if so, how many?

Heating

Are there rooms where the heating is on and the windows open? Yes No

Can you turn up or down the heating in each classroom? Yes No

Is the heating timed to turn off approximately 30 minutes before the school closes? Yes No

General

Does your school have a garden area? Yes No
If yes, is someone responsible for it?

Does your school encourage students to walk/cycle/car pool to school? Yes No

How many bicycles are in the bicycle area?

What packaging is being used for students' lunches? Is it mainly

- plastic
- tinfoil
- a reusable container

Additional Questions

Notes

TRÓCAIRE
Working for a Just World

For more information on Environmental justice and climate change:

Trócaire Online

Check out www.lent.ie for more activies, photos and quizzes on Kenya and Climate Change. Check out the actions we are encouraging people to take in response to climate change and its impact on people in the developing world

www.trocaire.ie/education. This section of our website contains information about all our educational materials and activities. Resources are available to download for free.

Web links- on Kenya & Climate Change

www.nationmaster.com
For country profiles and information on Kenya

www.un.org/climatechange/youth.shtml
This UN site on climate change for youth has data and stats on individual countries; a water quiz and other games

http://news.bbc.co.uk/2/hi/science/nature/portal/climate_change/default.stm
The BBC site on climate change is also good for a general level interest:

www.ipcc.ch
IPCC - main scientific body on climate change:

http://unfccc.int/
UNFCCC - main political body leading response to climate change (including Kyoto protocol):

www.epa.ie/whatwedo/climate
Environmental Protection Agency - the organisation in Ireland that monitors Irish emissions and feeds into the Kyoto Protocol

www.stopclimatechaos.ie
Stop Climate Chaos (Ireland): campaigning to stop climate change and help poor countries adapt. Visit the site to find out more and to campaign on-line:

www.cultivate.ie
The Cultivate Centre (Ireland): a sustainable living and learning centre. Learn how to live more sustainably in Ireland, with links and information on where and how to do this, as well as courses, ethical goods etc

www.foei.org/en/campaigns/climate
Friends of the Earth International

www.cnaf.or.ke/index.htm
Climate Network Africa:

Reduce, Reuse, Recycle!

The following are small steps that we can take to help minimise the environmental impact of this resource. This year the resource has been reduced from 16 to 12 pages, it is printed on recycled paper. Please share this resource with your colleagues, save it and use it again next year and with different classes, encourage your students to stick any handouts into their journal or copy and when you are finished with the resource, please recycle it. Thank You.

RESOURCE CENTRES

MAYNOOTH
Maynooth, Co. Kildare.
Tel: (01) 629 3333
Fax: (01) 629 0661
e-mail: info@trocaire.ie

DUBLIN
12 Cathedral St., Dublin 1.
Tel/Fax: (01) 874 3876
e-mail: resources@trocaire.ie

CORK
9 Cook St., Cork.
Tel: (021) 427 5622
Fax: (021) 427 1874
e-mail: corkinfo@trocaire.ie

BELFAST
50 King St., Belfast, BT1 6AD.
Tel: (028) 9080 8030
Fax: (028) 9080 8031
e-mail: infoni@trocaire.ie

Printed on recycled paper 2008.