

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

# **Essential Question: How do water pollution and the unequal access to water impact the Middle East (Southwest Asia)?**

Standard: SS7G6a. Explain how water pollution and the unequal access to water impacts irrigation and drinking water.

# **Activating Strategy: Scarcity of Water**

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

<https://www.youtube.com/watch?v=GIWVDcdRVUA>  
[watch first 3 minutes]

# Physical Water Scarcity Activity

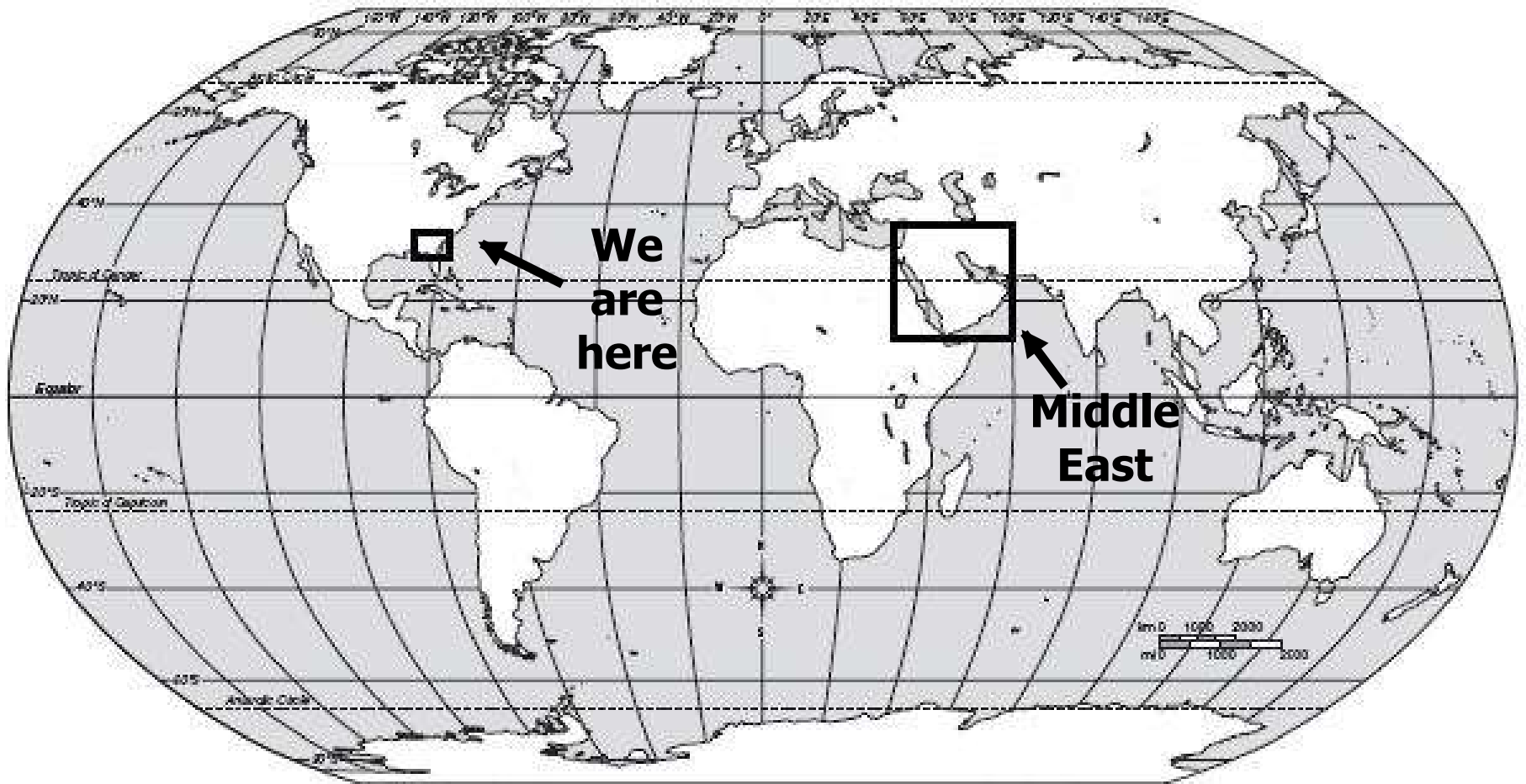
Red counter – see Mrs.  
McDonald to get started]



