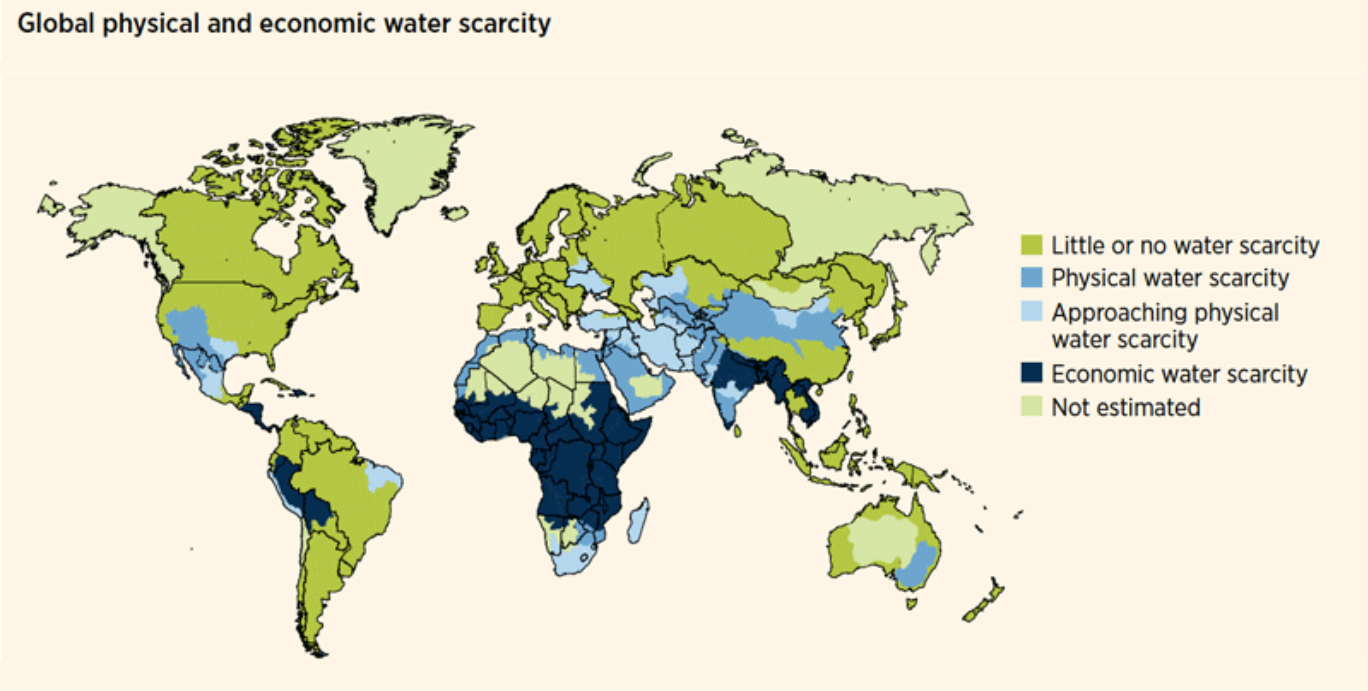
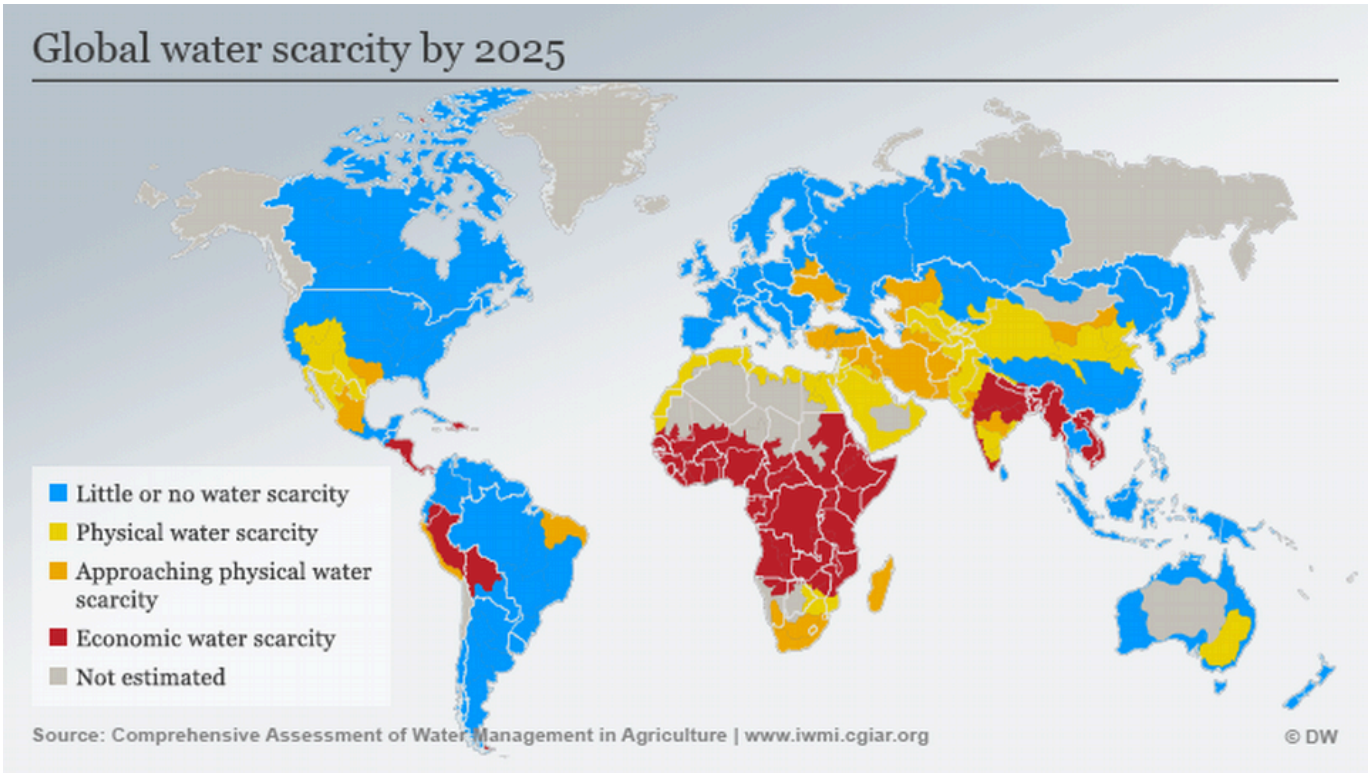
Two Types of Water Scarcity

