

## Teachers' guide to Liberia case study

Oxfam Water Week funds raised by schools and communities have supported a number of projects including an irrigation scheme in Liberia. This case study provides further information about this project. Activities include watching a short film clip and looking at a photo-story of how small-scale rice farmers are changing their lives through irrigation. Pupils can then apply their knowledge of causes, symptoms and solutions to water vulnerability from previous *Learn* and *Think* activities by creating their own water vulnerability tree for Liberia.

This case study material may be used as a stand-alone activity, or ideally to follow the *Learn* and *Think* activities.

**Age range:** 7-14 years

**Time:** 30-40 mins

- Introduction to Liberia: 15-20 mins.
- Water vulnerability tree for Liberia: 15-20 mins.

### Learning objectives

- To apply understanding of the causes and symptoms of water vulnerability to Liberia case study.
- To identify solutions to water vulnerability in Liberia case study.

### Key questions

- What has caused water vulnerability in south-east Liberia?
- What are the symptoms of water vulnerability in south-east Liberia?
- How are Oxfam and the local community working to solve water problems?

**Resources** (note that photocopiable sheets are at the end of this pdf)

- Infrastructure and Water Vulnerability: Liberia film clip.
- Liberia photo-story (at end of this pdf).
- Water vulnerability table for south-east Liberia.
- Water vulnerability tree template.
- Liberia country information – see *Think* country information.
- A4 paper.

### Activity 1: Introduction to Liberia (15-20 mins)

#### **Watch the Infrastructure and Water Vulnerability: Liberia film clip**

This clip shows how the Oxfam and the local community have improved the water infrastructure in south-east Liberia, enabling farmers to grow more food.

#### **Read the Liberia photo-story**

Allow time for pupils to ask questions. You might like to refer to the *Think country information* about Liberia for this activity.

## Activity 2: Water vulnerability tree for Liberia (15-20 mins)

1. In pairs and then as a class, ask pupils to apply their knowledge of the causes and symptoms of water vulnerability from previous *Learn* and *Think* activities to the situation in south-east Liberia. Ask them to write these onto a new water vulnerability tree for Liberia (see template below).
2. Next discuss the solutions to water vulnerability in this area: how are Oxfam and local rice farmers working to solve water problems? Add these solutions to the tree as 'fruits'.
3. Finally, ask pupils to discuss the impacts of these solutions small-scale farmers like Susanna (see consequences chain below).

You might like to make use of the sample answers (not an exhaustive list) supplied in the *Water vulnerability in south-east Liberia* table below. These can be cut up for pupils to decide whether examples are causes, symptoms, solutions or impacts.

