EVELYN'S STORY RESOURCE PACK

YEAR 7 STUDENTS

Photo: Nichole Sobecki/Panos/OxfamAUS

OXFAM Australia

WATER SCARCITY

Physical water scarcity occurs when there is not enough water to meet demand.

Effects of physical scarcity include:

1) severe environmental *degradation* (damage)

2) increasing conflicts over resources.

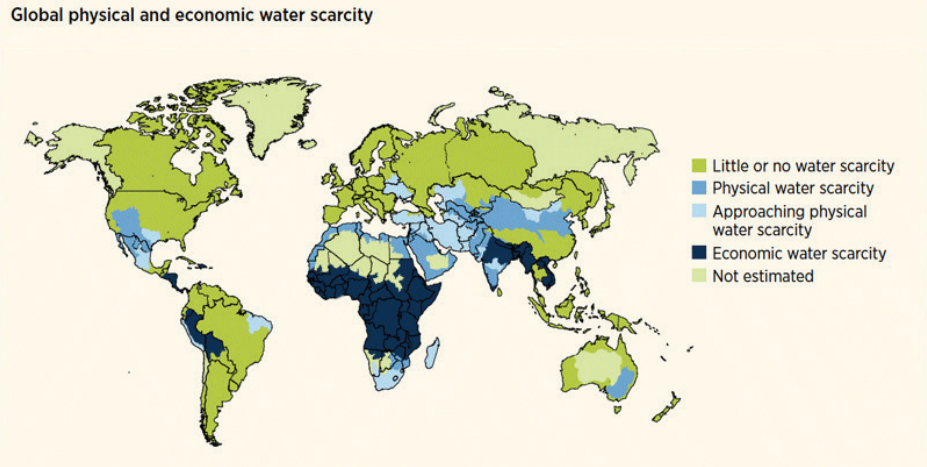

Figure A: Global Physical and Economic Water Scarcity (United Nations Department of Economic and Social Affairs 2012)

Economic water scarcity is caused by a lack of *investment* (the building and extending of pipes or the improvement of water quality, etc) in water. It can also be caused by a lack of human ability to satisfy the demand for water. Economic water scarcity can happen in places where there is enough water.

Effects of economic water scarcity include:

1) inadequate *infrastructure* (pipes, tanks, pumps etc) which means people have trouble getting enough water for domestic and other purposes;

2) high *vulnerability* to seasonal fluctuations (e.g. floods and drought);

3) inequitable *distribution* of water. Even when infrastructure exists-some people get water while others get very little water or water of poorer quality.[1]

IMPACT OF WATER SCARCITY OR QUALITY

According to a 2017 UNICEF/WHO report, 854 million people worldwide lack **basic water services**. 263 million people worldwide have access to water sources that are considered safe, but need to spend at least 30 minutes walking or queuing to collect their water. Another 159 million people get their water from surface sources that are considered to be the most unsafe, such as rivers, streams and ponds.[2] According to the World Bank, drinking contaminated water can cause outbreaks of diseases such as cholera and typhoid as well as diarrheal diseases, viral hepatitis A, dysentery and dracunculiasis (Guineaworm disease). By improving access to clean drinking water the rates of these diseases can be reduced.[3]

Basic Water Service: Access to improved water sources as long as it does not take more than 30 minutes round trip to collect.

Improved water sources include - bores, protected springs, piped water, as well as packaged and delivered water.

Women and children are impacted the most by unclean water sources. Women and children will spend millions of hours each year fetching water. The chore takes away their time from other important activities, like attending school or caring for children. When water has to be collected, women and girls are almost two and a half times more likely than men and boys to be the main water carriers for their families. A recent study in Kenya found that women spent an average of 4.5 hours fetching water per week. 77 percent of those women were worried about their safety while fetching water. In the same study, 24 percent of the women said that fetching water stopped them from caring for their children.[4]

1 (Food and Agricultural Organisation of the United Nations 2018)

2 (Caruso 2017)

3 (World Bank 2003)

4 (Caruso 2017)

INTRODUCTION: KENYA

Kenya is on the East African coast and on the equator. It is bordered by South Sudan and Ethiopia to the north, Somalia and the Indian Ocean to the east, the United Republic of Tanzania to the south, and Uganda and Lake Victoria to the west. The total area of the country is 580 370 km², including 11 230 km² of inland water bodies, in particular Lake Victoria and Lake Turkana. The Great Rift Valley dividing the Central Highlands is one of the main features of the country. The altitude varies from sea level at the Indian Ocean to the peak of Mt. Kenya, which is 5 199 metres above sea level. Kenya has a large diversity of landscapes, from deserts, such as the Chalbi desert, to glaciated mountains, hosting a rich biodiversity.

