

# WATER IN THE WORLD: Deadly drought



## Student workbook



### FOCUS STUDY: Droughts and desertification in the Sahel

#### ACTIVITY 1: OVERVIEW

► Read the following overview and watch each of these videos as the starting point for understanding the challenges in the Sahel.

Droughts and desertification threaten the livelihoods and wellbeing of more than 1.2 billion people in 110 countries around the world. The region of sub-Saharan Africa known as the Sahel suffers from ongoing drought and desertification. The people who live in this region are some of the poorest and most marginalised people in the world. Famine, malnutrition, poverty and conflict are just some of the impacts they face as a result, and it is becoming increasingly severe with climate change.

#### VIDEOS

- ▶ 1. Sahel: a crisis of food security and malnutrition
- ▶ 2. Malnutrition in the Sahel Strip

► Note down 3 key points you learned from the videos:

1

2

3

## ACTIVITY 2: SPATIAL DISTRIBUTION

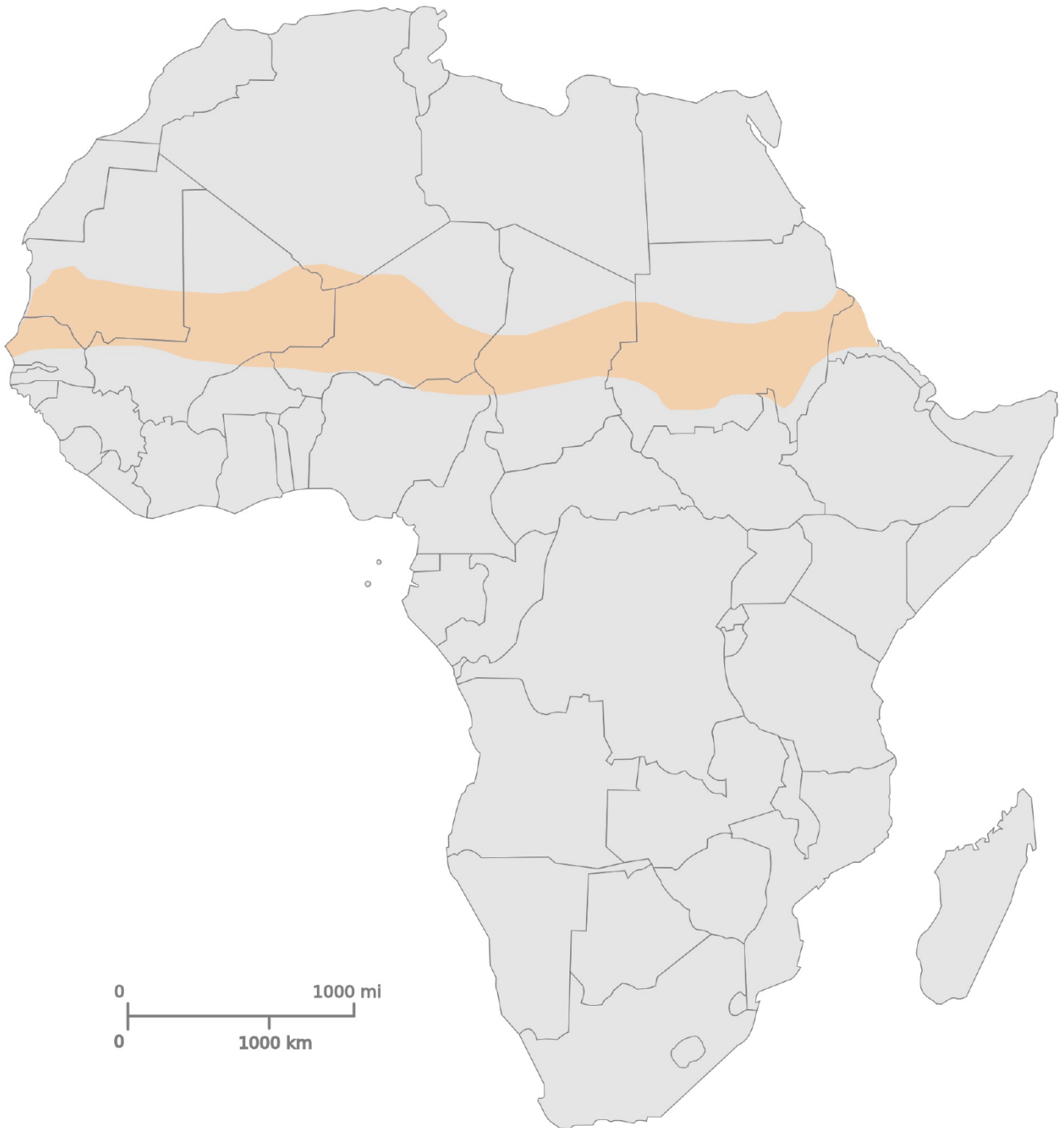
➤ Use an atlas to label the following countries on the map below.

