

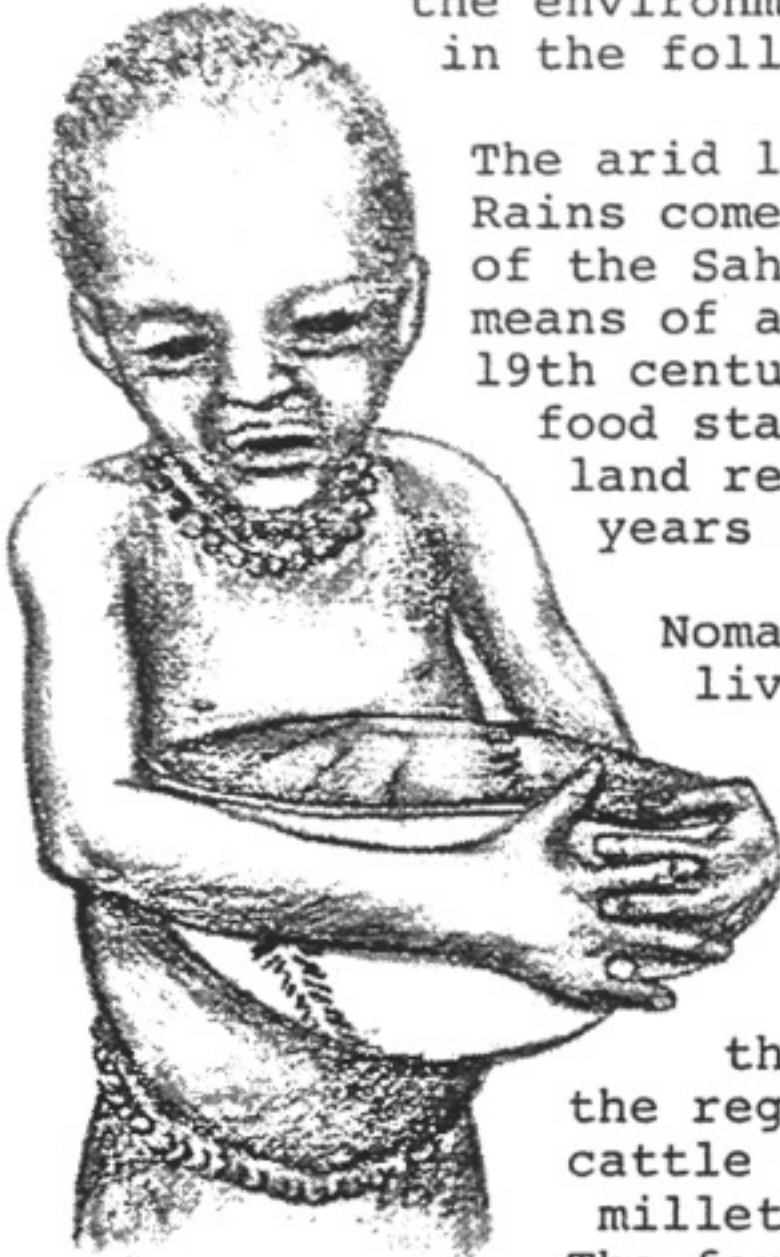
FAMINE IN THE SAHEL

A Case Study

Student Information

The year is 1973; the place, the Sahelian zone of Africa which stretches across the continent south of the Sahara desert. The countries of Mauritania, Mali, Upper Volta, Niger, Chad, and Senegal are experiencing the sixth year of a severe drought. Three hundred thousand people have died of starvation. Rivers have dried up; boats lay caked in the mud of former harbors. Grasses have withered and died. Five million cattle have perished. Their emaciated bodies surround the desert boreholes in clusters of thousands.

What has led to this disastrous famine? Is the lack of rainfall the only cause of this massive starvation or are other factors involved? What can be done to prevent such a disaster from recurring? To find the answers to these questions, one must delve into the human history of the area, as well as the physical features of the environment. The clues to the puzzle can be found in the following passages:



The arid land of this region is mostly semi-desert. Rains come only four months of the year. The people of the Sahel had developed a remarkably efficient means of adapting to this environment. In the early 19th century, farmers grew millet and sorghum as main food staples. They were careful to let the fragile land rest or lay fallow for periods of up to 20 years between crops.

