**Societies Collapsed**

**The Vikings of Greenland**

Viking settlements declined in the 14th century and, by 1440, the Vikings had completely vanished from

Greenland. What caused this once flourishing population to collapse?

Deteriorating environment

x The Vikings exploited their farmland to the full, resulting in a loss of soil fertility.

x The cutting of dwarf willows and alders for fuel and for the production of charcoal to use in the smelting of bog iron deprived the soil of its anchor of roots resulting in erosion of the soil.

x Overgrazing, trampling, and feeding on regenerating scrub by the Vikings’ sheep, goats and cattle damaged much of the plant life.

Climate change

x Greenland's summers grew shorter and progressively cooler. This limited the time cattle could be kept outdoors and increased the need for winter fodder.

x Increased rain and a shorter growing season in the summer meant that the hay crop would have been reduced making it difficult to feed the cattle throughout the winter.

x As temperatures cooled, there was an increasing amount of sea-ice making it more difficult to sail to Greenland. The number of Norwegian merchant vessels arriving in the ports dropped from one or two a year until none came at all. This meant that the islanders were cut off from the major source

of iron and tools needed for the smooth running of their farms and the construction and maintenance of their boats.

Hostile neighbours

x The Vikings fought with their neighbors, the Inuit. There were raids by the Inuit on the Vikings which resulted in deaths and the capture of men and woman as slaves. With a small population, any loses impacted heavily on the Vikings. The collapse of trading meant that the Vikings had no iron to create weapons. They therefore had no tactical advantage over the Inuit.

x The Vikings refused to learn from the Inuit. They did not adopt useful Inuit technology, such as harpoons. They didn't fish, use dog sleighs, build skin boats, or learn from the Inuit how to kill seals at breathing holes in the winter.

**The Easter Islanders**

When Europeans arrived at Easter Island in 1722, the society there was in a state of collapse. The islanders had begun to throw down their ***moai*** and there was evidence of conflict and cannibalism. The population decreased from about 10,000 to an estimated 2,000 with no possibility of rebuilding the original society because of the lack of natural resources on the island. What happened?

Deteriorating environment and food sources

x After settling on Easter Island, the Polynesians began to clear the forest for their gardens. They used trees for firewood and as rollers and levers to raise the giant statues. As well they used trees for building canoes with which to go out into the ocean and catch porpoises and tuna. They also ate the fruits of the palm trees. By the year 1600, all of the trees were extinct. The island had become grassland with no native trees still standing.

x The Polynesians also ate the land birds and the sea-birds. By the year 1600, all of the land birds and all but one of the sea-birds on Easter Island itself were extinct. Some of the sea-birds were confined to breeding on offshore stacks.

x Without trees, they could no longer transport and erect the statues and they also had no firewood.

They suffered from soil erosion and therefore agricultural yields decreased. They couldn't build canoes, so they couldn't go out to the ocean to catch porpoises and there were only a few sea-birds left.

Change in culture

x Having lost so many of their food sources, the Easter Islanders collapsed in an epidemic of cannibalism. The spear points from that final phase still litter the ground of Easter Island today.

**The Anasazi**

From the 12th to the 13th century, Anasazi people moved in hordes to join other pueblo peoples to the south and east, abandoning the Chaco Canyon pueblos and, later, the smaller communities that surrounded them. Anasazi ruins can still be found in the American southwest, in the four corner area of Arizona, New Mexico, Colorado, Utah, as evidence of the civilization that died out in the region by the

14th century. What happened?

Deteriorating environment

x The Anasazi deforested the area around their settlements until they had to go further and further away for their fuel and their construction timber. At the end they were getting their logs from the tops of mountains up to 120 kilometers away and about 1220 meters above their settlements. These logs had to be dragged back by people with no transport or pack animals

x When water flow is channeled, for example in irrigation ditches, large water flows begin to dig a trench within the channel. This trench digs deeper and deeper with time. The Anasazi did not have pumps to lift the water out of deep trenches so when the water level in the ditches dropped down below the field levels, they could no longer irrigate their crops.

x When an area became impossible to farm, the Anasazi moved to other areas but eventually there was no more unexploited landscape to move to.

Climate change

x Some climatological evidence, based on tree-ring and pollen studies, suggests that Anasazi farmers may have been kept from moving to higher, moister grounds by a worldwide cooling trend called the Little Ice Age. According to this theory, the Anasazi were squeezed from two directions: lower areas became too dry for farming while the higher ones were too cold.

x The area was hit by a number of droughts lasting from four years to fifty years in length. When this cycle of droughts began, communities were densely populated. Even with good rains, the Anasazi were using their land to its limits. Without rain, it was impossible to grow enough food to support the population.

x Widespread famine occurred. People left the area in large numbers to join other pueblo peoples to the south and east, abandoning the Chaco Canyon pueblos and, later, the smaller communities that surrounded them. Anasazi civilization began a long period of migration and decline after these years of drought and famine.

Some archaeologists now believe that other factors such as religious upheaval, internal political conflict, and warfare combined may have exacerbated the effects of the drought. Whatever the root causes of the famine were, the archaeological evidence clearly shows it was devastating to the Anasazi.