

Adapting to and Modifying the Environment

Adaptation - the process of changing a behavioral trait (food, clothing, or shelter habit) in order to survive in an environment. *Modification* - changing the physical environment to enhance its safety, security, utility, or accessibility.

Examples of **adapting** to the environment

⊙ People arrived by boat, wagons, horseback or walking and began to build shelter from the available resources. Settlers from the United States built log houses in east Texas or houses out of sun-baked mud bricks or sod. They farmed in clearings and along riverbanks.

As the settlements grew toward the west, there were no logs for houses, so people used adobe bricks and later wind to pump water.

Wild longhorn cattle were used for early cattle ranches/cattle drives using available grass and water as feed for the cattle.

Examples of **modifying** the environment in Texas:

The Spanish built roads, towns (San Antonio de Bexar for one), aqueducts, irrigation systems for farming, imported domesticated farm animals: cattle, sheep, goats, chickens.

Anglo settlers built towns in east Texas, cleared land for farming, established trading posts, commercial centers, and plantations.

Railroads, barbed wire fencing, drilling for and discovering oil in Texas. building the Ship Channel and the seawall in Galveston, irrigated farming in west Texas, building airports, highways, air-conditioning.

Analysis of environmental modifications:

In conducting an analysis it is easiest to examine one modification at a time, following a model similar to:

Modification – irrigation for farming in West Texas and the Panhandle (High Plains region).

Why? (Need) – the amount of rainfall is not very good for growing crops but the land is flat, fertile and good for farming with irrigation.

Things needed to make the modification: water (available in large supply in underground aquifers); technology to get the water out from under the ground – windmills were used to pump water; later electric generators running on cheap diesel fuel from the oil fields.

Positive consequences: higher crop yields, farming in areas that otherwise couldn't support farming.

Negative consequences: depleting the underground water sources and eventually running short of water.

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Analysis of environmental modifications: This is an EXAMPLE!!!!

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Is there a need for some form of rule or regulation to control the changes?

There may be a need to regulate this if the drought continue in these regions. If the aquifers, etc run out of water, the farms will be destroyed due to the lack of water. The government should come up with a limit of how much water can be used.

A few other examples might include:

Barbed wire fencing, building highways and interstates such as I-10 or Hwy 6, building Fiesta Texas in San Antonio, refineries for petroleum, oil drilling, building booms, railroads, the Ship Channel, the seawall in Galveston...

Possible geographic questions include:

- o Why did the people make that modification?
- o What positive consequences did that modification have?
- o What negative consequences did that modification have?
- o What might be the long-term effects of a particular modification?
- o Is there a need for some form of rule or regulation to control the changes?

Analysis of Adapting to and Modifying the Environment

Modification:

Why was it needed?-

What is needed to make the modification?:

Positive consequences:

Negative consequences:

After looking at the positive and negative consequences, do you think it was worth it to modify the environment? Why or why not?

What is an alternative way that you could come up with the save the environment and still have your modification?