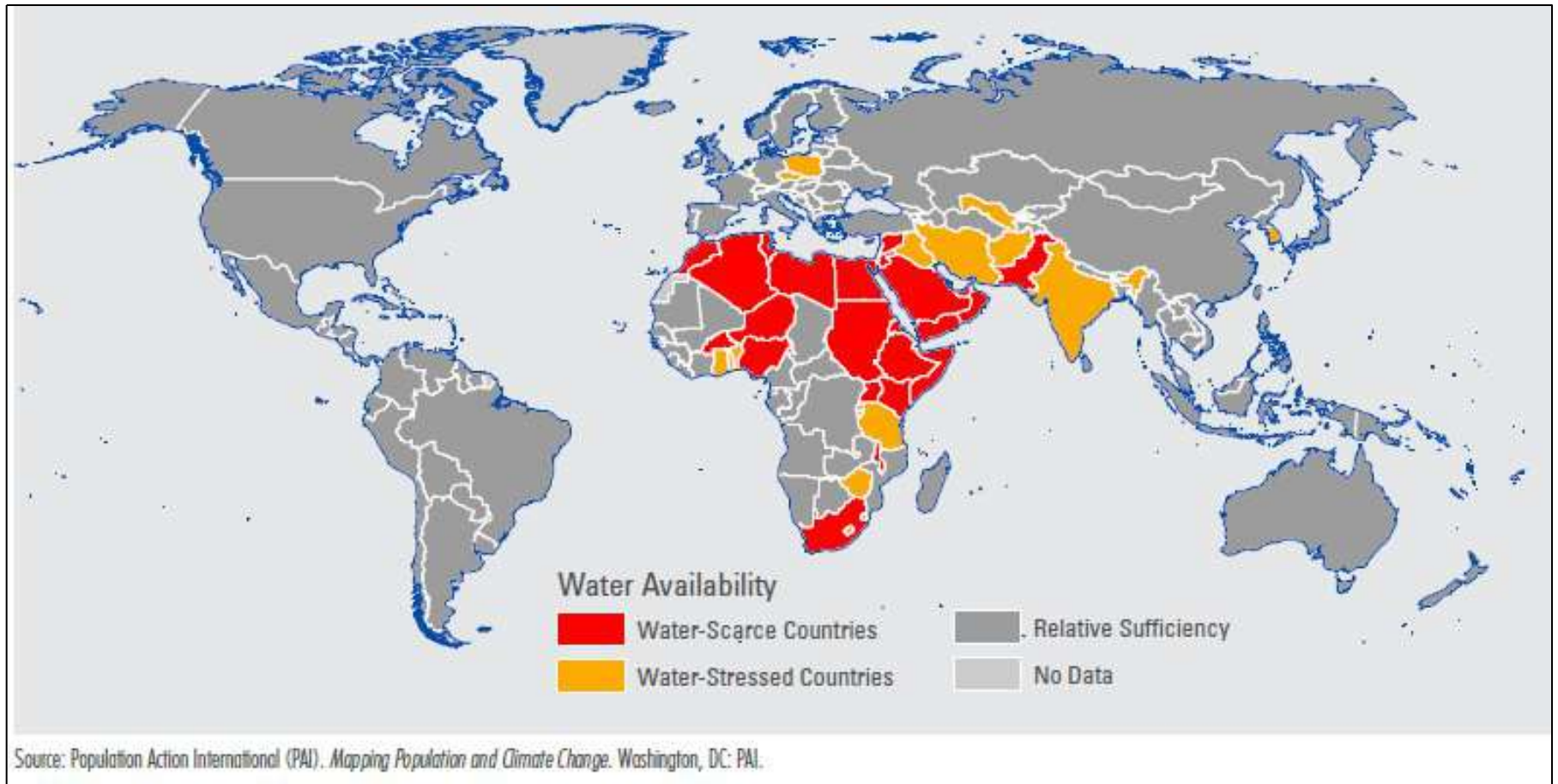
# **Interview: Water Crisis in the Middle East Task**

[see resources in folder]