Add a title to your map, number the countries and use these numbers to create a key.



Parts of these countries together make up the Sahel region:

Burkina Faso, Chad, Djibouti, Eritrea, Ethiopia, Mali, Mauritania, Niger, Nigeria, Senegal, Somalia, Sudan.



# ACTIVITY 3: CAUSES & IMPACTS OF THE DISASTER

➤ Complete the cloze passage below:



**WORD BANK:**

- overgrazing
- frequent
- food
- population
- droughts
- rainfall

The Sahel lies between the arid desert to the north and the sub-tropical environment to the south. It generally receives a low amount of annual ..... with a very long, prevailing dry season and a short rainy season. The hot, dry climate has meant the Sahel has experienced ..... for centuries. These droughts have become more ..... and severe over time resulting in the Sahel becoming even drier with less rainfall. The problems are intensified by ..... increases in the area and unsustainable agricultural activity such as over-farming and ....., which degrade the quality of the land to grow crucial agricultural ..... crops.

➤ List the natural causes of the disaster:

.....

.....

.....

➤ List the human causes of the disaster:

.....

.....

.....

➤ **Match the impact of this disaster to the description:**



**IMPACTS:**

Migration, Food shortages, Conflict, Degraded land, Malnutrition, Water shortages

DESCRIPTION	IMPACT
<p>1 Low rainfall, high evaporation and erosion means the soil deteriorates, making it harder to grow crops.</p>	
<p>2 In these poor farming communities, degraded land makes it increasingly difficult to grow crops, creating a food shortage crisis.</p>	
<p>3 As the dry land becomes drier due to low rainfall, access to clean water for drinking, cooking and bathing becomes a serious issue. Unsafe drinking water can lead to a number of health issues.</p>	
<p>4 UNICEF has estimated that up to 15 million people in six countries across the region are living with moderate or severe food insecurity. Lack of food means you don't get the required nutrients to live healthily.</p>	
<p>5 Ongoing water and food scarcity forces many people to leave their homes. This can lead to the creation of overcrowded and unsanitary slums and shantytowns where disease outbreaks and extreme poverty are common.</p>	
<p>6 As population increases and drought and desertification intensifies, many people seek new areas to settle. This push into already settled areas creates tension, often violent (eg. in Sudan).</p>	

# **IMPACT FOCUS: MALNUTRITION**

In 2018, nearly 6 million people struggled to get food in the Sahel region and 1.6 million children suffered from acute malnutrition<sup>1</sup>. When children suffer from acute malnutrition, their immune systems are so impaired that the risk of death is greatly increased. The critical age for malnutrition is 6 months – 2 years old. Children under 5, the elderly, ill and pregnant women are also vulnerable. According to the World Health Organization (WHO), malnutrition is the single greatest threat to the world's public health, with 178 million malnourished children across the globe<sup>2</sup>.

