

# **The Impact of Water in the Middle East**

**Essential Question:  
How do water pollution and  
the unequal distribution of  
water impact the Middle  
East (Southwest Asia)?**

Standard: SS7G6a. Explain how water pollution and the unequal distribution of water impacts irrigation and drinking water.

# Activating Strategy: Scarcity of Water

**What does scarcity mean?  
With a seat partner, discuss  
another word for scarcity.**

<https://www.youtube.com/watch?v=GIWVDcdRVUA>

[watch first 3 minutes]

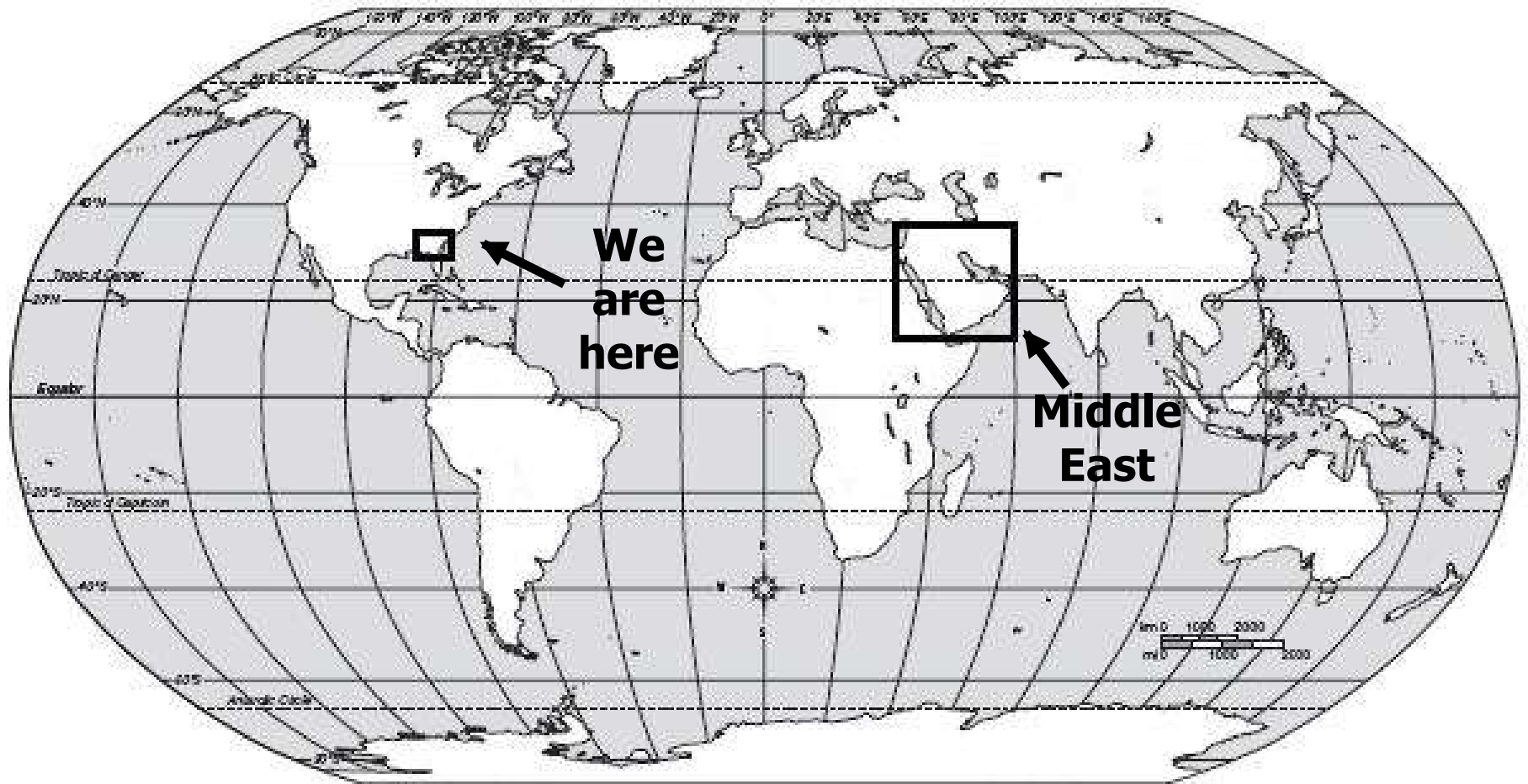
# Physical Water Scarcity Activity

[optional]