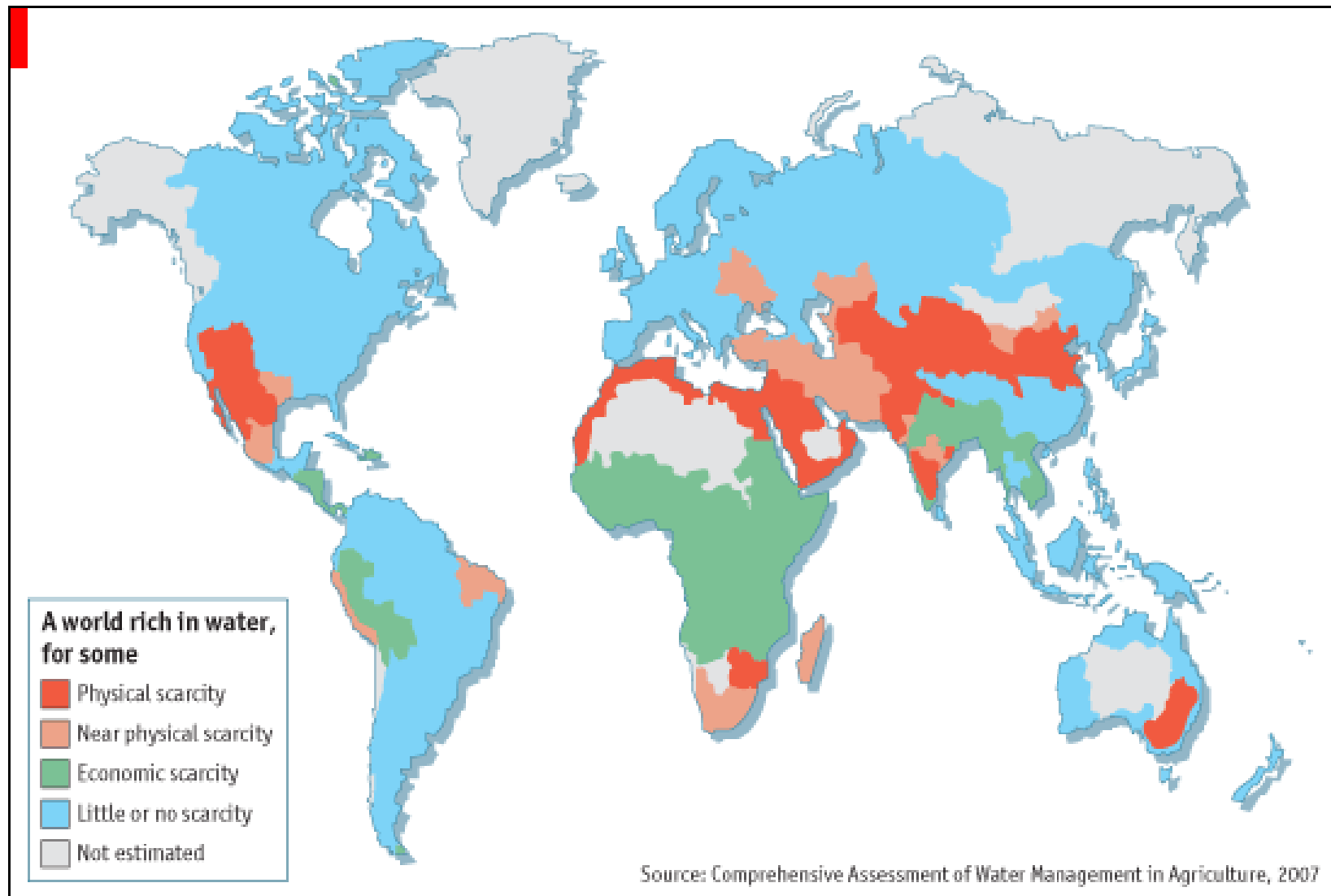
# Where is the Middle East?



