

## Adapting to Climate Change: Teachers Notes

### *Pupil learning in these resources*

Pupils should examine and identify the ways in which individuals and communities have responded to the increased vulnerability they face as a result of climate change. They should consider how such responses have been driven by the communities themselves, and also what support they have required to achieve them.

A very important aspect for pupils to consider is the complexity of these issues – they are not simple, and many other factors determine how vulnerable people are. These link to the ‘climate change and development’ resources, and it is important that pupils begin to think about what these other factors are, and how they relate to each other and climate change.

### *Approach*

There are two basic ways these resources may be used:

*Linear approach* - The idea of these resources is that pupils work through either individually or in pairs, summarising the adaptations using **either** the **summary table** or the **spider diagram** as they read. The resources may be printed out or accessed directly on the computer. The summaries may be drawn together through a class discussion.

After completing the adaptations, pupils may move onto exploring the links between wider development factors and the vulnerability of communities and individuals to climate change.

*Cross-group approach* - You may have already decided to adopt a cross-grouping strategy, where the class has been split into two, and one half has worked on the impact, and the other half on these resources on adaptations. Groups who looked at impacts will then summarise to groups who looked at adaptations, and vice versa.

### *Ability level of pupils*

Depending on the ability level of your pupils, you may ask them to access the report directly, rather than use the summary sheets presented here. The summary table or notes template may be given to assist pupils in directing their note taking.

The report may be accessed at:

[http://www.oxfam.org.uk/resources/policy/climate\\_change/poverty-environment-malawi.html](http://www.oxfam.org.uk/resources/policy/climate_change/poverty-environment-malawi.html)

## Adapting to Climate Change in Malawi

### Your task

You are going to read about the ways individuals and communities have responded to climate change.

You have a choice of two ways to use the information you read.

You can use the **summary table** which goes through each area in turn, to make notes on what you are reading about. Or you can use the **spider notes diagram** to group together similar things from each example.

For both you will need **two colours** as you read, to underline as you go two different things.

- a. things which people are doing **themselves**
- b. the ways in which people are being **supported** by others (like the government or NGOs)

Then try to summarise these things into your chosen notes sheet.

### *Extension activity*

Alternatively, you can access the “Winds of Change” report directly, and then use the **make your own notes template sheet** to go through and pick out things in the report which show people **adapting to climate change**, and make notes on how they have achieved this.

You may need pages 3, and 32-36.

## Adapting to Climate Change in Malawi



Despite the many threats Malawi is being exposed to, as a result of climate change, there has been considerable success in responding to this challenge. Drought in 2005 meant that 5 million people needed food aid. By 2007 the number of people who were food insecure was only 63,000.

Better rains played a part in the success. However policies from the government to increase fertilisers and improved seeds for farms, and improvements undertaken by local communities, supported by *Non-Governmental Organisations* (organisations like Oxfam who help people but are not part of the government), made a large difference.

You can read more details about some of the main adaptations undertaken by farmers and their communities.

This does not mean that Malawi has solved its problems. Even though improvements have taken place, there are still many problems in ensuring that all farmers have access to resources and are able to *sustain* (keep going) their livelihoods. The next drought will test these improvements. The problems caused by climate change will only increase.

## Improving Maize Yields



Fred Kambambe stands proudly with his bumper crop of Maize – 8 feet tall. This year he harvested 8 bags, compared to half or one bag in normal years. This earned him enough income to put a tin roof on his house, making his wife and children very happy. He says:

“Now more people are following these methods. I feel very great! I established this garden because of climate change problems. Now I can have food throughout the year and a source of income too”.

He improved his maize yields by using early maturing, high-yielding maize seeds from Churches Action on Relief and Development (CARD), combined with hand made compost manure, and crucially planting his maize in the *furrows* (dips), not the ridges, conserving water. Being so dependant on maize, improving yields in the face of climate change in Malawi is essential, and many other farmers are using these ideas. High yield seeds are not enough, as they require more water and fertilizer. Locally developed knowledge and skills are also essential, and the response of villagers’ shows they are not giving up to climate change.