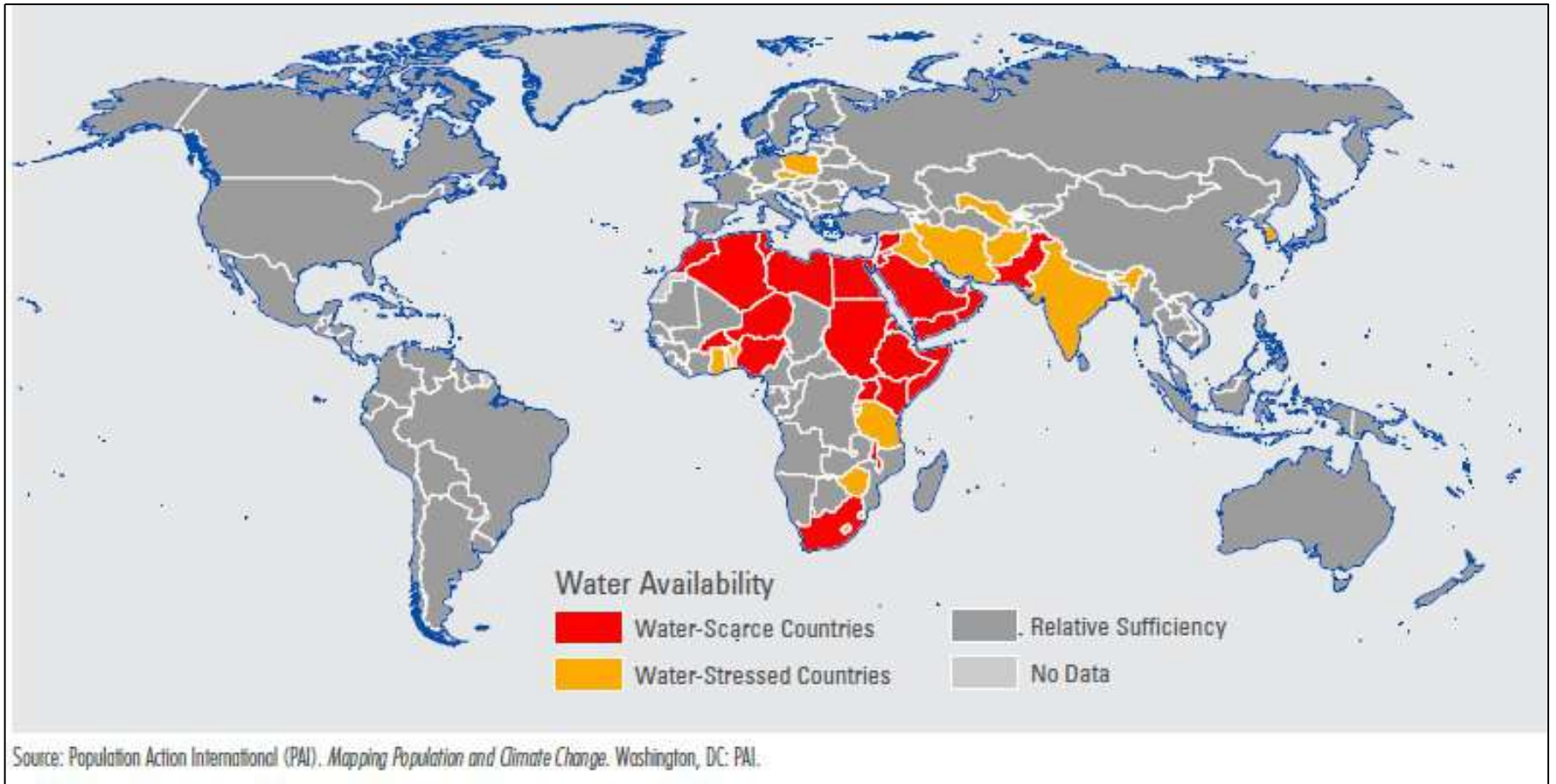
# **Interview: Water Crisis in the Middle East Task**

[see resources]