 **[The United Nations Office for the Coordination of Humanitarian Affairs \(OCHA\): The Sahel crisis deepens - Education under attack in Burkina Faso](#)**

<sup>2</sup> **[Medecins Sans Frontieres Australia: Malnutrition](#)**

## **WHAT IS MALNUTRITION?**

When you don't get enough nutrients from food, required by your body to function.



 **Further Reading:**  
**[MSF Australia: Malnutrition](#)**

### **➤ What does malnutrition have to do with water?**

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### **➤ Why are young children the most vulnerable to food shortages?**

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### **➤ How do you think a child suffering from malnutrition in their early years will be affected later in life?**

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### **➤ Choose one impact from the list above and research further.**

Write a paragraph describing how and why it is an issue for the people and environment of the Sahel. Try to find statistics and facts to support your answer.

#### **IMPACT:**

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 **Websites that may be useful:** • [MSF](#) • [UN](#) • [UNHCR](#) • [UNICEF](#) • [WHO](#)

# ACTIVITY 4: CLIMATE CHANGE

**“THE RECENT CRISES IN THE SAHEL MAY BE BECOMING THE NEW NORMAL. DROUGHTS ARE EXPECTED TO BECOME MORE FREQUENT... CLIMATE CHANGE IS A CREEPING DISASTER.”**

- UN's World Food Programme<sup>3</sup>

Africa is warming steadily with its five warmest years on record occurring since 2010.<sup>4</sup>

- Droughts are more common such that arid and semi-arid areas are becoming even drier.
- Overall rainfall is decreasing with more reductions likely in the Sahel.
- Rainy seasons are less reliable, making it increasingly difficult to grow food and gain access to drinking water.

Why should Médecins Sans Frontières, an emergency medical humanitarian organisation, be concerned about climate change?



<sup>3</sup> UN's World Food Programme climate change office

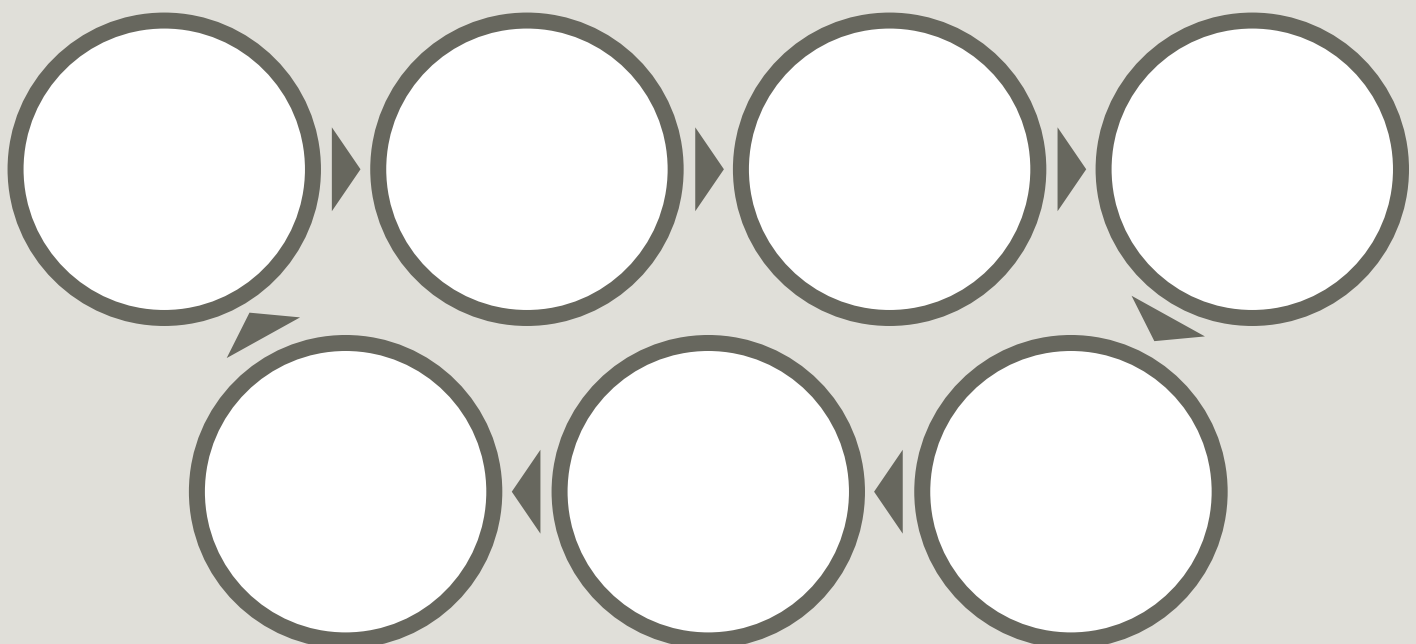
The Guardian: Climate change: how a warming world is a threat to our food supplies