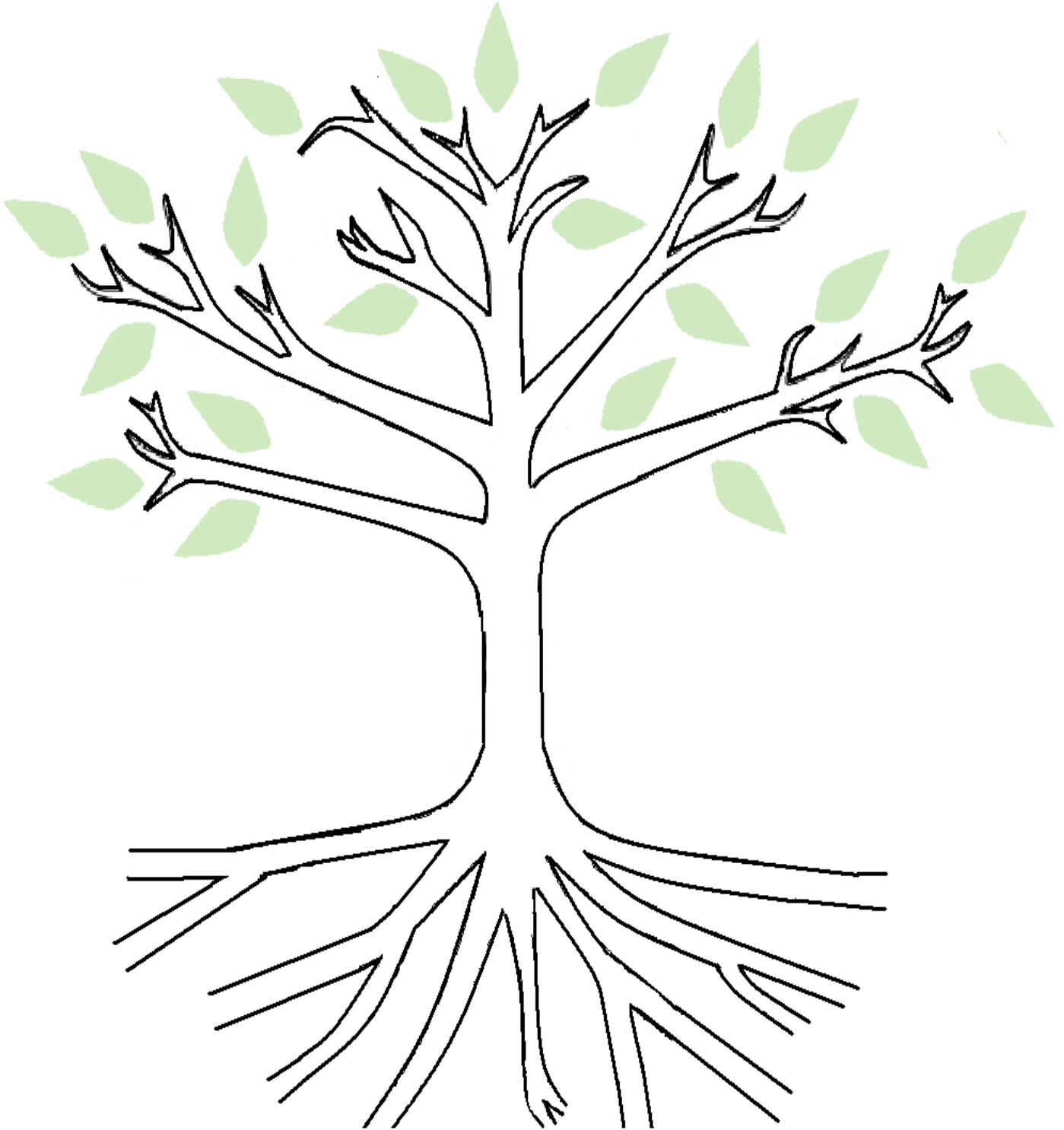
### Differentiation

*Make it easier:* give pupils a copy of the *Water vulnerability in south-east Liberia* table without cutting it up.

*Make it harder:* ask pupils to make a consequences chain to demonstrate the positive impacts of water solutions for small-scale farmers like Susanna. For example:



## Water vulnerability tree template



## Water vulnerability in south-east Liberia

Causes	Symptoms	Solutions	Impacts
<b>Conflict:</b> infrastructure was destroyed.	<b>Poor harvests:</b> lowland farms were flooded so farmers were forced to use upland fields which have unreliable rainfall and problems with pests eating crops.	Dams and canals are being built by members of the local community with funding and support from Oxfam and its partner organizations in Liberia.	Farmers can make money by using excess rice and other food to sell at the market. This also means other members of the local community have access to cheaper rice.
<b>Poverty:</b> the Liberian government has insufficient funds to rebuild and renew water infrastructure.	<b>Deforestation:</b> highland areas were being cleared to make new farmland because lowland areas were flooded.	Farmers prepare new fields in lowland areas.	The rate of deforestation in upland areas is reduced.
	<b>Hunger:</b> some people were undernourished because farmers could not always provide a balanced diet.	Farmers are being given seeds, tools and training to farm rice in the irrigated fields.	Farmers and local communities are better nourished and healthier because they can use money from the sale of excess rice to widen their diet and buy medicine.
<b>Climate change:</b> rainfall is becoming much less predictable.	<b>Reduced family time:</b> farmers, many of whom are mothers, were having to walk long distances to find land suitable for growing food.	Members of the local community work together to control the water supply and improve food production.	Farmers are able to spend more time with their families because their farmland is nearer to home.
	<b>Reduced access to education:</b> some children did not have the opportunity to go to school because farmers could not afford fees, uniforms or materials.	Farmers are planting high-yield rice seeds and working hard to produce two or three harvests a year.	Children have better access to education because farmers can use money from the sale of excess food to pay for school fees, uniforms and materials.

# OXFAM WATER WEEK



Photo: Kieran Doherty/Oxfam 2012

## THINK PHOTO-STORY: LIBERIA

Oxfam's water project in south-east Liberia focuses on swamp farming in Grand Gedeh and River Gee counties. Before the project began, lowland fields were often flooded, making it difficult for people to grow food. There used to be irrigation systems to control the water, but many years of civil wars meant dams and waterways were damaged or destroyed. In addition, many farmers fled the area. When they returned after the fighting had finished, much of the highland had reverted to bush and lowland fields had flooded.