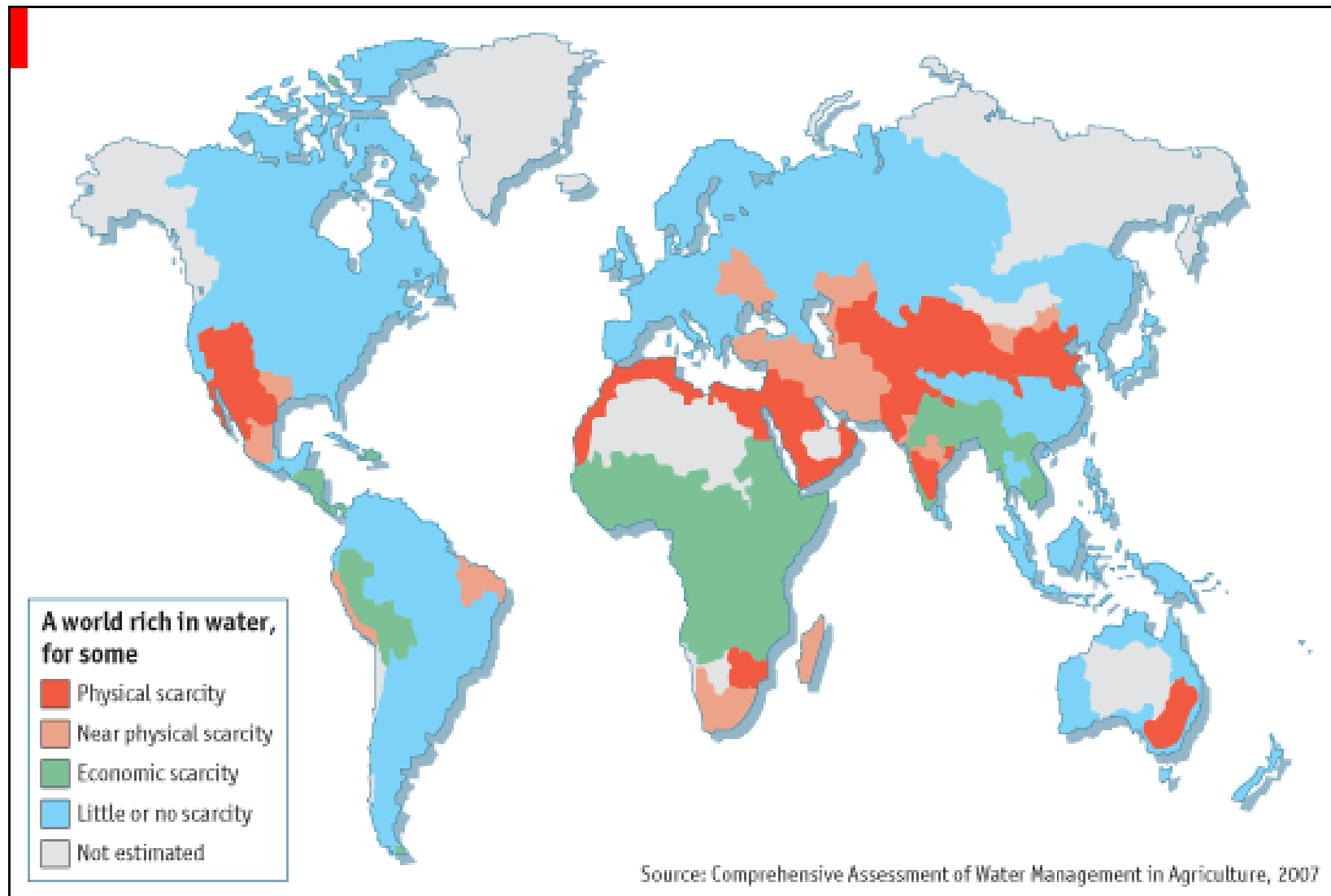
# Where is the Middle East?



