Identifying Boundaries

Three Regions

◦ North Africa (Border Mediterranean and Red Seas)
  ◦ Morocco, Western Sahara, Algeria, Egypt, Sudan, Tunisia, & Libya

◦ Southwest Asia
  ◦ Turkey, Iran, Middle East, & Arabian Peninsula
  ◦ Israel, Lebanon, Jordan, Syria, & Iraq

◦ Central Asia (countries of Turkestan)
  ◦ Afghanistan
Introduction to Realm

Similar dominant traits
- Climate
- Religion
- Natural Resources

Ability to grow excess food
- Provide time and resources for urbanization
- Establishment of organized communities

Earliest settlements – 10,000 BCE – in Middle East
Cultural Hearths

Mesopotamia
- “Land Between Rivers”
- Located between Tigris & Euphrates Rivers

Nile River Valley
- First dynasty rule – 3,100 BCE
- Lower and Upper Egypt
- Cairo and Alexandria
Fresh Water

Human settlement based on water availability
- Navigation and Production of Energy

Mountain Influence
- Moisture – to – Higher Precipitation
- Oases, Springs, & Underground Wells

Nile River
- Water drawn from most of Egypt
- Flooding – cover land – fresh silt and water
- Manmade dams/other infrastructure hinder flooding

Water Control
- Factor in Mesopotamia political conflict and issue – Israel & West Bank
- Huge water requirements
Underground Water in Libya

Sahara Region,
- Libya draws water from deep underground wells
- Wells tap into the vast aquifers beneath the desert
- Extensive systems of canals and pipelines extract water and use it for agricultural production or for urban purposes.

Local Drinking Water
- Benghazi is contaminated by saltwater intrusion from the Mediterranean.
- Underground aquifers underneath political boundaries
- Allocation and control of water are matters of political debate
- Potential to lead to military conflict.

Shortages
- As water is drawn from the aquifers for industrial irrigation, the water table goes down.
- Local settlements that rely on well water may in time have to dig deeper wells or move to locations where water resources are still available.
Tigris & Euphrates

Major source of water in the Fertile Crescent
- Both originate in Turkey

Euphrates is the longest river in Southwest Asia
- Flows through Syria from Turkey before entering into Iraq.

Turkey had developed large dams on both the Tigris and Euphrates
- Agricultural purposes and to generate hydroelectric power.
- Water diverted for agriculture in Turkey lessens water flowing for Syria or Iraq.
- All three countries have dams on the Euphrates
- Both Turkey and Iraq have dams on the Tigris.

Understanding Memorandum - 2009
- Strengthen cooperation within the Tigris-Euphrates Basin.
- All three countries need the water for agriculture to produce food for a growing population.
- Agreements to share water have been difficult as a result of the Iraq War
- Recent protests and demonstrations in Syria that have contributed to further political tension between the three countries.
Israel Water Conservation

Israel has taken innovative steps to conserve water and use it efficiently.

◦ Drip irrigation mixed with fertilizers is called **fertigation**.
◦ Fertigation is used extensively in the area.

Plantation Crops

◦ Bananas

Water Recycling

◦ Gray water is water extracted from sewage that has been treated to be used in agriculture.
◦ Underground wells in the West Bank region provide water.

Water Control

◦ The issue of control over the water is contentious at times.
◦ Remains a point of political conflict in places such as Israel and the West Bank.
◦ Lack of fresh water and the heavier demand placed on water resources have caused countries that can afford it to desalinize seawater.
Iran Mountain Water

Largely a desert climate
- Most of the country does not receive copious amounts of precipitation.

Qantas
- Effort to redistribute the water available from the high mountains
- Collect water where it is available and channel it to the cities or urban areas for use.
- Includes a system of shafts or wells along a mountain slope that allows water to collect into a common underground channel, which is then diverted to wherever it is needed.
- System used since ancient times in many arid regions of the realm and around the world.

Qant
- Developed 2,700 years ago
- System of hundreds of wells and channels water for more than twenty-eight miles
- Provides drinking water to more than forty thousand people in the city of Gonabad.
Arabia Water Shortage

There is water in Saudi Arabia
- Underground aquifers are located beneath the sands similar to that in the Sahara Desert.
- Saudi Arabia taps into these water resources to irrigate agricultural land to grow food.

Issues
- Faces same issue as Libya and other areas of the world that rely on underground aquifers
- Eventually the water supply will be used up.
- Majority of the Arabian Peninsula is desert and water is always in short supply.

UAE, Bahrain, & Qatar
- Resorted to the desalinization of seawater for their needs

Yemen
- State on the Arabian Peninsula
- Mountainous and has used terracing
- Water from precipitation is trapped in terraces, and as it flows down the mountainside
- Each terrace uses what it needs and then passes the water to the next lower terrace.
- One of the main problems with Yemen’s terrace system is that most of its trees are being cut down for firewood.
- Tree roots are essential for holding the soil together on the fragile mountain slopes.
- Another problem is heavy rains that cause serious erosion and damage to the terrace system.
- Additionally, the extremely rapid growth rate of Yemen’s population is outstripping its agricultural production.