## Tree nurseries



Morson and Annie Kambambe (Fred's parents), from Thomasi village, stand with their tree seedlings. They have established numerous tree nurseries, something happening in communities across Malawi to combat deforestation and the problems it leads to. Laws limiting the cutting of trees are also being used more *effectively* (better) locally.

Planting trees helps to soak up ground water and smooth water flows, which lowers the risk of floods. Soil erosion is reduced, helping to increase *fertility* (how much can grow), and planting trees may also lower local temperatures (giving shade), lower soil *evaporation* (water loss to the air) which helps during drought, acting as wind breaks, and increasing access to fruits and wood.

Many people in Malawi see planting trees as the answer to climate change. Whilst it will help to limit the damaging effects in Malawi, by itself it will not solve the problem of greenhouse gas emissions. Also, it does not tackle the range of other problems, which make the consequences of climate change worse, such as poverty and a lack of livelihood diversity which puts many communities at risk.

## Diversifying Livelihoods – Fishponds



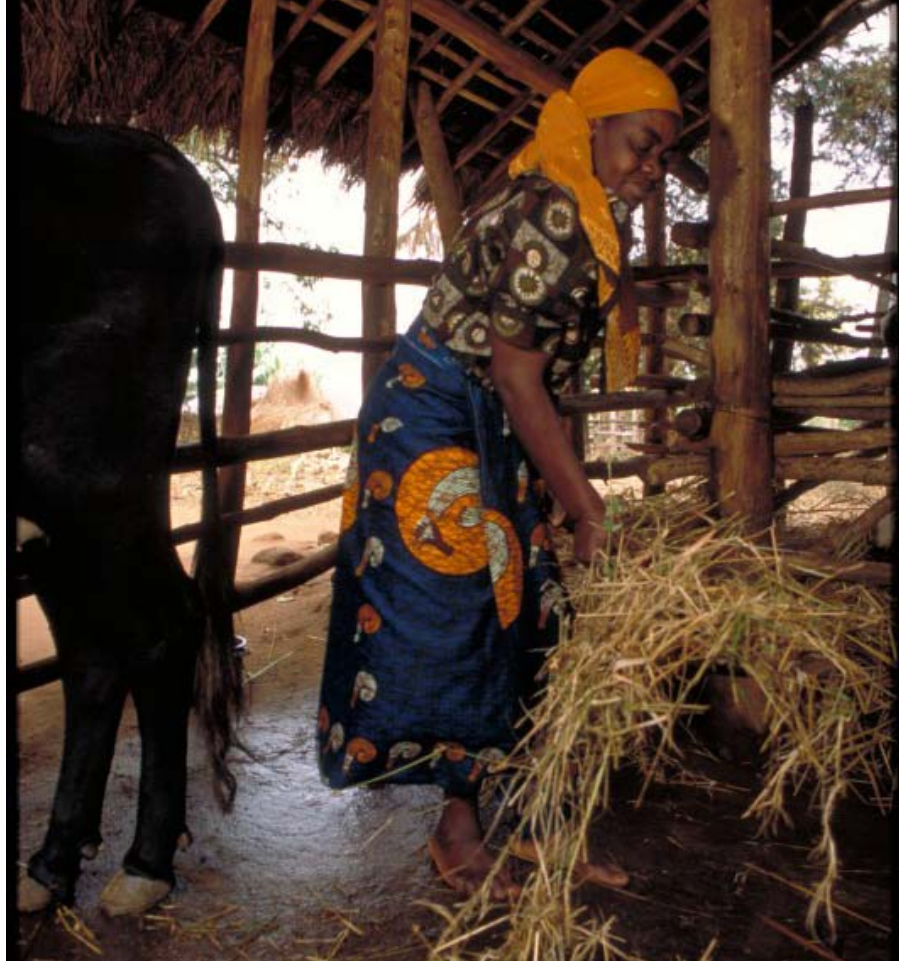
TA Kapiche, standing next to the fishpond that the local community has constructed. This is an example of ways local communities may diversify away from being *reliant* on (needing) crops such as maize, and finding other *sources* (where it comes from) of income. Efforts such as this illustrate the way in which communities are working to combat climate change, and using help and support successfully.