**Let's examine a few maps of the Middle East in relation to water supplies.**

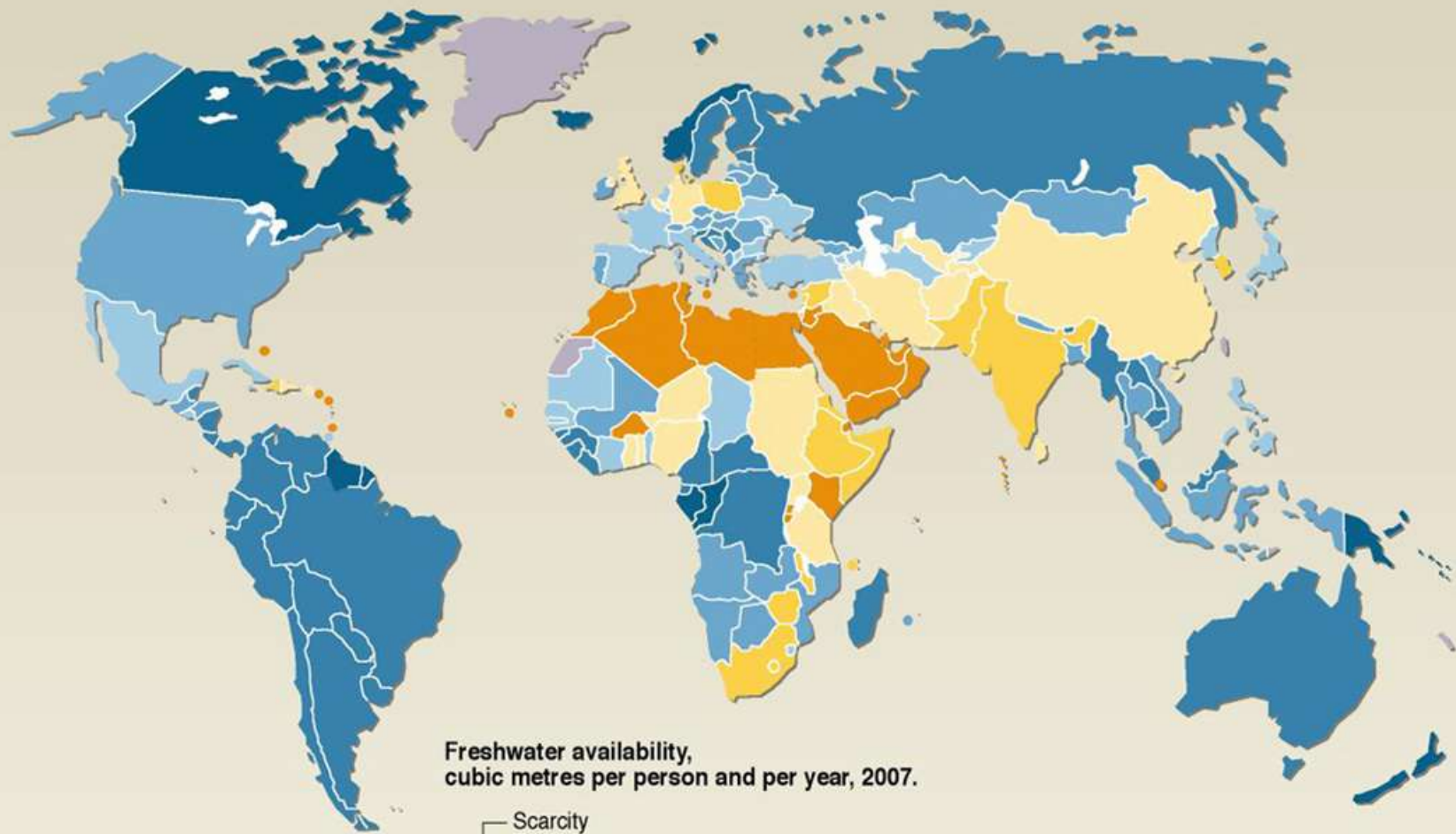


**What is the difference between a Water-Scarce Country and a Water-Stressed Country?**

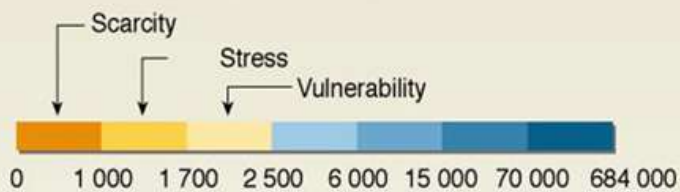


**What is the difference between Physical Scarcity and Economic Scarcity?**





**Freshwater availability,  
cubic metres per person and per year, 2007.**



Source: FAO, Nations unies,  
World Resources Institute (WRI).

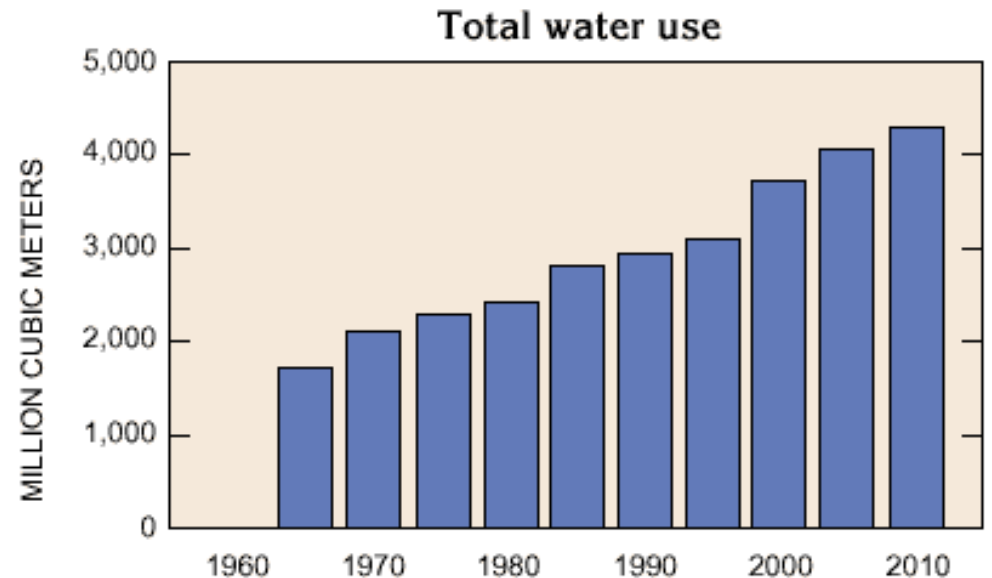
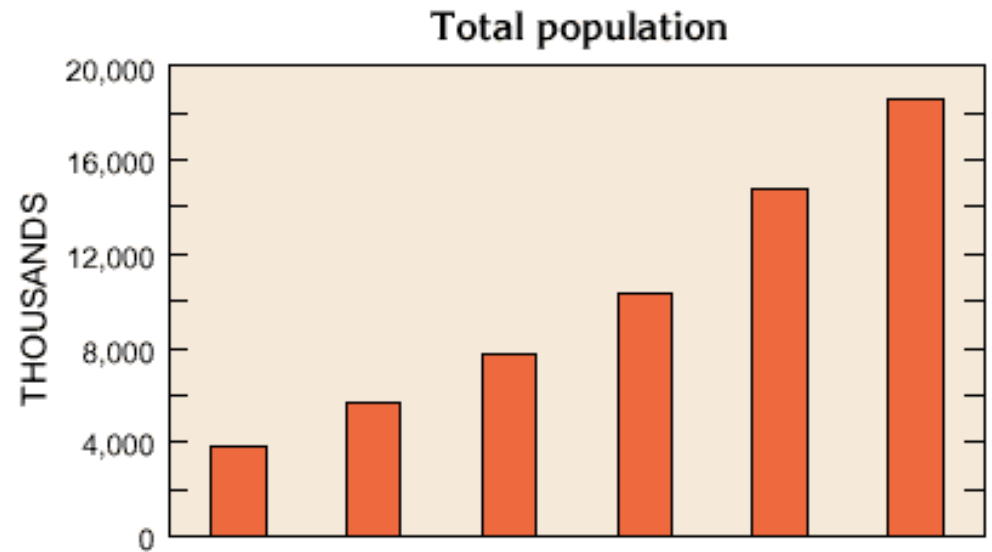
PHILIPPE REKACEWICZ  
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**After looking at the maps,  
turn to a partner and come  
up with a sentence to  
describe water in the  
Middle East.**