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

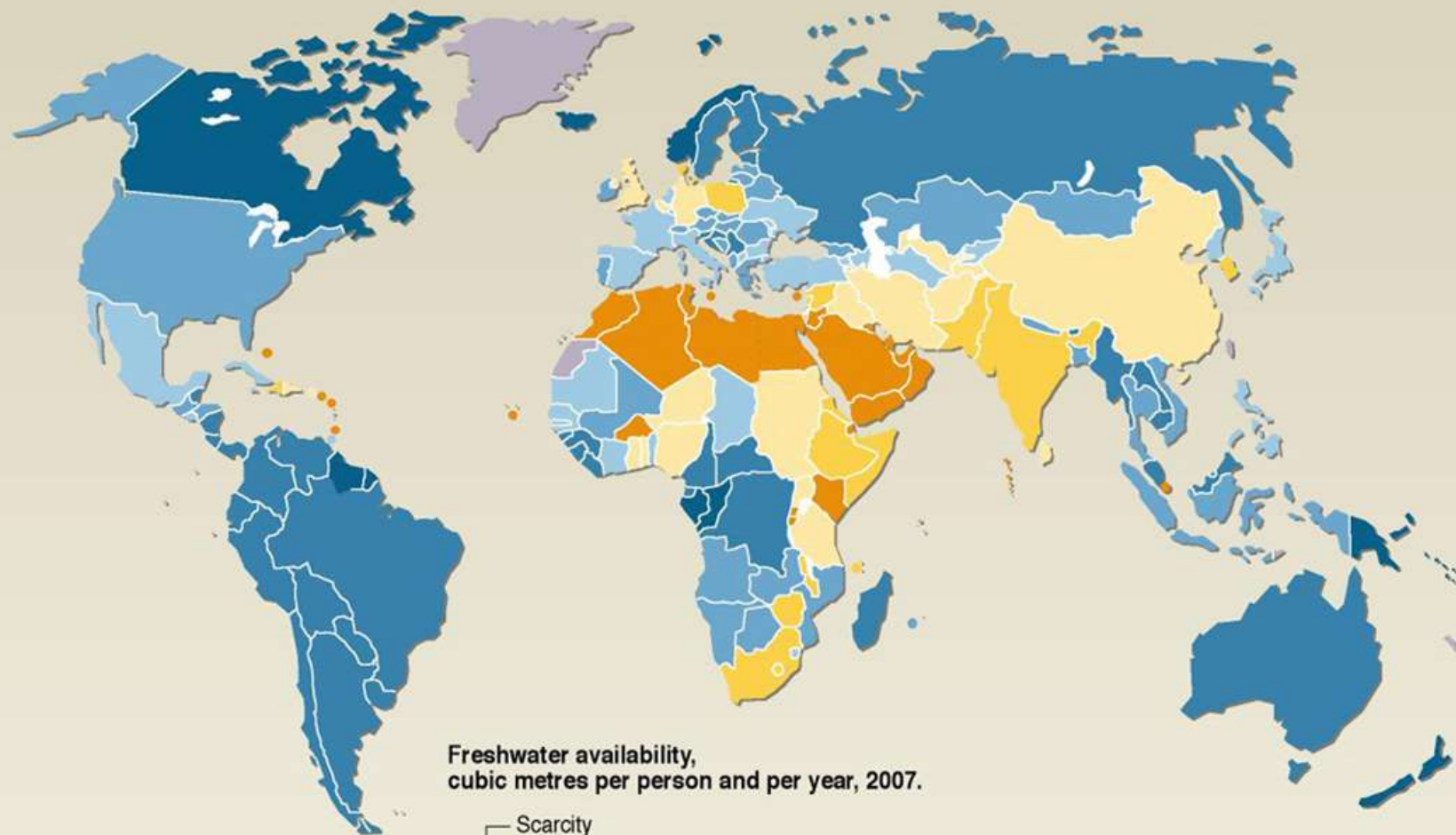


**What is the difference between a Water-Scarce Country and a Water-Stressed Country?**

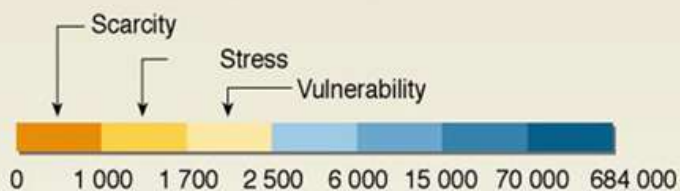



# What is the difference between Physical Scarcity and Economic Scarcity?





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



 Data non available

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

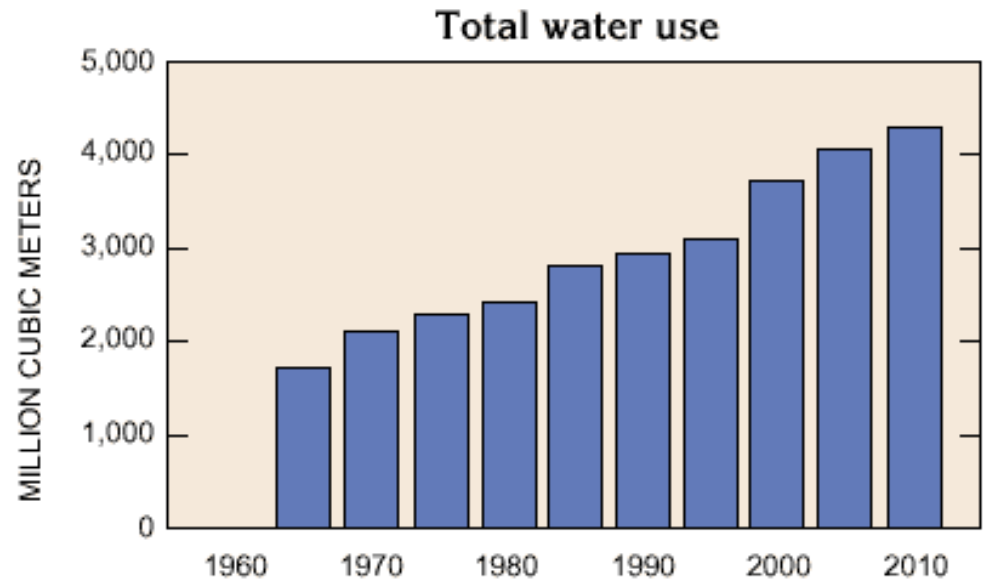
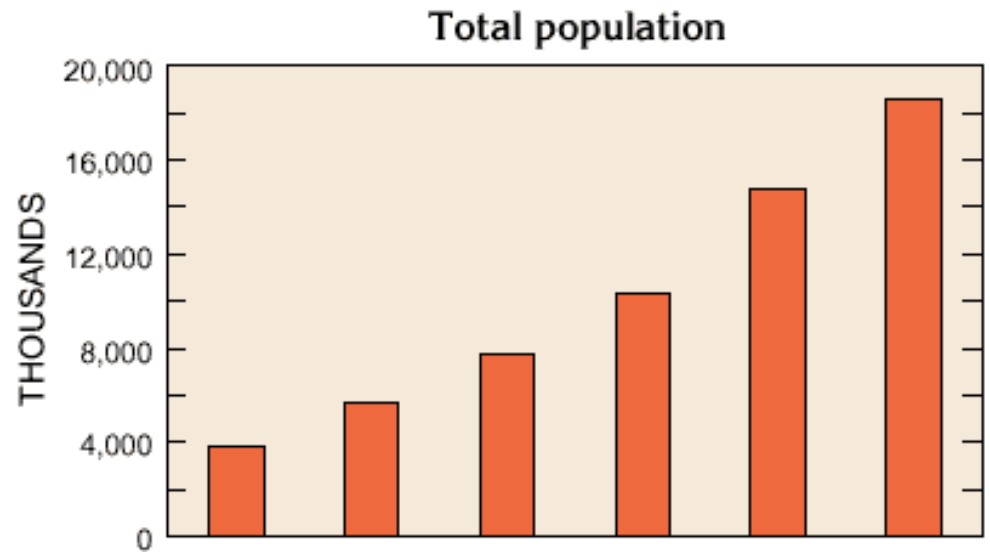
PHILIPPE REKACEWICZ  
FEBRUARY 2008

