



RELATIONSHIP OF HUMANS WITH ANIMALS

Background Information

The relationship between humans and animals is a complex one. Humans have used animals as a source of food, tools, and clothing for millennia, and yet, despite this dominance, animals are a source of inspiration for humans.

This section is divided into two subsections, Uses of Animals and Caring for Animals. Uses of Animals briefly reviews

the domestication of animals for human use and then looks at traditional and modern farming practices. It also looks at the effect of farming practices on animals in the natural environment. This subsection also reviews other ways in which humans use animals and introduces organizations that exist to protect animals against abuse or unnecessary exploitation by humans. The subsection ends with a look at vegetarianism and the reasons why some people choose not to eat meat.

The second subsection, Caring for Animals, looks at caring for three different groups of animals:

- wildlife in a wildlife preserve
- wildlife in a rehabilitation center
- fish, mammals, and crustaceans in an aquarium

For information on caring for pets, classroom animals, zoo animals, and farm animals see the NAMC Lower Elementary Zoology Manual.

Uses of Animals

Humans have a complex relationship with animals and use them for a variety of purposes. There are working animals, companion animals, animals used for scientific research, and animals used for food and byproducts.

The relationship with animals extends back to the earliest humans. As the students probably know from their study of history, early humans obtained their food by gathering plants and hunting animals. These early humans used animals not only for food,

but also for clothing and to make shelters. Over time, they learned to make tools and weapons from bone and stone, which helped them to catch and process the animals into the items they needed for survival.

As humans developed their skills, they started building simple dwellings, planting and harvesting crops, and domesticating animals. They domesticated animals by catching and raising the young of herbivores like sheep or goats that they could use for milk or meat. These small herbivores were easy to manage and control, and they were easier to feed and less dangerous than carnivores. Early farmers kept the animals in herds and bred them, providing farmers with a continuous supply of animals.

Later, when humans realized they could use animals for carrying people and objects from one place to another, they began domesticating larger animals. These became working animals. They carried people and objects, and they pushed and pulled heavy farm equipment, such as ploughs for tilling the land. In addition, humans found certain animals, such as cats, dogs, and birds, suitable as pets. These animals became part of people's everyday lives.

Farming

Farming practices evolved over time, advancing as technology advanced. By the 1920s, the farm tractor replaced animals for performing many heavy farm duties. Numerous technological advances followed the arrival of the gas-powered tractor and made farming activities much easier. This meant farmers were able to

farm larger and larger areas of land and more and more animals. The result, in many parts of the world, is that modern, highly mechanized farms have replaced traditional family farms.



Farm tractor

Traditional family farms are farms where a family manages the farm and carries out most of the farming duties. The family grows several crops and farms a small number of various animals. Together, these provide the family with most of their food needs. The surplus, what is left over, they sell.

Historically, farmers did not have manufactured fertilizers and pesticides, and they had to take good care of the land, so they could use it for many years. They used manure from the farm animals as fertilizer and rotated their crops, meaning they did not plant the same crop on a piece of land two seasons in a row. Rather, they alternated two or more crops, so that the nutrients in the land were not depleted.

While modern farming practices have largely replaced traditional farming methods, traditional farming still occurs in a number of regions. In some cases, using

traditional methods is a matter of choice, and in others it is a matter of necessity.



Horse-drawn farm equipment

For the **Amish**, North American Mennonite communities that follow a simple lifestyle and reject modern technology, traditional farming is a way of life. These communities provide an excellent example of traditional farming that is successful. For these communities, traditional farming is a lifestyle choice that is viewed as the honorable way to treat the land. The Amish farm a diversity of crops and animals, rotate their crops, use manure as fertilizer, and do not use modern farming machinery. They grow high quality produce primarily for their own consumption, and then preserve (via canning) and sell what food remains.

Traditional farms still exist in many of the poorer countries of Africa and South East Asia, but while these are traditional farms in the sense that the farmers do not use modern farming techniques, the majority of the farms barely support the families farming them. These farmers are known as subsistence farmers. Farming, for them, is a matter of eating or starving, and traditional

farming is a necessity, rather than a choice, because they do not have access to modern farming methods.