**Write your sentence on  
your notes handout.**

**What do  
these graphs  
show?**

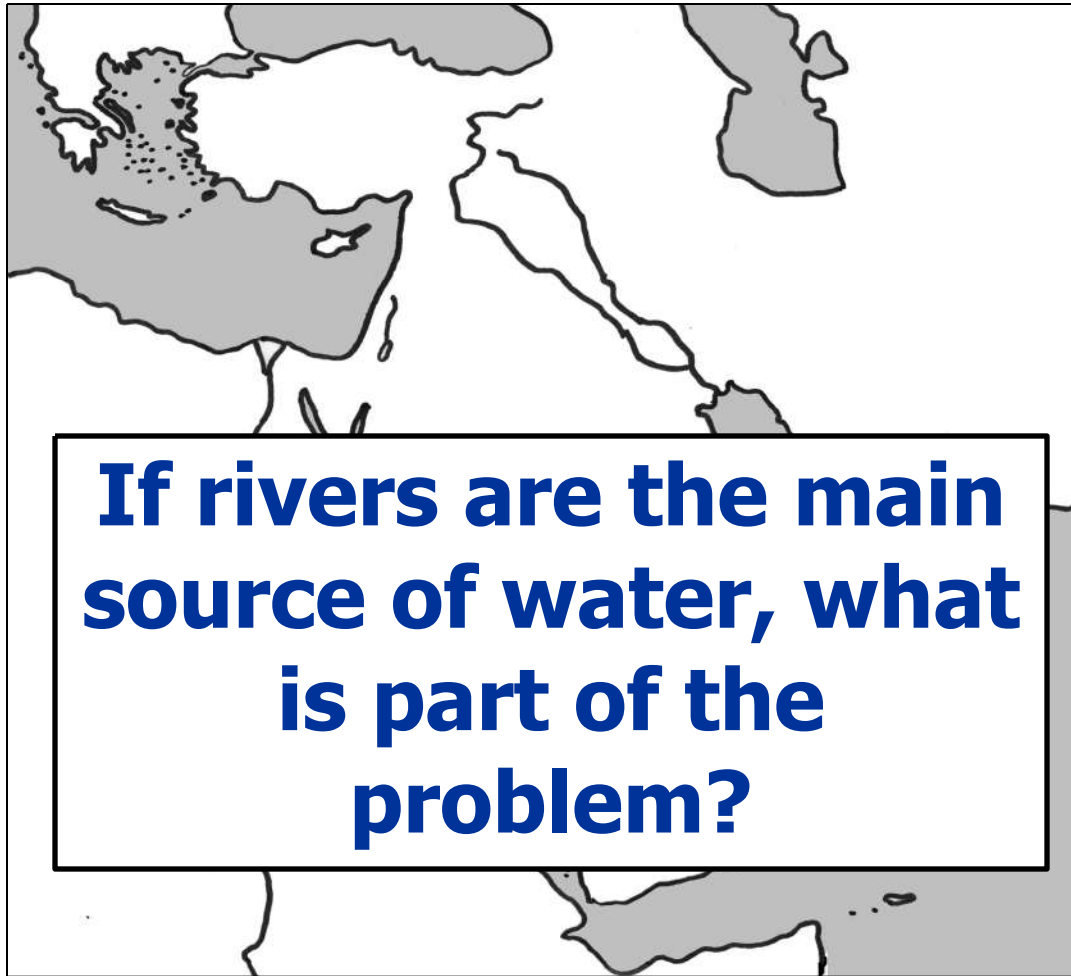
**Is this going  
to cause  
problems?  
Why?**



**The Middle East contains  
5% of the world's  
population, but it has less  
than 1% of the world's  
freshwater resources.**