Water in Kenya

Most of Kenya's water originates from its five "water towers": Mau Forest Complex, Aberdare range, Mount Kenya, Mount Elgon and the Cherengani Hills. They are the largest mountain forests in the country and form the upper catchments of the main rivers in Kenya (except Tsavo River flowing down Mount Kilimanjaro).[5]

TABLE 2
Water Resources

RENEWABLE FRESHWATER RESOURCES			
Precipitation (long-term average)	-	630	mm/yr
	-	365,600	million m^3/yr
Internal renewable water resources (long-term average)	-	20,700	million m^3/yr
Total renewable water resources	-	30,700	million m^3/yr
Dependency ration	-	33	%
Total renewable water resources per inhabitant	2014	692	m^3/yr

Figure D: Kenyan water resources (Food and Agriculture Organisation of the United Nations 2016)

Figure B: Kenya (World Atlas 2018)

Figure C: Map of Kenya (World Atlas 2018)

Kenya's natural water resources do not allow for an equal distribution of water across the country as a result, much of the population has little fresh water. Rural areas are the worst, but recently, many urban poor have been pushed into slums where there is no water or sanitation due to the rapid growth of the cities (*urbanisation*). The total number of people in Kenya lacking access to "at least basic" water in 2015 was 19 million people.[6]

Kenya's water politics are also unique, some areas have private companies developing water resources and in other areas there is little development. In areas where the government has discouraged private companies from developing resources, there are few pipes, poor sanitation or tanker service. As a result, almost all rural areas of Kenya are left without water and urban areas aren't much better. Kenya's government does not have the funds to run pumping stations and existing piping systems are often in disrepair.[7]

5 (Food and Agriculture Organisation of the United Nations 2016)

6 (Wash Watch 2018)

7 (Snyder n.d.)

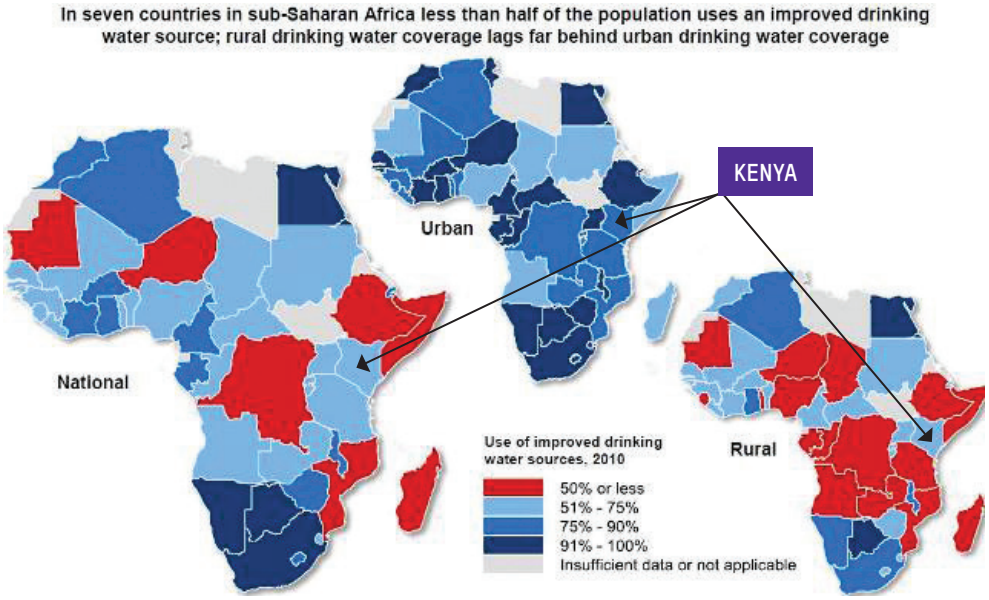

Figure E: Differences in Urban and Rural Access to Quality Water (UNICEF, WHO 2017)

Based on the information provided, please answer the following questions.

1. What type of water scarcity does Kenya suffer from? Use at least two pieces of information from the text or figures that support your answer.
2. What is be causing this type of water scarcity in Kenya?
3. What impact might water scarcity have on the people of Kenya?
4. Can you explain the difference in urban and rural access to improved water sources (Figure e)?
5. What might be the impact of improved access to water for women and girls in Kenya?