**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 ISN.**

**What do  
these graphs  
show?**

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



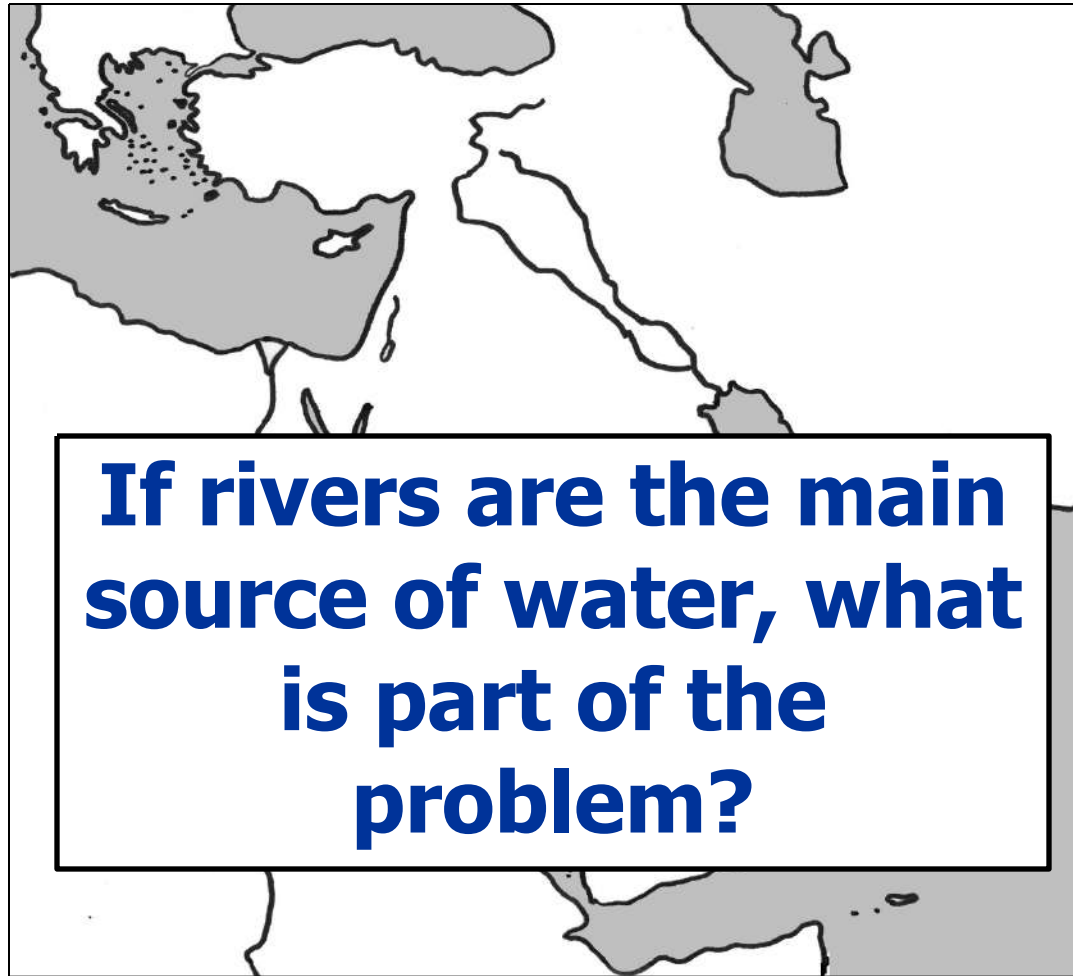
**The Middle East contains  
5% of the world's  
population, but it has less  
than 1% of the world's  
freshwater resources.**