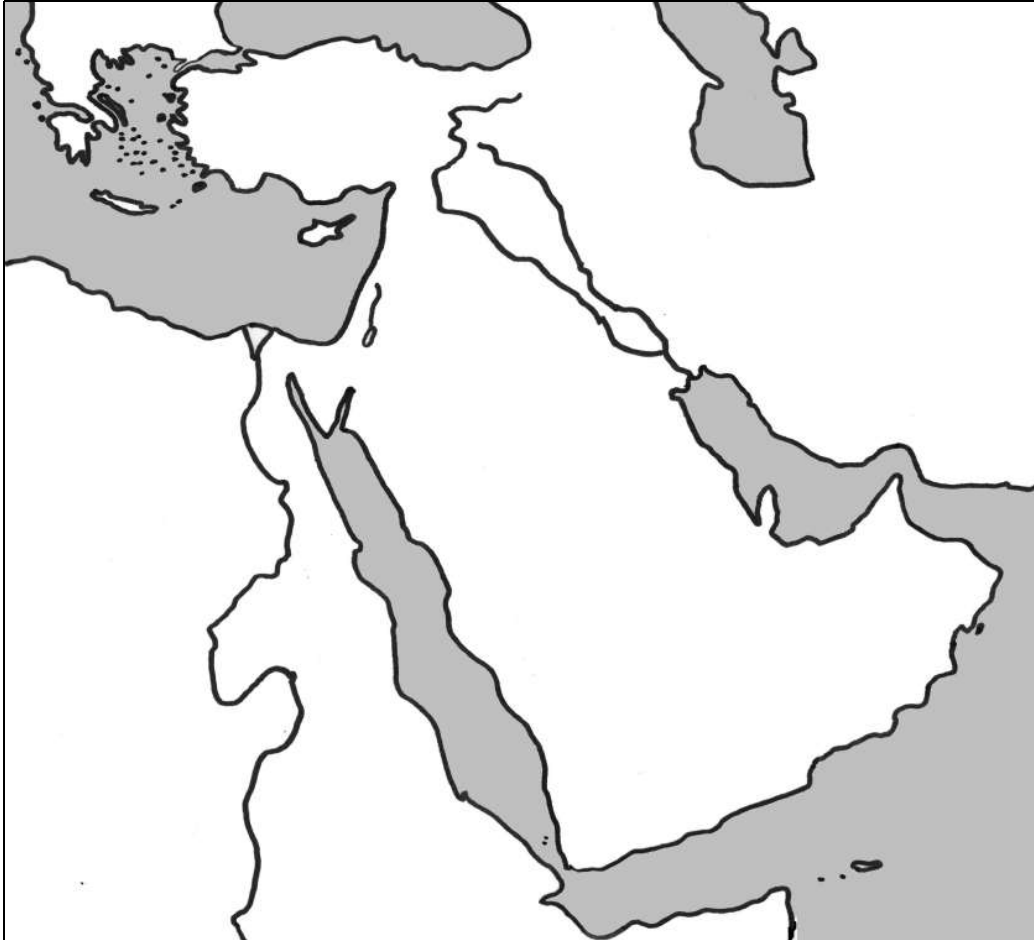
- **The Middle East is an arid (dry) region where little rain falls**
- **Rivers are the main source of water for drinking and for power in many countries in the Middle East**

**Think of your physical features map, how many rivers do you recall being in the Middle East region we labeled?**



- **Turkey, Iraq, Syria, Israel, Jordan and other Middle East countries all depend on many of the same water resources**
- **The existing ground and surface water resources are not enough to meet the needs of everyone [drinking water, irrigation of crops, domestic uses, etc.]**

# How is the scarcity of water related to the unequal distribution of water?



**In which countries do you think water is unevenly distributed? Why?**



Another factor causing the unequal distribution of water in the Middle East is the building of dams.



