

Kathy Ward - II

6<sup>th</sup> Grade – Geography

African Sahel

HS.6.6 - The variety of physical environments within the Eastern Hemisphere influences human activities. Likewise, human activities modify the physical environment. (Ohio Learning Standards for 6<sup>th</sup> Grade Social Studies)

(This lesson will be part of a larger unit involving human interactions with the physical environment. One of the outcomes of this unit is for students to design their own personal plan to responsibly interact with their environments at school, home, and the neighborhood.)

Materials Needed:

- <https://u.osu.edu/globalteacherseminar/environment-presentations/>  
Choose the “Focus: Africa” power point presentation by Amanda Davey. This is a great presentation on shrub agroforestry in the Sahel.
- <https://youtube/sKInZTWT1c8>
- Definition Worksheet (one for each student) and Answer Sheet (included)
- <https://www.youtube.com/watch?v=QfTZ0rnwcc> (Ted Talk by Gabe Brown on regenerative farming)

Lesson:

1 Day –

1. Begin this lesson with the power point by Amanda Davey. Copy the link above, and type it into your search engine.
2. Once you open the link, scroll down to *Focus: Africa*. Click on the **Global Teacher Seminar Presentation 5June19**.
3. This should open in Power Point (or it will give you the choice to do that).
4. Hand out the definition worksheets to the students to fill in as you speak through Amanda’s presentation.

5. The youtube link in the presentation is incorrect. I have included the correct link for when you get to *The Great Green Wall* in the presentation.
6. Use the Exit Ticket (below) to ascertain what the students learned.

\*Note: As humans, many of us have managed to ruin our soils, just like in the Sahel. But, there are farmers who are forging the way to rectify this situation working without pesticides, herbicides, or fungicides. No-till planting, intermingling diversity of species, and using ground cover are all parts of this process. In so doing, farmers have been able to regenerate the topsoil. Thus, I have included a video featuring a farmer, Gabe Brown, from North Dakota who has done this.

This one-day lesson is just a small slice of a much bigger unit I'd like to develop in conjunction with the Science teacher who is required to teach about soil according to the Ohio Learning Standards for 6<sup>th</sup> Grade.

# African Sahel Definitions

**Define the following words from the class presentation.**

1. Sahel

2. soil degradation

3. Great Green Wall

4. food security

5. Green Revolution

6. Optimized Shrub-intercrop System (OSS)

7. hydraulic lift

## African Sahel Definitions (**Answer Key**)

1. **Sahel** – The Sahel is the transition zone between the Sahara Desert to the north and the Savannah to the south. It encompasses 10 countries: Senegal, The Gambia, Guinea-Bissau, Mauritania, Mali, Burkina Faso, Niger, Chad, Sudan, and Eritrea.
2. **soil degradation** - It is a combination of natural processes exacerbated by human activity. In the Sahel, it is wind in combination with torrents of water that come during the rainy season conspiring to denude the landscape.
3. **Great Green Wall** – Begun as an African-led initiative in 2007 to line the Sahel with trees, it has evolved into that of a mosaic of interventions across the continent with over 20 countries participating. The goal is to rehabilitate 100 million hectares of degraded land, 250 million tons of Carbon sequestered, and 10 million green jobs by 2030.
4. **food security** - The Food Agricultural Organization defines Food Security as when all people at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life.
5. **Green Revolution** – In the 1960's, Norman Borlaug bred high yielding varieties of wheat, rice & other technologies (inorganic fertilizer, pesticide) lead to large production increases in Asia & South America.
6. **Optimized Shrub-intercrop System (OSS)** – A system designed to increase the nutrients in degraded soils by using the native, drought resistant shrubs. Crops need organic matter to grow and the more OM in a system, the higher the yields. Organic matter is matter that comes from recently living organisms.
7. **hydraulic lift** - movement of water through roots from wet subsoil to surface soil at night when photosynthesis stops.