1 It will not matter if the students watch the video before or after completing the activity sheet.

The first three pages are activities you can do BEFORE watching Evelyn's story, so pause here if you have not watched the video yet.


Nichole Sobecki/Panos/OxfamAUS

TURKANA REGION, KENYA

Turkana County Government is one of the 47 counties in Kenya. At 77,000 sq. km, Turkana County is the second largest county, covering more than 13% of Kenya's surface. The land is rich-beneath its surface lie huge oil deposits that are currently being explored.[8] Currently, Turkana is the poorest county in Kenya and the Turkana are often called "the forgotten people".[9]

The climate for much of the region is classified as hot desert (BWh), but also contains Hot Semi-Arid areas (BSh).[10] Since the region has an arid climate and soil conditions it is not suitable to grow crops, so a majority of the region's 1.3 million inhabitants raise livestock. Turkana only experiences two rainy seasons per year — one around May and the other around October. May rainfall is called "the long rains" and October "short rains". The region had a significant drought in 2017, which resulted in the deaths of over half a million animals, including goats, sheep, cows, and camels[11]. In 2017, UNICEF reported that 2.7 million people in Kenya were food insecure (up from 1.3 million in August 2016) partially as a result of the drought. Food insecurity is when someone cannot access or afford adequate food all year round. Turkana was categorised as one of the most severely affected areas.[12] The water crisis forces people to make tough decisions about water priorities — water for cooking and drinking comes first. As livestock is the only source of income for many families, people will often prioritise water for their livestock over themselves. Often, they simply don't have enough water for bathing, washing clothes, washing utensils and washing hands after using the toilet.[13]

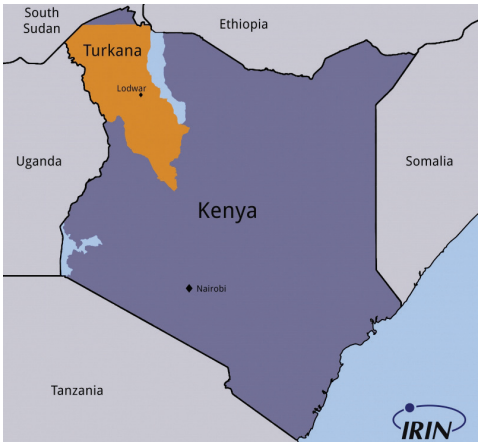

Figure B: Location of Turkana region (Lerneryd 2018)

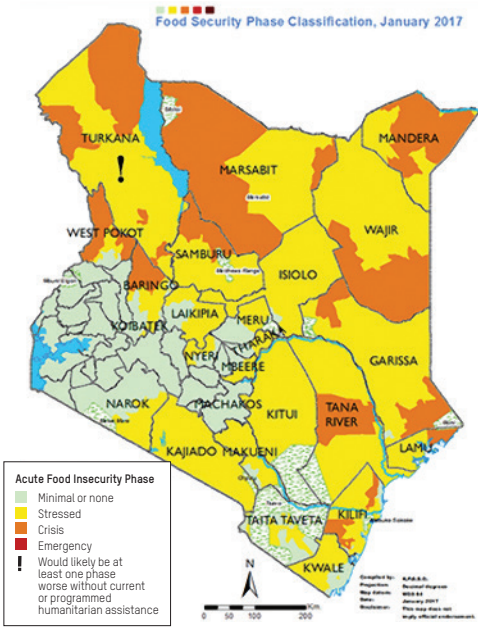

Figure C: Food Security in Kenya, 2017 (Famine Early Warning Systems Network 2018)

8 (Turkana County Government 2017)
9 (Oxfam 2017)
10 (Climate-Data n.d.)
11 (Lerneryd 2018)
12 (UNICEF 2017)
13 (Oxfam 2017)

OXFAM WATER PROJECT

BACKGROUND

The village, where "Evelyn's Story" is set is located about 4.5 hours' drive from Lodwar, the capital of Turkana County. Water and food are scarce and livestock is dying. Rivers are dry or very low and the lack of rain means water tables are getting lower.