## **According to the International Rivers Organization, Dams are used for the following:**

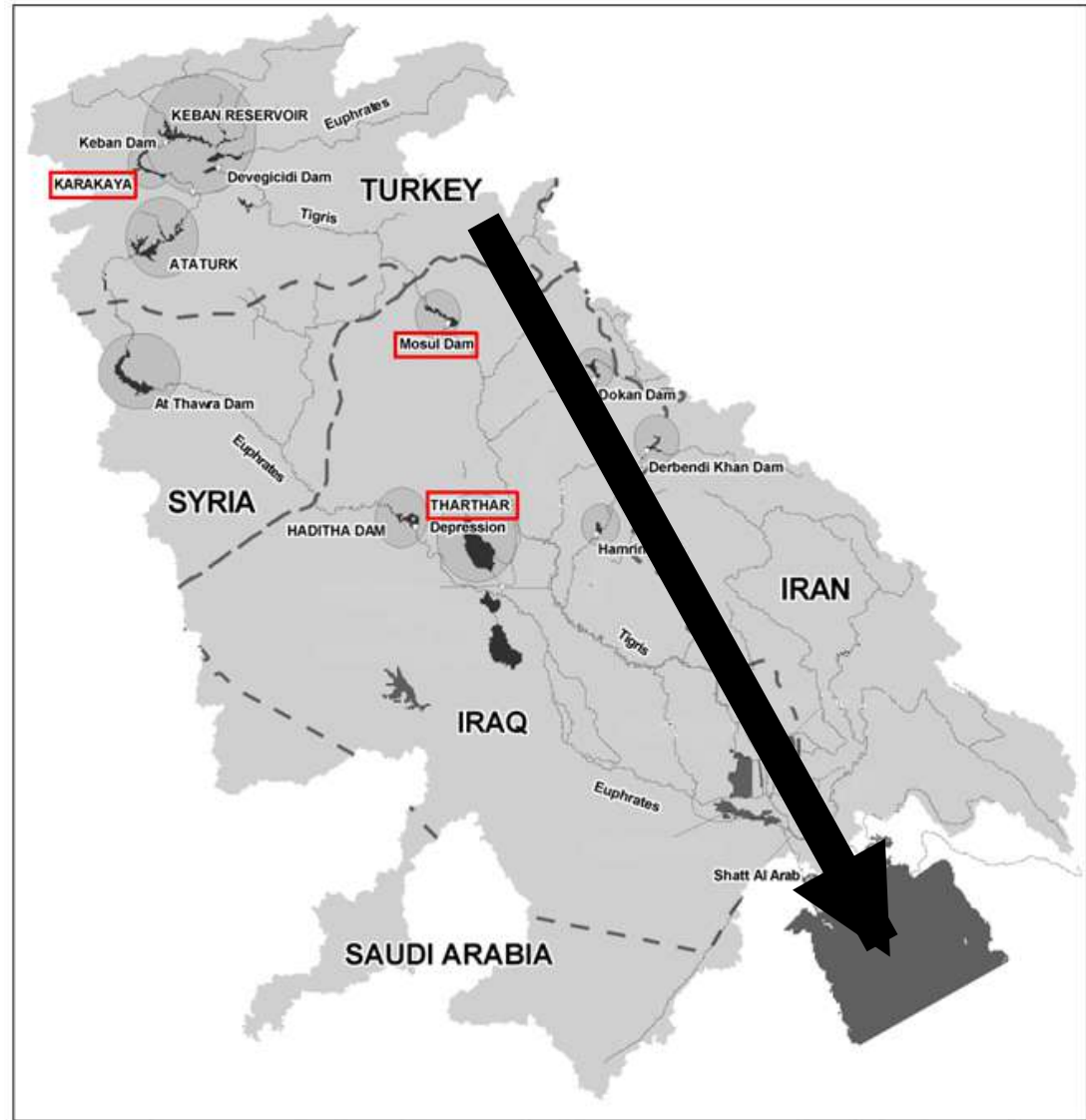
- To generate electricity**
- To supply water for agriculture, industries and households**
- To control flooding**
- To assist river navigation by providing regular flows and drowning rapids.**
- Other reasons for building large dams include reservoir fisheries and leisure activities such as boating**

# Dams along the Tigris and Euphrates Rivers

**Green Dots**



What happens  
to the  
availability of  
water as it  
flows from  
Turkey to the  
Persian Gulf?



# **Water Scarcity and Agriculture**

**Agriculture uses about 85 percent of water in the Middle East. It is common to misuse land by heavy irrigation.**

**The overuse of water in agriculture is affecting the already scarce water resources.**

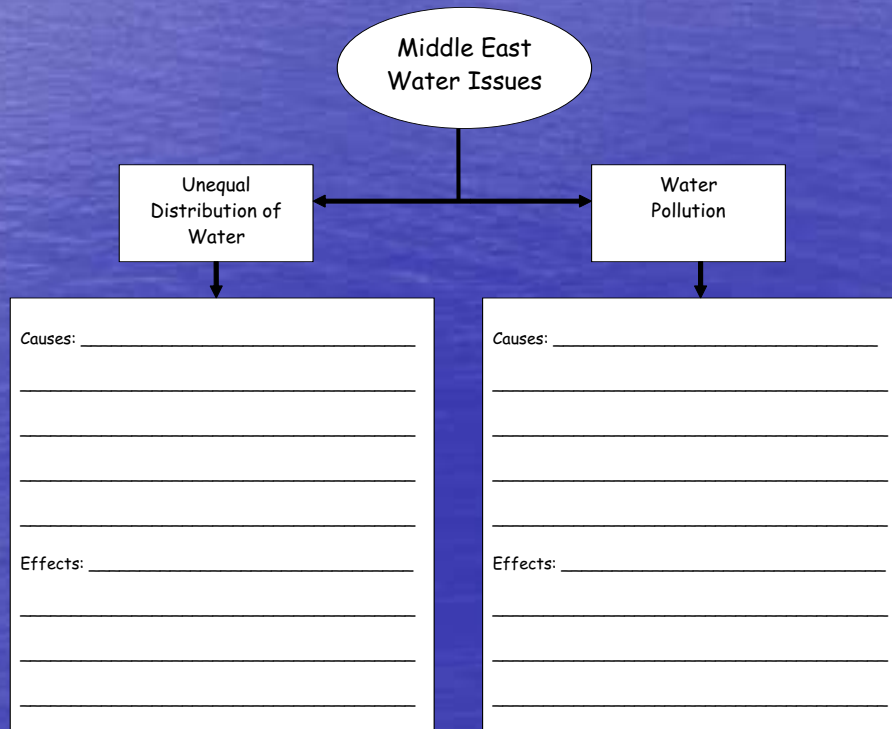
# **Water Scarcity and Agriculture**

**Water scarcity and water use affect agriculture (crop choice, growing seasons, and pests), fisheries, forestry, and livestock (pastures and pests).**

**These factors impact incomes and food security.**

# Distributed Summarizing:

On your Middle East Water Issues Graphic Organizer identify the causes and effects of Unequal Water Distribution of Water in the Middle East.