Nomadic people tending herds of cattle also lived in close harmony with the semi-desert environment. They developed a seasonal migration pattern worked out by tribal chiefs many years ago. Part of this pattern included a cooperative arrangement with the farmers. During the dry season, nomads would take their herds to the southern part of the Sahel just above the region of the harmful tsetse fly. Here the cattle would graze the stubble of the farmers' millet fields and manure them at the same time. The farmers would give the nomads millet in exchange for the manure.

When the rains began, the nomads would herd their cattle northward to graze on the sprouting grasses. The nomads moved north as long as the grasses ahead looked greener. This migration pattern would continue until the northern limit of the Sahelian rain belt was reached. The nomads would then slowly return to the south, allowing their cattle to graze on new grasses which sprouted behind them on their northern trek. The standing water remaining after the rain provided drinking water. The cattle would then return to graze the farmers' fields of stubble in the dry season and the cycle would continue.

In the late 19th century, these nomadic patterns were disrupted. The French, who colonized the area, misunderstood the efficiency of the nomads' existence. Their colonization resulted in the division of the Sahel into separate states. Nomads were then faced with the limitations on their freedom of movement. National governments tried to settle them and their cattle within their boundaries and collect taxes from them.

Changes in the traditional way of living in the Sahel were also brought about by a rapidly increasing population. In 1930, approximately 16 million people and 12 million cattle were supported by the land. Forty years later, the population had increased to 24 million people, and the amount of cattle had doubled. Increases in the number of cattle were made possible by the introduction of veterinary medicine and the drilling of thousands of boreholes, or deep wells. Water was always the limiting factor on the number of cattle in the nomads' herds. This situation changed when boreholes a thousand feet deep were drilled into the land. But, the trampling of the soil around these watering holes proved to be destructive. When thousands of cattle came to drink, they trampled plants and compacted the soil around the boreholes. As more and more cattle were added to the herds, overgrazing began to take its toll.

As a result of overgrazing, the perennial grasses of the region began to disappear. These grasses could grow up to six feet tall and had roots just as deep. As the grazing increased, the roots of the plants became more shallow and were unable to penetrate to water during the dry season. When these grasses died, coarse annual grasses grew in their place. These small plants dried up quickly and were unable to hold the soil together. Much of the fertility of the exposed land was blown away in the wind, and the land was unable to support plant life.

The growth of the human population also led more and more people to farm the fragile land. The French introduced cotton and peanuts as cash crops. This increase in cultivation placed a strain on the land. The fallow period was decreased from 20 years to five years or, in some cases, disregarded. So farmers turned to marginal lands less suited for agriculture to grow their staple food crops. The land could not support the strain of intensive agriculture. The fertility of the soil declined. As crops failed, the soil was left exposed to the forces of wind and rain. The soil eroded, gulleys were formed, and in many cases the land became barren.

The human population continued to grow by 2.5 percent each year. The scant number of trees in the region began to disappear as the number of people grew. Trees that recycle nutrients from the soil and help prevent soil erosion were cut to clear the land for farming and to provide fuelwood. The intensive cutting of trees also led to deterioration of the land's fertility.

In 1960 the Sahelian countries were granted independence. Their newly found independence was greeted by seven years of unusually heavy rains. The rains allowed more cattle to be born and overgrazing was intensified. Attempts to induce nomads to reduce

their herds were unsuccessful. Nomads have traditionally viewed their herds as insurance against hard times. In their view, cattle are like money in the bank. They increase and multiply like money earning interest. And, unlike bags of coin which need to be transported from place to place, the cattle move themselves. Under nomadic conditions, cattle were a most appropriate form of money. As a means of cementing friendships, nomads loaned cattle or "mafista" to one another. From their point of view, it made sense to keep as many cattle on the hoof as possible.

The stage was then set for disaster. In 1968 the drought hit. The result was massive starvation and suffering. The world was stunned by the disaster. Foreign aid poured into the Sahel in an attempt to save lives. Countries of the world began to focus on an environmental problem of severe consequences: desertification.