The community is experiencing a severe water crisis. Before the water project, clean water had to be rationed, with areas of the community receiving water on a roster basis. As a result, people only had access to clean water through the town's piped water system for a couple of hours, once every eight to ten days. It took a full day for the fuel-powered generator to fill the town's solitary 24,000-litre storage tank, which then emptied in just two to four hours, depending on demand. People would crowd around the water kiosks (small buildings with two taps located at central points throughout the town) and have to queue for water. Fights and disagreements often broke out and not everyone was lucky enough to get water. This clean water would last a family between one to two days, providing they only use it for drinking and cooking.

Once they ran out of clean water, people collected dirty water by walking to the local water pan, the nearby saltwater lake or by digging scoop holes in the dry river bed (known as a "lagga"). The water pan is like is a large water basin dug in the earth, which catches and stores rainwater. The community's water pans usually store enough water for around four months. Even when the water pans still had water, it was a greeny-brown colour, and had a putrid stench. At any one time there will be people bathing in it, women and girls collecting water in jerry cans and herds of goats, sheep, camels and donkeys drinking from it and defecating in it. People usually only use this water for washing and cleaning, not for drinking. However some do cook with it or drink it, without boiling it, which can lead to serious waterborne diseases like diarrhoea and cholera. In 2016, there were 778 cases of "gastroenteritis" (local term for water-related diarrhoeal diseases) recorded at the local clinic — 646 of these were children under five. Due to the lack of clean water, people get trapped in a cycle of disease; the local nurse said that as a result, deaths from waterborne disease are high.

Although this community is relatively close to a large lake (Lake Turkana) — the lake water is an unsafe water source. It is highly saline, alkaline, contains high levels of fluoride, has algae, sediment, and is very polluted. Walking along the water's edge you can see faeces, the remains of dead animals, crystallised salt and rubbish. When people need drinking water, they get it from here as a last resort, but drinking it can cause severe vomiting, diarrhoea, skin and eye infections, severe dehydration, bone deformities, joint swelling and pain, and dental fluorosis.

While the water may be undrinkable, Lake Turkana is still important for life in the region.

To learn more, visit: **https://www.irinnews.org/feature/2017/05/23/way-life-under-threat-kenya-lake-turkana-shrinks**

Figure H: Portrait of Evelyn at dawn. Photo: Nichole Sobecki/Panos/OxfamAUS

WHAT DID OXFAM DO?

Oxfam worked with the local community, Turkana County Government and Tullow Oil to build a solar-powered water system to provide 15,000 people with clean and safe water.

Together they:

- installed a nine-kilometre pipeline and provided technical and supervisory support;
- rehabilitated water kiosks (central points where the community can access water) that were not working,
- provided training in water system maintenance and management;
- drilled a new community borehole in a nearby village; and
- bought the High Density Poly Ethylene pipes.

The Turkana County Government installed a new 50,000-litre, elevated steel tank in the community, and community members provided labour and storage during the project implementation.

In Kenya, Oxfam has also repaired boreholes which are now providing water to more than 177,000 people in the Wajir region and more than 50,000 people in Turkana.

*Using the video (*https://www.oxfam.org.au/virtualreality/*) and the information provided, please answer the following questions.*

1. **What water practices were occurring in Evelyn's community before Oxfam's water project?**
2. **In what ways were these practices impacting Evelyn and her community?**
3. **How did Oxfam contribute to developing access to safe water? What impact do you believe this will have on the community?**
4. **What challenges might Evelyn's community still face?**