- **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**

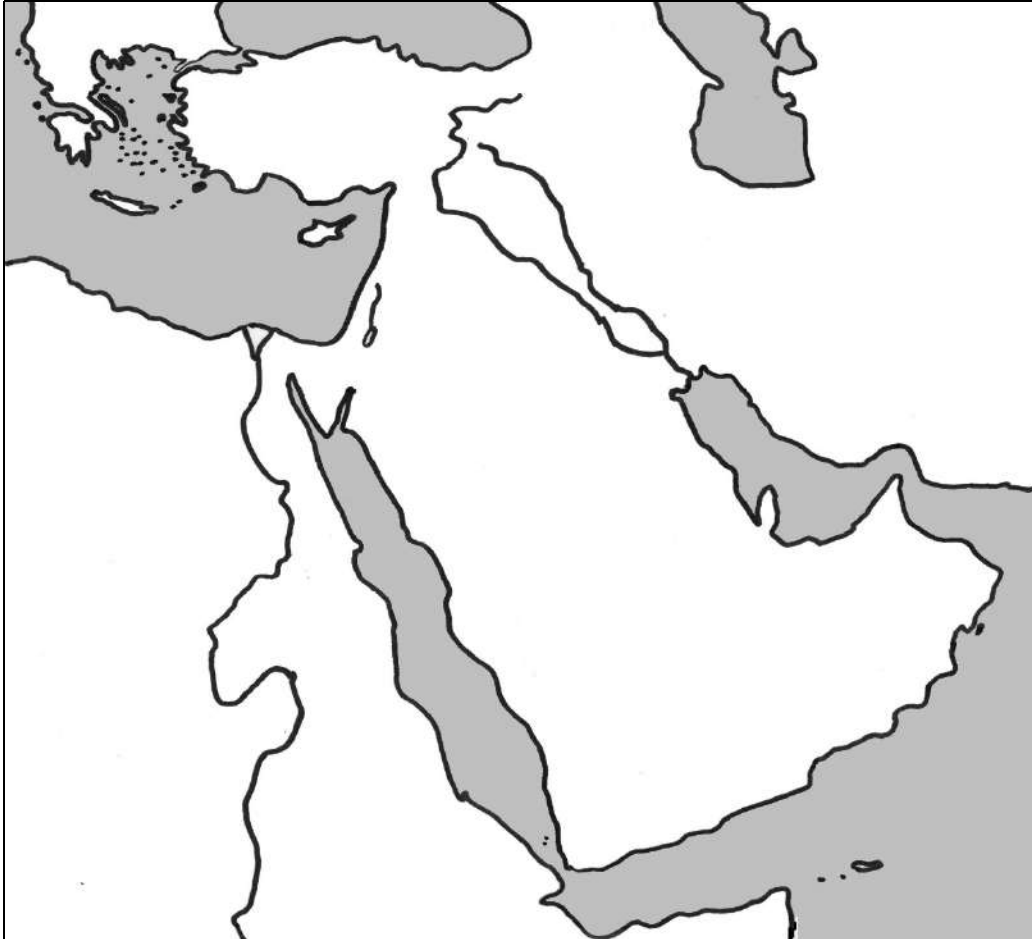


**Think of your physical features map, how many rivers do you recall being in the Middle East region we labeled?**



- **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 access 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.





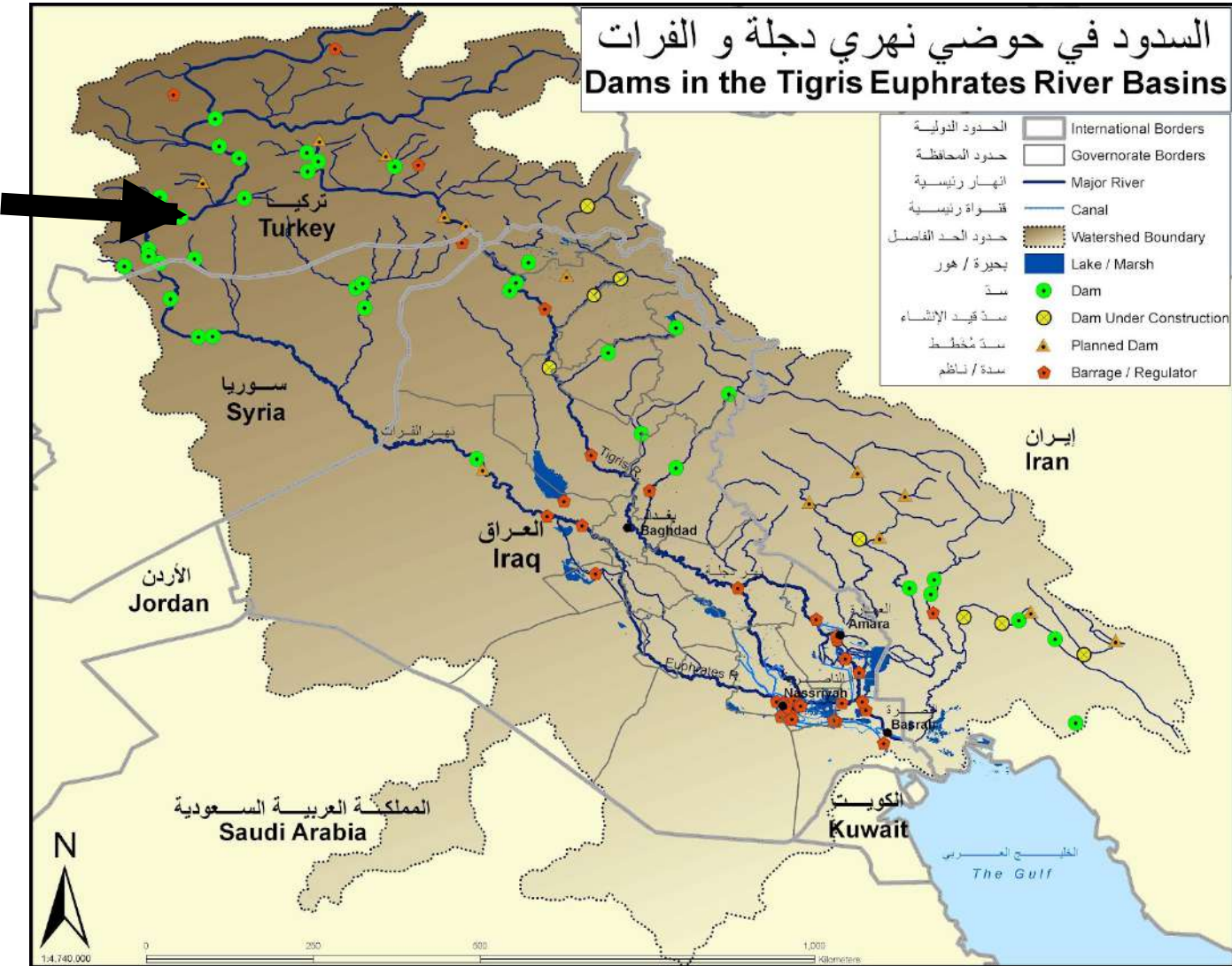
## **According to the International Rivers Organization, Dams are used for the following:**