For example, Charles Chirombo in Makware Village, Mulanje District, has worked with Oxfam and the Fishing Department in the Chiyembekezo fish-farming club. He received training, provision of seed fish and equipment for dam construction and fish management. He says:

“I constructed the fishpond myself. It took me two to three months to do but it's brought me real benefits. I got 1,500 kwacha from my last fish harvest and I've sold some fingerlings for 1,000 kwacha. It's a good profit, and more than I'd make in many other businesses... because of the fish farm and the profit I made from there, I'm still on two meals a day, but many others not involved in these activities are already on one meal a day.”

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## Agricultural Diversification



Margaret Nakwanje cleans out her cow pen, given to her by the Shire Highlands Milk Producers Association (SHMPA), an NGO supported by Oxfam. Margaret explains how life has changed since she received the cow:

"If I didn't have the cow I don't know what I'd do. I can't see how I could run any other business, as I'm single and with the kids to bring up... Getting regular money from the milk means I can afford simple things - like soap! I'm really happy with that...!"

This is an example of efforts to diversify agriculture away from maize harvests, and give people more options in the face of drought, other than cutting down more trees for charcoal. Helping farmers purchase cows and market their milk, encouraging growing a wider range of crops, and even encouraging (nutritious) mushroom growing huts, are all needed.

As Kestings Sulani, an Agricultural Development Officer says: "Farmers cannot rely only on one crop – maize. If that fails then they must have something to fall back on... It's difficult, because people talk only of maize. They say maize is food, and food is maize... we have to change this mindset."

## Schools and education



This picture shows a school feeding program at The Catholic Institute Primary School in Blantyre, where children receive porridge. It uses a corn soya blend shipped over from America, where \$20 million has been donated over 3 years to the nation-wide program.

Milk from the diaries supported by the SHMPA is used to make the porridge, an example of how income can be earned by diversifying away from maize reliance. The farmers receive a better price for their milk selling it directly than they would if they sold it at market.

Such a school feeding program is assisting Malawi's school enrolment program. Half of primary school children are under-developed physically or mentally, and so a hot meal greatly assists attendance. The porridge is cooked by volunteers, most of them the children's mothers, on energy efficient stoves in the schoolyard. These use less than half the amount of firewood as the old design, limiting deforestation for wood.

Any response to climate change requires increased skills and knowledge in local communities to *empower* them (let them be able to do it themselves) to use opportunities to diversify their livelihoods. Education is a key part of this, in preparing pupils for their future actions.

Community activism in Malawi on climate change is crucial. For example Estella Saka, pictured, shows off her T-shirt encouraging action on climate change as she addresses a group of villagers who have made a tree nursery. Schools also have their role to play.

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The picture below shows scores of schoolgirls, from the Mitengo Primary School, who went on a colourful march during the Thyolo District Assembly open day on climate change. More than 4000

people participated. It illustrates that people in Malawi are aware of climate change, and know it is an issue which is affecting their lives right now. It also shows the role of schools and the importance of educating young people in both the problems faced, and participating in the solutions. 50803