<sup>4</sup> National Centers for Environmental Information (NCEI): Global Climate Report - Annual 2018

**➤ Complete the flow-chart below.**

Place the information from the boxes below in the correct order in the flow-chart to illustrate the link between climate change, drought and health.

Degraded land and soil quality	Lack of access to food and clean water	More frequent and severe droughts	Health issues e.g. malnutrition
Increases in temperatures and reduction in rainfall	More people forced to migrate	Increase in poverty and death	



# ACTIVITY 5: RESPONSES BY MSF

Médecins Sans Frontières (MSF), is an independent, non-government organisation that provides medical assistance to people affected by conflict, epidemics and disasters. They are one of the key organisations working to provide short-term and long-term responses to challenges in the Sahel region. Due to the ongoing natural disasters of drought and desertification, these challenges include water and food shortages and related health issues such as malnutrition, cholera and malaria.

## VIDEOS/FURTHER READING:

- ▶ [CHAD | MSF Malnutrition Prevention Project](#)
- ▶ [Treating severely malnourished children in N'Djamena](#)

### ▶ Note down 3 key points you learned from the videos:

1

2

3

▶ The following are actions taken by MSF to help address the challenges faced in the Sahel.

**With a partner, decide if you think that the MSF response is a short-term solution or long-term solution.**

MSF RESPONSES:	SHORT OR LONG-TERM SOLUTION?
Provide vaccinations to community members to prevent the outbreak of water-borne diseases	
Build a well so a community can get access to clean fresh water	
Hand out nutritional food packs to help reduce malnutrition	
Raise awareness of the issues facing the Sahel so governments, organisations and communities take action to reduce the challenges in the region	
Install a sewerage system so water isn't contaminated, reducing the outbreak of diseases such as cholera	
Distribute mosquito nets to reduce the outbreak of malaria and other mosquito-related diseases	
Train local healthcare professionals to help them provide ongoing medical care	
Provide doctors to treat patients in medical emergencies eg. during the 'hunger' season when food crops stops growing	
Distribute medical relief kits to respond to emergencies	
Set up cholera treatment sites to sanitise water	
Help build or renovate hospitals and healthcare clinics	
Collect data and research diseases	




# MSF CASE STUDY: MALNUTRITION IN CHAD<sup>1</sup>

In July 2018, MSF opened a health centre in the Chadian capital, N'Djamena, as an emergency response to treat malnutrition and medical complications in children.

The centre includes an intensive care unit, where MSF staff stabilise the most critical patients who require constant medical supervision. These children are too weak to swallow, so they use a feeding tube that goes from their nose to their stomach. Once they have been stabilised they are given therapeutic food such as milk formulas and are treated for any other diseases or complications.

Zenaba has lived in N'Djamena for two years since leaving her rural home. "We are farmers," she explains. "The rains were increasingly getting worse, and we had several bad harvests, so we came to N'Djamena to find work and feed our family. My husband has not found any work. Inside her hut, Zenaba takes care of her two-month-old baby: "I gave birth to twins, but I only have one baby left. The other did not survive."

 <sup>1</sup> [Medecins Sans Frontieres Australia: Chad treating severely malnourished children](#)



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