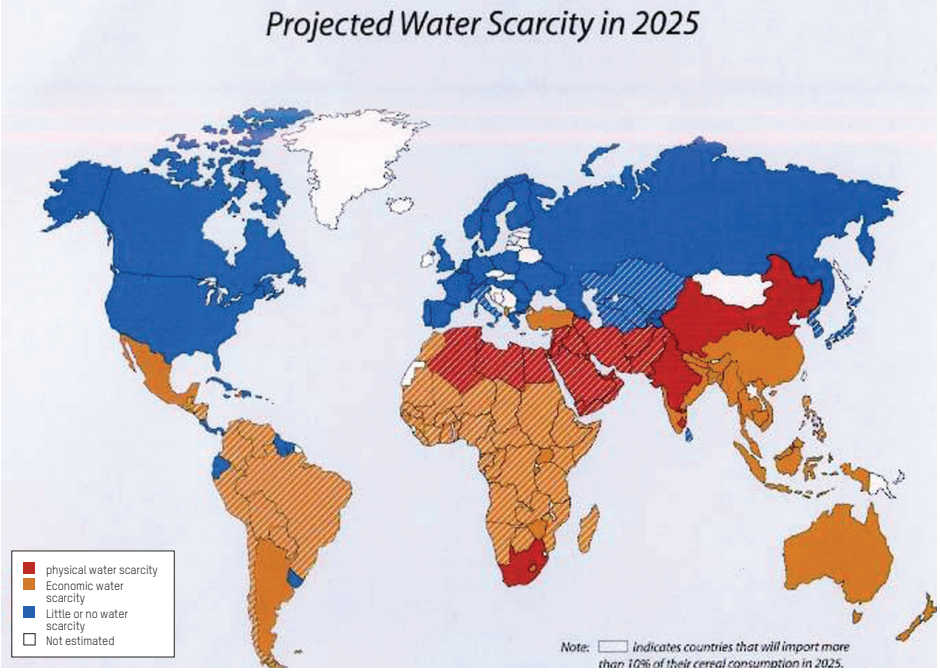

Figure H: Water Scarcity-2025 (International Water Management Institute 2001)

Extension Activities

Look at the map. What could be done to prevent the further development of water scarcity in Kenya? Australia?

Using online resources (such as GapMinder), create a table comparing water accessibility between two other countries (see figure A). How could you explain any differences you find?

WORKS CITED

Caruso, Bethany. *World Economic Forum-Women and Girls Are Still Carying the Bulk of the World's Water.* August 2nd, 2017. **https://www.weforum.org/agenda/2017/08/women-and-girls-are-still-carrying-the-bulk-of-the-worlds-water** (accessed April 6, 2018).

Climate-Data. n.d. **https://en.climate-data.org/region/1669/** (accessed March 27, 2018).

Famine Early Warning Systems Network. "Kenya Food Security Outlook." February 2018. **https://reliefweb.int/sites/reliefweb.int/files/resources/KENYA%20Food%20Security%20Outlook_February%202018_Final.pdf** (accessed March 28, 2018).

Food and Agricultural Organisation of the United Nations. *Understanding Water Scarcity. 2018.* **http://www.fao.org/resources/infographics/infographics-details/en/c/218939/** (accessed August 21, 2018).

Food and Agriculture Organisation of the United Nations. *Aquastat: Kenya.* 2016. **http://www.fao.org/nr/water/aquastat/countries_regions/Profile_segments/KEN-WR_eng.stm** (accessed August 21, 2018).

International Water Management Institute. "Projected Water Scarcity in 2025." *International Water Management Institute*. 2001. **http://www.waternunc.com/gb/map2025.htm** (accessed August 29, 2018).

Lerneryd, Fredrik. *Inside Kenya's Turkana Region:Cattle, Climate Change and Oil.* January 15, 2018. **https://www.irinnews.org/feature/2018/01/15/inside-kenya-s-turkana-region-cattle-climate-change-and-oil** (accessed March 27, 2018).

Oxfam. "Village Water Project-Evalyn's Story Background." Oxfam Australia, June 2017.

Snyder, Shannyn. "Water in Crisis-Kenya." *The Water Project.* n.d. **https://thewaterproject.org/water-crisis/water-in-crisis-kenya** (accessed August 21, 2018).

Turkana County Government. *Overview*. 2017. **http://www.turkana.go.ke/index.php/turkana-overview/** (accessed March 27, 2018).

UNICEF. *2017 Drought in Kenya.* 2017. **https://www.unicef.org/kenya/emergency_19640.html** (accessed March 28, 2018).

UNICEF, WHO. "Progress on Drinking Water, Sanitation and Hygiene: 2017 Update and SDG Baselines." *UNICEF*. July 2017. **https://www.unicef.org/publications/index_96611.html** (accessed April 6 , 2018).

United Nations Department of Economic and Social Affairs. "International Decade for Action "Water for Life: 2005-2015". *World Water Assessment Programme (WWAP), March 2012.* March 2012. **http://www.un.org/waterforlifedecade/scarcity.shtml** (accessed August 21, 2018).

Wash Watch. *Wash Watch Kenya Summary Statistics.* 2018. **https://www.washwatch.org/en/countries/kenya/summary/statistics/** (accessed August 30, 2018).

World Atlas. *Geography of Kenya.* 2018. **https://www.worldatlas.com/webimage/countrys/africa/ke.htm** (accessed August 21, 2018).

World Bank. *Public Health at A Glance: Water Sanitation and Hygiene.* December 2003. **http://web.worldbank.org/archive/website01213/WEB/0__CO-81.HTM** (accessed August 21, 2018).

OXFAM
Australia

WWW.OXFAM.ORG.AU