When we plant upland and have intense sun, most of the rice burns up.

I used to ask my mother and my aunts to help me, to lend me food and help pay school fees, but now I'm farming in the lowlands I don't have to beg people for help any more. I produce enough rice to sell. We use rice to pay school fees and also to buy uniforms, school materials and clothing.



Photo: Kieran Doherty/ Oxfam 2012

### Disadvantages of upland farming fields:

Farmers have been clearing bush in the highlands for farming because the lowlands are flooded, but this has big disadvantages:

- harvests can be poor because climate change is making rainfall unreliable
- pests destroy food crops
- the continual need to cultivate new areas of land causes deforestation and results in many farmers having to walk great distances from their homes to grow food.



Lucy Tarlue lives with her husband and seven children in Grand Gedeh County. Photo: Kieran Doherty/Oxfam 2012



Photo: Aubrey Wade/Oxfam 2012

### Advantages of irrigating lowland fields:

- harvests are reliable and more frequent: special high-yielding rice seeds can be grown because the water supply is controlled. Rice can be harvested two or three times a year.
- pests are kept away from food crops by the water canals
- farmers don't have to walk so far from home to get to their fields so children can be with their parents more
- it reduces the rate of deforestation in the highlands



Oxfam is working with the local community to construct dams and canals to irrigate fields with the right amount of water all year round. This will mean more farmers can control the amount of water coming into their fields even in times of drought or flooding.

This is good news for farmers and their families because it means they can grow enough food for themselves and their families and even have some extra to sell.

I can have double the harvest in the swamp. I'll have the first harvest, then do a second harvest. On the upland it's just once, so I get more rice from the swamp.



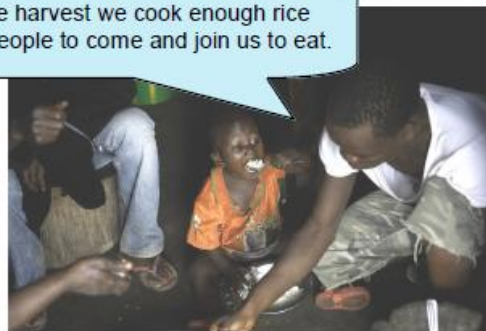
Beatrice Quayee lives with her husband and five children in River Gee County. Photo: Kieran Doherty/ Oxfam 2012

# OXFAM WATER WEEK

**Susanna Edwards** is a 53-year-old widow with nine children who also cares for her elderly mother. She lives in Grand Gedeh County. You can see her on the first *Think* film clip. Before the Oxfam project, Susanna used to farm in the highland, far away from her home, which made being with her children difficult. Now that Oxfam has built dams and canals, Susanna is able to control the amount of water reaching her lowland rice farm and life is easier.



At the end of the harvest we cook enough rice and call other people to come and join us to eat.



[Above] Susanna's 28-year-old son, Julius and grandson. [Top] Susanna. Photos: Kieran Doherty/ Oxfam 2012

When your husband dies, supporting your children on your own is very hard. Before, I walked six miles and at the end of the day the animals would eat all of the rice. I had to leave my children during the week to grow food. Now it is better: I have the farm right near my house. In three minutes I can reach my farm. I'm happy.

Through the food you get money and children can go to school. You are self-sufficient, you are capable enough to do everything by yourself, it's great!

## How do farmers get a new lowland field ready to grow rice?

- Clear the land of weeds using a machete
- Plough the land by hand or using a power tiller owned by a co-operative
- Open the irrigation channel to let water into the field
- Level the land using a rake or hoe
- The field is then ready for planting!

You can see the farmer needs lots of tools, so Oxfam helps to provide these too!



The children are happy, because now everyday they are together, they don't have to be away from their parents for a week or so.



[Above] Garrison Seoh and his wife Lucy. [Top] Garrison in his field. Photos: Kieran Doherty/ Oxfam 2012

I received tools, shovels, a hoe, rain boots, a file, a rake and rice seeds. I attended training. They told us how to plant rice and how to maintain our farm, how to lay our plots and use the canals.

'I've noticed a change in the weather, because during this time there should be plenty of rain, but there's less rain. It doesn't affect my farming, as I have water control here.