

The impacts on the regions: Teacher notes

These resources look at the impact of climate change in 3 regions.

Pupils should be split into regionally focussed groups (suggested size is four) to work through them.

The activities on the human impact are:

- Starter activity
- Introduction to climate change in the region
- Meet the Family (how climate change is affecting life in the region) – pupils write about peoples experiences
- What is the impact compass rose
- Responding to climate change – your ideas

Pupils can work through these activities in groups, before looking at the adaptations.

A summary activity is suggested for groups to feedback to the class before moving onto adaptations.

Introduction to the Arequipa region, Southern Peru

Look at the picture carefully, and from what you can see (and what you can't) make notes around it of all the things you can say about the area and the people who live there...



Try to think about things like

- The livelihoods of the people
- The climate
- What might grow there
- What life might be like for the people
- Their connections with the rest of the world

Life in the Arequipa Region



The majority of people in Ancash are farmers. They mainly grow potatoes, supplemented with fruit such as Avocados. Traditional forms of irrigation involve flooding fields and letting water drain off. They are reliant on the melt-water from the glaciers in the Cordillera Blanca region of the Andes mountain chain, which has mountains over 6000m high. Communications are difficult, as villages are remote and the mountains are very steep. Families (such as the Tempora family, below) work their crops using a combination of traditional knowledge and modern techniques.



Climate change in the Arequipa Region



Over recent years the region has experienced a number of waves of extreme cold, and farmers are reporting that the climate has become both drier and colder. The region does not experience large amounts of *precipitation* (rainfall), and longer periods of drought are having an impact on the ability of the alpaca herds to get enough water.

Glacial retreat is also happening in this region, meaning that meltwater is reduced, further worsening drought situations. Glaciers in Peru have already receded by one fifth in their area in the last 35 years, and this loss is accelerating.

Snowfall in the area is also becoming more intense, which combined with the lower temperatures is producing a more difficult environment to live in. This has an impact on the health of the alpacas and the communities who herd them.

Meet the Llallacache Family in Caylloma (Arequipa)



1 – Isaac Llallacache

Isaac Llallacache is 5 years old. His father is an alpaca farmer in the remote area surrounding Caylloma, near Arequipa in South Peru, and so the family is almost entirely dependent on alpaca wool for income. As a result of this dependence, the communities here are especially vulnerable to changes in the weather (which, according to locals, is getting drier and colder). In recent years there have been extreme cold waves which have had a huge impact on the alpacas, killing their babies.

Human stories of climate change in Caylloma

Locals say the weather is changing, getting drier and colder than it was before. This is having an impact on both the alpacas which they are dependant upon, and the health of the people themselves.

Read what the locals say about their experiences of climate change in Caylloma...

"2004 was much colder than before, and recently we were afraid it would snow again like that. We get lots of wind now, and we didn't used to. And there's a lot of frost and snowfall which is affecting us greatly. Humans get the flu and pains in their joints, and the animals have abortions, which is a great loss to us."

Ernesto Llallacache, 37

"I've seen a lot of changes in the weather. It's very cold now and we get more snowfall. Before it used to snow very little, and now it suddenly snows a lot. The children get sick and cough a lot, and we need to make them more jumpers. When there is too much snow our alpacas die, but now we can give them our stored fodder."

Dometila Huamani, 31

"Twenty years ago the weather was not so different, but in the past 10 years temperatures have changed dramatically. We've experienced extreme low temperatures, as well as droughts and unusual snowfalls. During the drought years we have no water and that means no pastures, so the alpacas die. This is tragic, as it is our only means of survival."

Simon Serafin Quispe Chipa, 40. Mayor of Caylloma.

"The weather wasn't like this before. The warm weather was nice and the cold wasn't too cold. But now the cold is very strong, the wind is strong, the sun is strong, and the frost too. It has an affect on the children and the animals. The animals get sick, and then too thin and die, and the children also get pneumonia. 15 years ago there was still snow on the hills, but now no snow falls because it's hot. It's not like before. The cold is too cold. The hot is too hot. It's too extreme."

Lisa Angelica Sisa Morochara, 24

Think about how Isaac would respond to this change? How would he feel?
Why?
Try to write about it here....

Meet the Llallacache Family in Caylloma (Arequipa)



2 – Ernesto Llallacache

Ernesto Llallacache is 34 years old. He is an alpaca farmer in the remote area surrounding Caylloma, near Arequipa in South Peru, and is almost entirely dependent on alpaca wool for income. As a result of this dependence, the communities here are especially vulnerable to changes in the weather (which, according to locals, is getting drier and colder). In recent years there have been extreme cold waves which have had a huge impact on the alpacas, killing their babies.

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Think about how Ernesto would respond to this change? How would he feel? Why? Try to write about it here....

Meet the Llallacache Family in Caylloma (Arequipa)



3 – Natividad Llallacache

Natividad Llallacache, here with her husband Ernesto, is 29 years old. She is an alpaca farmer in the remote area surrounding Caylloma, near Arequipa in South Peru, and is almost entirely dependent on alpaca wool for income. As a result of this dependence, the communities here are especially vulnerable to changes in the weather (which, according to locals, is getting drier and colder). In recent years there have been extreme cold waves which have had a huge impact on the alpacas, killing their babies.

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Think about how Natividad would respond to this change? How would she feel? Why? Try to write about it here....

Meet the Tamara Family in Utapampa (Ancash)



4 – Eldifonso Llallacache

Eldifonso Llallacache, 60, feeds the family alpacas. He is an alpaca farmer in the remote area surrounding Caylloma, near Arequipa in South Peru, and so the family is almost entirely dependent on alpaca wool for income. As a result of this dependence, the communities here are especially vulnerable to changes in the weather (which, according to locals, is getting drier and colder). In recent years there have been extreme cold waves which have had a huge impact on the alpacas, killing their babies.

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**Think about how Eldifonso would respond to this change? How would he feel?
Why?
Try to write about it here....**

Task: What is the Impact?

Read back through each of the statements about people's experiences of the changing climate. With a coloured pen or pencil, circle or underline all the changes they discuss.

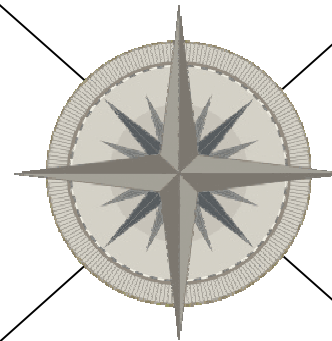
In your group, then put these into the *categories* in the *development compass*, below:

Source: The Development Compass Rose, Development Education Centre, Birmingham, 1995

*The Development
Compass Task -
What is the Impact
in Peru?*

North = **Nature**
impacts on the
environment

West = **Who Decides**
to do with politics and
power



East = **Economic**
impacts on livelihoods
& income

South = **Social**
impacts on
people and
communities

Responding to Climate Change in Peru...

When you have finished, you need to think of what the **solutions** could be...

How could people locally **adapt** to the changes you have just discussed, and lessen the impacts

Use the sheet **Adapting to climate change in Peru – your ideas**, and as a group come up with some ideas about possible responses

When you have finished this activity, you can look at what the adaptations **have** been in Peru

There are 4 adaptations in each of the 3 areas, so you can split these up to look at in your groups

TASK: Adaptation in Peru - your ideas...

Activity 1

Working in your family group, make a list of SIX things you think you family and their local community could do (with support if necessary) to help adapt to the problems for the area they live in

1)

2)

3)

4)

5)

6)

Activity 2

Using your list of six adaptations, decide which are the **PRIORITIES** (most important) – put them in the hierarchy table below

