

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 Piura region, NW 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 Piura Region



The Piura region is on the coast of Peru, and is less mountainous than many other parts of the country. Steep river valleys and plains provide productive agricultural land, and farmers in areas such as Tambogrande are reliant for income from growing a range of crops such as mangos, limes, cassava and coffee. Families will usually own a small area of land which they farm by hand, dependant upon the water from the rivers and also using chemical fertilisers, which they have to purchase to increase their yields (*amount of crops they grow*).



Climate change in the Piura Region



Climate change in Piura is having many different effects, partly because the region contains a number of different *micro-climates* (small areas which have their own type of weather). However most areas are seeing that the rain which the farmers depend upon is falling less often (causing longer periods of *drought*), but when it does, it is much stronger.

For this reason, the main problems being experienced are increased *flash flooding* (very quick floods), soil erosion and landslides, caused by very high *runoff* of water across the soil. Rivers are also able to change their course very quickly, leaving huge scars in the land (like the river gully, above) that remove land containing crops and houses, and potentially killing people. The extra water also provides environments for disease carrying pests, like mosquitoes, meaning illnesses such as dengue fever and malaria are increasing.

Some farmers are also finding that the weather is becoming colder, with a damaging impact on their crops, and the unpredictability of the climate means that traditional crops are not growing properly at the correct times, leaving some crops to rot before they can be harvested.

Meet the Nima Family in San Martin de Malingas (Tambogrande region, Piura)



1 – Milagros Villagas Nima

Milagros Villagas Nima, 17, picks corn in her back yard, which was grown on her families farm. They grow a variety of crops, including maize, limes and mangos. She lives in the Tambogrande area of Piura, where the more tropical climate gives more rainfall than other parts of Peru. An increase in rainfall as a result of climate change means the communities who live there are increasingly vulnerable to floods and land slips, as water erodes the steep, sandy banks of the river metres away from homes and crops.

Human stories of climate change in the Tambogrande region

Locals say the weather is changing, getting colder and wetter, causing more flooding and landslides. Such disasters are a direct risk to peoples lives, and also remove farmland and ruin crops, with a devastating impact on the ability of people to sustain their livelihoods.

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

"There is a lot of water - the river crosses with another river not far from here, and when it rains we don't know what will happen, we don't even know which way to leave our house. This year when it rained, the river left its course and covered this land. It ruined our crops and our harvest. We used to have enough produce to sell, but now we don't. We try to sow plants, but fertiliser is so expensive...we use organic manure from our sheep, but the crops don't grow the same."

Alejandrina Nima,42, San Martin de Malingas

"We are surrounded by water, isolated, and cannot leave. We don't have enough food, corn or bread to feed ourselves, and can't cross the river to get to the town, so we get very sick. It's a big problem. The mosquitoes come after the rain, and we get diseases, fevers and colds. "

Milagros Villagas Nima,17, San Martin de Malingas

"Sugar, rice - all prices have risen. We have had to go down from 10 to 6 kilos of rice per week, and from 2 litres to 1 litre of cooking oil. 6 kilos of rice feeds three people for a week. I struggle to feed the family as we don't have fridges and I have to buy the food day by day. The prices are going up because we export our rice – our farmers are producing rice but don't have support or subsidies from the government."

Albertina Bueno Mida, 42, Santa Rosa de Curvan.

"Before, we used to have three months of cold, now it's almost like the whole year. Winter has passed and it's still cold. We used to be able to face the cold with one jacket, now we need two, and many more blankets as well...There has been a plague on the limes too, because of the cold and humidity. Pesticides are expensive, but the skin becomes thick and there is no juice so we can't sell them. And the cold kills the flower of the tamarind, too..."

Guido Arturo Palacio, 48, Santa Rosa De Curvan 46908/11

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

Meet the Nima Family in San Martin de Malingas (Tambogrande region, Piura)



2 – Aracely Nima

Aracely Nima, 8, plays with her sister Milagros as they pick corn together in her families back yard. Her family grows a variety of crops, including maize, limes and mangos. She lives in the Tambogrande area of Piura, where the more tropical climate gives more rainfall than other parts of Peru. An increase in rainfall as a result of climate change means the communities who live there are increasingly vulnerable to floods and land slips, as water erodes the steep, sandy banks of the rivers metres away from their homes and crops.

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

Meet the Nima Family in San Martin de Malingas (Tambogrande region, Piura)



3 – Alejandrina Nima

Alejandrina Nima, 42, mother of Milagros, stands with her spade which she uses to work her land. Her family grows a variety of crops, including maize, limes and mangos. She lives in the Tambogrande area of Piura, where more the tropical climate gives more rainfall than other parts of Peru. An increase in rainfall as a result of climate change means the communities who live there are increasingly vulnerable to floods and land slips, as water erodes the steep, sandy banks of the river metres away from homes and crops.

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

Meet the Nima Family in San Martin de Malingas (Tambogrande region, Piura)



4 – Guido Arturo Palacios

Guido Arturo Palacio, 48, shows his crops of lime, cocoa, and mango on his land in Santa Rosa de Curvan. He lives next to the same river as the Nima family, in the Tambogrande area of Piura, where the more tropical climate gives more rainfall than other parts of Peru. An increase in rainfall as a result of climate change means the communities who live there are increasingly vulnerable to floods and land slips, as water erodes the steep, sandy banks of the rivers metres away from their homes and crops.

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Guido Arturo Palacio, 48, Santa Rosa De Curvan

**Think about how Guido 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.

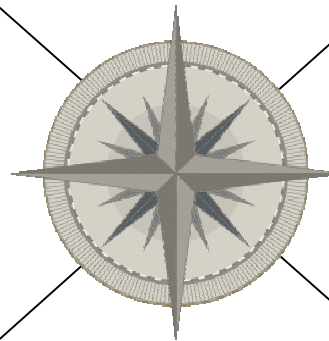
In your group, then put these into the *categories* in the *development compass*, below:

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