In contrast to traditional farming, modern farming takes place on a very large scale, and generally, only one type of animal or crop is farmed. Farm equipment is mechanical and farmers use electronics to control some feeding systems. Fertilizers, pesticides, and irrigation systems help crops to grow fast and produce high yields. In many cases, family farms have been replaced by something called agribusiness.

Agribusiness describes farms operated by business rather than by farmers. It includes producing, processing, and distributing farm products on a large scale instead of producing the cash crops that traditional farms produce. This type of farming is often referred to as **factory farming**.

Farming has a significant impact on the natural environment, and therefore, on animal habitat. The most obvious impact is that clearing the natural vegetation to make space for farmland destroys the natural environment, and in turn destroys animal habitat, forcing the animals to find other areas to live. Most people, however, accept this habitat destruction because farms produce the food essential for human survival. The more contentious issues are modern farming practices and their impact on the environment.

In much of the developed world, farming has changed drastically over the past century. New farming practices have resulted in more food being produced per person in the world than ever before. In many ways this is a very good thing, but it has come at a heavy price to the

environment, and there is ongoing debate about how best to meet the world's food needs without further damaging the environment.

Here are four modern farming issues that relate to animals:

- Pesticides used on a large scale effectively kill the insect pests attacking the crops, but they also kill everything else near the crops, including birds that eat the poisoned insects. Not only do pesticides create an imbalance between species, but they also create a void — an area where there are no insects — and this means that other pests can move into the area when the toxicity of the first pesticide wears off. This creates the need for more and more pesticides and is called the **pesticide treadmill**.
- Synthetic fertilizers applied to farmlands make crops grow larger and faster. Billions of tons of fertilizer are used annually in the US alone and much of this is not taken up by the plants. What remains leaches through the soil or washes into the natural water systems. It pollutes rivers, lakes, and the sea, causing aquatic plants and algae to grow too fast. This upsets the ecological balance of the aquatic habitats, and when the algae die, microorganisms decompose it and consume valuable oxygen in the water. This can have a disastrous effect on fish and on entire habitats such as coral reefs.

- Animals in feedlots can cause a problem similar to fertilizer use. Unlike traditional farms, where the animals being raised for meat graze pasture, **feedlots** are confined areas where animals are provided with food and do not have large areas to roam. Feedlots contain far more animals per acre than do grazing pastures. These animals produce large amounts of manure, which like other fertilizer, has a high concentration of nitrogen that can pollute natural water sources.
- Crop irrigation is an essential part of farming, but it needs to be handled responsibly because it damages natural water sources. Many of the new high-yielding crops need large amounts of water. To meet the water needs of these crops, natural sources of water are dammed or water is drawn directly from natural sources. Both situations cause serious damage to animals and their habitats.



ACTIVITY 2

Exploring Farming Issues Related to Animal Habitat

Purpose

To learn how modern farming practices can affect animals in the natural environment.

Material

Whiteboard and marker.

Books, pictures, and movies about animals and farming.

Zoology journals and pencils.

Presentation

- Most Montessori teachers introduce this concept in Year 6.
- Announce to the students that in this activity they will have the opportunity to explore and debate the ways in which modern farming practices can affect animals in the wild.
- Review the differences between traditional and modern farming practices.
- Discuss some of the issues surrounding modern farming practices. To facilitate the discussion, create a chart on the whiteboard. Write the heading “Modern Farming.” Beneath it, create two columns with the headings “Positive effects” and “Negative effects.”
- Discuss with the students how modern farming practices have increased food production in the world. Under the subheading “Positive effects,” write “more food.” Explain that while this is a positive effect, the negative side of modern farming practices is that they damage the environment.
- Describe how some modern farming practices affect animals in the natural environment, using the following examples: pesticides, manufactured fertilizers, feedlots, and irrigation. List these items under the subheading, “Negative effects.”
- Invite the students to debate the positive and negative effects of modern farming practices. They may wish to add to the



lists on the board and to draw from their background knowledge on world population increases for the debate. (Note: The list of positive effects will probably be short, but it is possible to argue that the increase in food production more than justifies a number of the negative effects.)

- Demonstrate the resource materials and encourage the students to explore them.

- Ask the students to use their journals to write an essay where they choose a position, and argue either for or against modern farming practices. Ask them to begin with a thesis statement, followed by several paragraphs supporting their thesis, and end with a conclusion.

Extension

- Investigate one issue related to modern farming practices, such as feedlots.