# Unequal Distribution of Water

- **Causes**

- **The Middle East is an arid (dry) region where little rain falls**
- **Rivers are the main source of water and there are few rivers**
- **The building of dams**



# Unequal Distribution of Water

- **Effects**

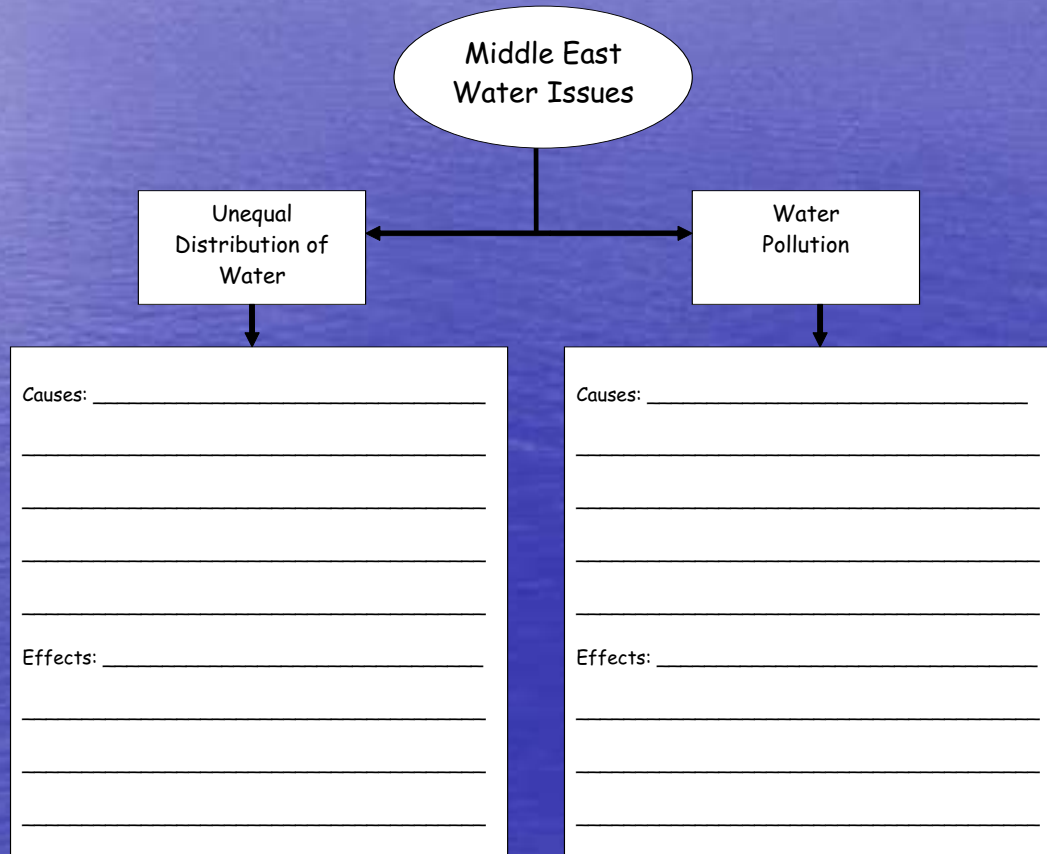
- **The existing ground and surface water resources are not enough to meet the needs of the growing population [drinking water, irrigation of crops]**
- **The building of dams along rivers make the rivers less powerful and much smaller for countries down the river**

# Water Pollution in the Middle East





# Use Middle East Water Issues Graphic Organizer to record the causes and effects of Water Pollution in the Middle East.



# Causes of Water Pollution in the Middle East

- Dams have reduced fresh water inflow that would reduce pollution
- Salt water mixing with fresh water (salination) or soil degradation (ruin)
- Depletion and contamination of underground and surface water resources
- Pollution from raw sewage, industrial waste, and agricultural waste

# Causes of Water Pollution in the Middle East

- **Burning oil wells during the Persian Gulf War created significant air pollution which disrupted ecosystems, spoiled food webs, and contaminated drinking water**
- **Oil rigs cause pollution by leaking oil through old equipment, illegal dumping, and accidental spills**

# Effects of Water Pollution in the Middle East

- **Economic Impact**
  - There is a limited supply of clean water for the irrigation of crops
  - Polluted water can reduce the production of food and pose health risks
- **Impact on the Population**
  - Polluted water is unsafe for drinking [causing health problems and in some cases death]
  - Polluted water is unsafe for livestock and fish [which can be passed up the food chain]

# Summarizing Strategy: 3-2-1

- **Identify 3 causes of the unequal distribution of water in the Middle East**
- **Identify 2 causes of water pollution in the Middle East**
- **Identify 1 reason that the Middle East's water problems are getting worse**