- 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**

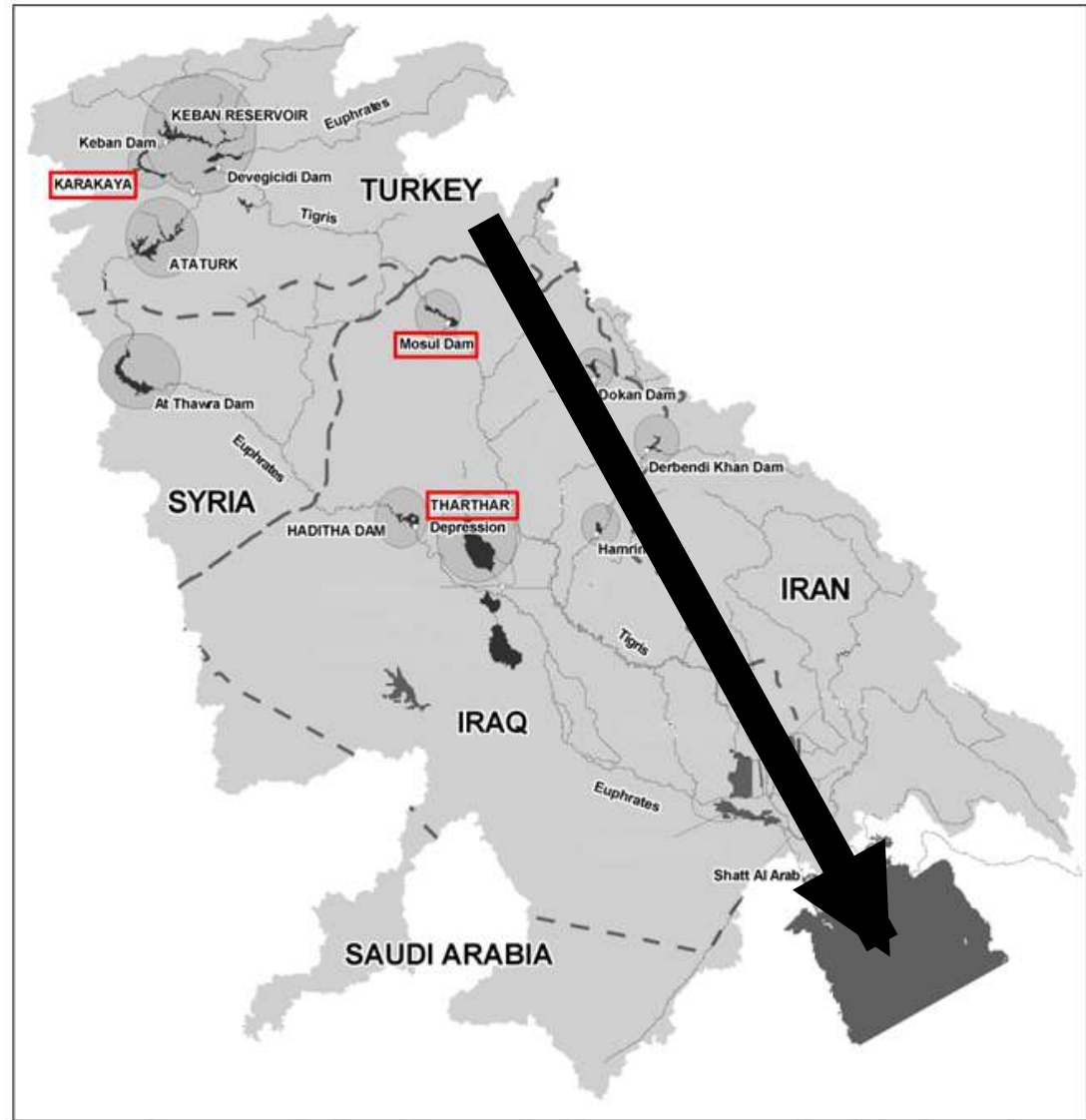


# Dams along the Tigris and Euphrates Rivers

**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**

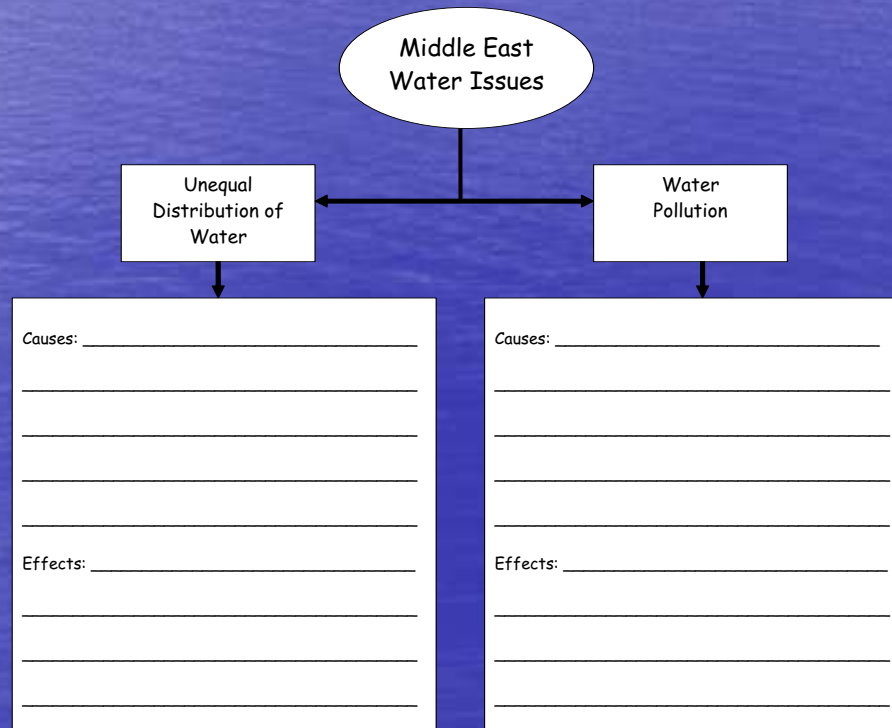
**Water scarcity and water use affect agriculture (crop choice, growing seasons, and pests), fisheries, forestry, and livestock (pastures and pests).