One is easier to solve than the other

The physical evidence of water scarcity can be found in increasing magnitude around the world, affecting rich and poor countries alike. Nearly three billion people live in water scarce conditions (over 40 percent of the world's population), and this situation could worsen if current growth trends continue.



Source: World Water Development Report 4. World Water Assessment Programme (WWAP), March 2012.



Physical Water Scarcity

Water scarcity is not a factor of absolute quantity; it occurs frequently in both dry and moist climates. Rather, it is a **relative concept** comparing the **availability** of water to actual use. Desert regions, for example, do not classify as water scarce if demand for water is low. However, scarcity may exist in water-abundant areas if there is heavy population pressure, excessive pollution, or **unsustainable** consumption levels. Together, these forms of physical water scarcity affect every continent and approximately one-fifth of the world population.

In the United States and Europe, the average individual uses between 200 and 600 liters of water per day, compared to the 20 liters deemed to be the minimum daily requirement for drinking, washing, cooking and sanitation. Such unsustainable consumption levels have led to localized areas of water scarcity and significantly **altered** freshwater ecosystems. The massive Colorado River in the United States, which feeds the otherwise desert-like cities of Los Angeles, San Diego, and Las Vegas as well as millions of agricultural fields, now runs dry before reaching the ocean. As a consequence, the Colorado River [Basin], which once supported plentiful plant and animal life, is now significantly **diminished.**

Economic Water Scarcity

On the other hand, economic water scarcity occurs when water resources are **abundant** relative to water use, but insufficient infrastructure or financial resources prevents people from accessing the water they need. This **dilemma** plagues an additional 1.6 billion people worldwide, predominantly the rural poor and particularly in Africa. For this reason, additional investment in the water sector of developing countries could play a **transformative** role in poverty alleviation.

Slum dwellers, for example, typically pay five to 10 times more per unit of water than do people with piped water, and in rural households, women and children may spend the majority of their day fetching water from distant, and often unsafe, sources. The majority of the world's poorest people are smallholder farmers; most of whom rely on low-yield, rain-fed agriculture, and their livelihoods are constantly threatened by **inconsistent** precipitation and drought.

Economic water scarcity is about an unequal **distribution** of resources for many reasons, including political and ethnic conflict. Much of sub-Saharan Africa suffers under the effects of this type of water scarcity.

*Source: Time for Change (*excerpts*)*

Questions

1. ***Compare and contrast*** water availability in the United States with water availability in central Africa. ***Use evidence from the text*** in your response.

2. ***Using evidence from the text, explain*** why it is necessary to describe water scarcity in both physical and economic terms.

3. The title of the article claims that one type of water scarcity is easier to solve than the other. ***Using evidence from the text, explain*** which type of scarcity is easier to solve and why.

4. Select three bolded terms from the article that best summarize the main idea of the article. ***Explain*** your reason for including each term ***using evidence from the text.***

THESE ARE THE STANDARDS

8.E.1.1 Explain the structure of the hydrosphere including: Water distribution on earth; Local river basins and water availability

8.E.1.4 Conclude that the good health of humans requires: monitoring of the hydrosphere, water quality standards, methods of water treatment, maintaining safe water quality, stewardship