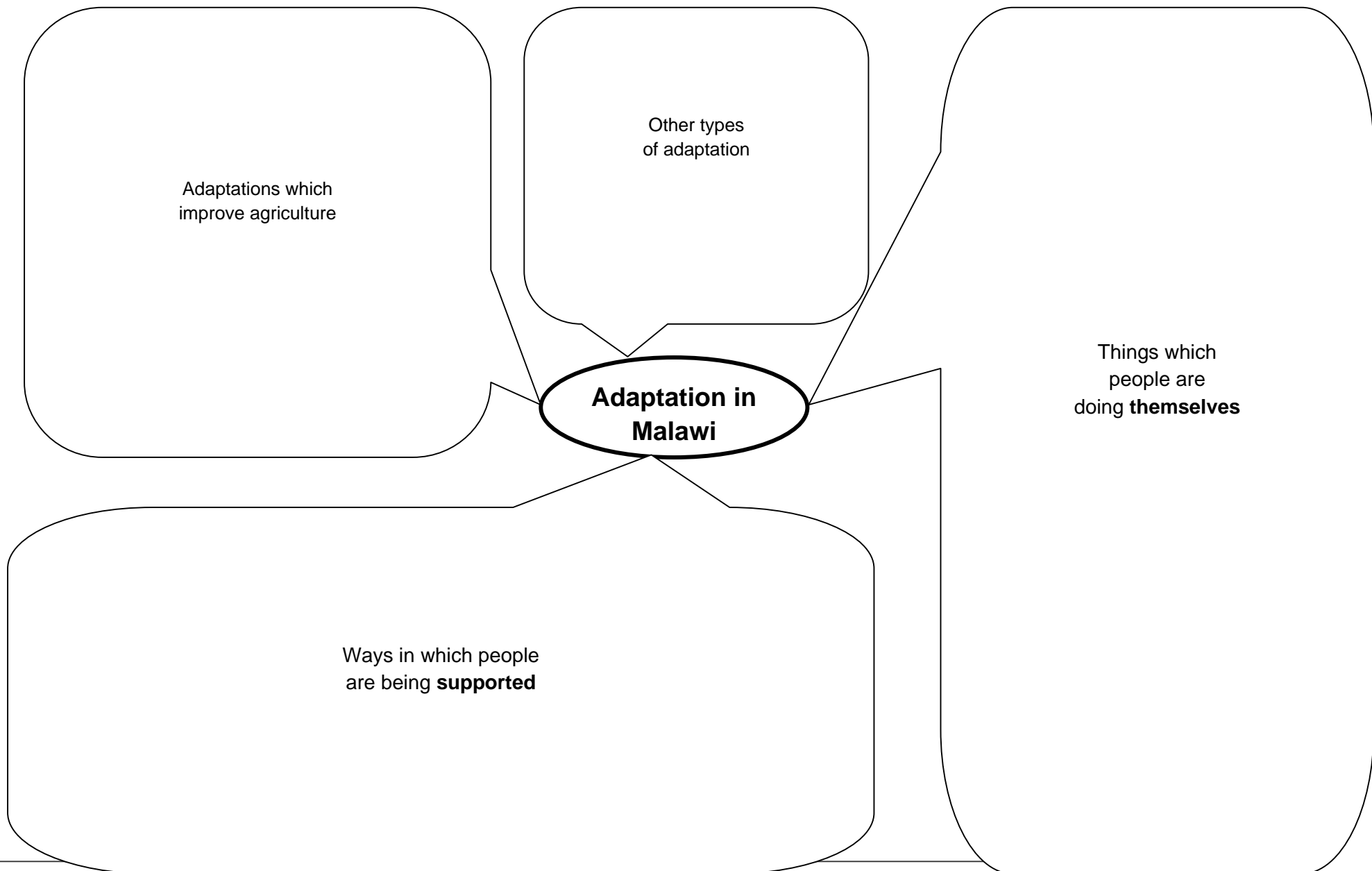


**Winds of Change in Malawi: Summarise the Adaptations (student sheet)**

Area	What they have done	Things done by local people <b>themselves</b>	Ways in which they have been <b>supported</b>
Improving maize yields			
Tree planting			
Fish ponds			

**Winds of Change in Malawi: Summarise the Adaptations (student sheet)**

Area	What they have done	Things done by local people <b>themselves</b>	Ways in which they have been <b>supported</b>
Agricultural diversity			
Schools			







## Adapting: Make your own notes template sheet

[http://www.oxfam.org.uk/resources/policy/climate\\_change/poverty-environment-malawi.html](http://www.oxfam.org.uk/resources/policy/climate_change/poverty-environment-malawi.html)

Use the link above to the report, then use pages 16 to 28 to make your **own** notes on each area of impact, with the following template:

What is the **type** of adaptation?

What have the people or the community **done**?

What things were done by **individuals or communities** themselves?

What things did people need **support** to do, and what **type** of support did they receive?

Are there **further problems** which this links to, or affect the adaptation?