**Chapter 3 Turkmenistan Water Scarcity Case Study:**

**Red- Political**

**Green- Economic**

**Purple- Social**

**Blue- Environmental**

Farming is considered a vital part of the mainly agricultural economy.

-The arid climate of the country when combined with the high levels of agriculture and farming leads to water scarcity problems.

- Farming continues to be organized by the soviet system of state and collective farms. Production quotas and fixed prices are placed by the government on the agriculture.

- Collective farms and fixed prices lead to lack of competition in the economy, and lack of incentive for people to increase efficiency. Production is therefore low.

1954 Communists built the world’s longest irrigation and water supply canal

* This is what allowed the cotton industry to exist. The cotton industry is one of the most important cash crops.
  + Led to large volumes of silt. It uses surface irrigation which in effect increases the water table and draws salts to the surface. This leads to salinization of lands.
    - The fields become unable to be used and people are forced to abandon their fields.

It became very common for people to use high numbers of herbicides as their proffered method of making harvesting easier.

* Water flow back into canals has numerous toxic substances. These can impact the well being of lacks that they enter into, and they can have a domino effect through out an entire ecosystem.
  + Pollutants become a concern for residents of Ashgabat where 50% of inhabitants use the canal for drinking water.
    - The government regulated the water use, but due to their desire to not charge for the water services they are unable to afford to fix the water supply system that is currently in place.

**Chapter 3 Costa Rica Case Study:**

**Red- Political**

**Green- Economic**

**Purple- Social**

**Blue- Environmental**

Under the Conservation Act of 1998, the debt-for-nature swap was started in Costa Rica in 2007. Under this agreement, $26 million of Costa Rican debt will be forgiven in exchange for tropical forest conservation.

* The government began to seek to unlock the value of its ecosystems by measures such as ecotourism.
  + In 1996 the country established a program to compensate landowners for keeping forests intact and reforesting degraded areas.

Logging companies are not responsible when logging, and do not discriminate when deforesting.

-Entire areas are cleared in order to extract only one or two profitable species. The rest is

to rot. This leads to loss of biodiversity due to the loss of habitat that results.

* + The roads that logging companies built to transport trees out of the virgin forests lead to migration and expansion into these parts of the country.
    - This leads to encroachment into the forests and intensifies the deforestation.

The banana plantation industry has been growing in the country.

* They make use of the ultra-diverse lowland forest. Since they don’t use sustainable methods, they leave irreversible damage for the environment in the area.
  + The use of pesticides that they use not only harm the environment, but also the workers. In the 1970s, this became apparent when thousands of plantation workers throughout Central America became sterile.

The project COSEFORMA which ended in 2001 was a conservation project of forest resources and self-sustaining forestry.

* It created employment and generated income for the poor population in rural areas.
  + In addition, it introduced reforestation programs which reduced the degradation of forests.
    - As rainforests were reestablished, eco-tourism became more prominent, and an important sector of the economy. This is a good example of how economic well being can be compatible with forest preservation.

SOURCE OF CASE STUDY: <http://ibgeographywiki.posterous.com/core-patterns-and-change-environmental-qualit>