**

**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

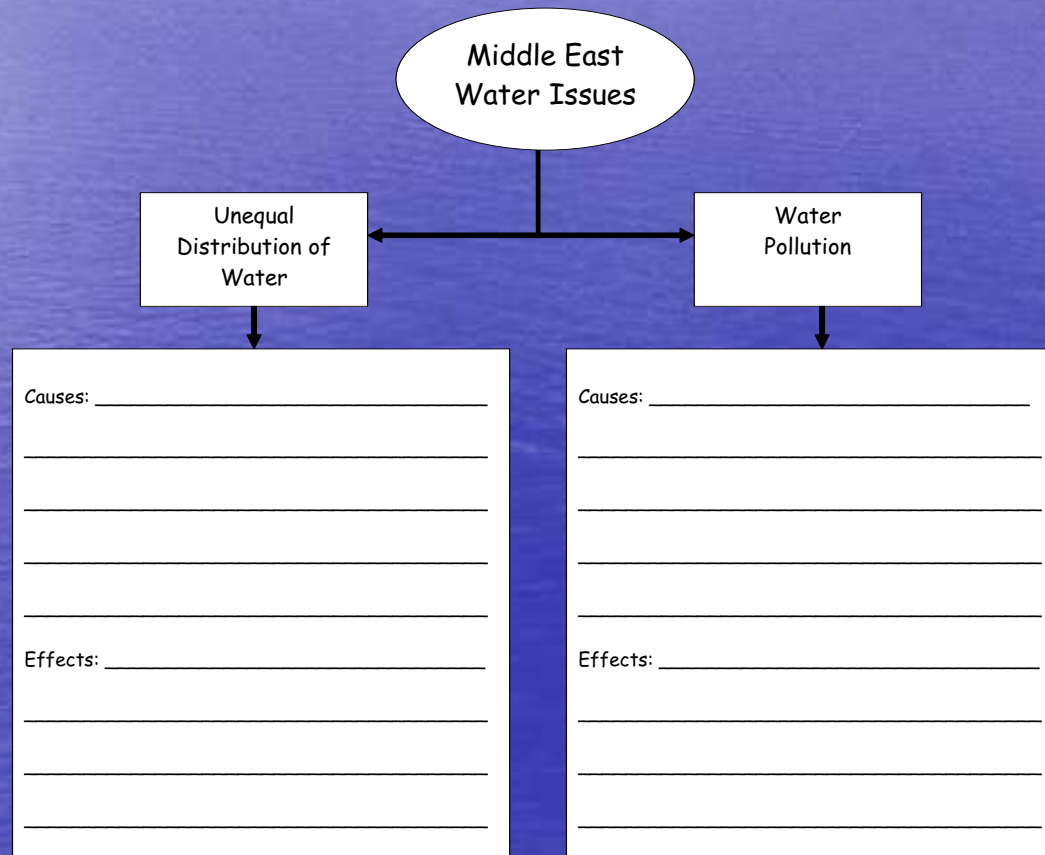








# Use Middle East Water Issues Graphic Organizer to record the causes and effects of Water Pollution in the Middle East.





# **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**

## **Use summarizing sheet.**

- **Identify 3 causes of the unequal access to 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.**