# Chapter 6

# Choosing a Healthy, Sustainable Lifestyle

## Chapter Overview

One of the central themes of this chapter is the idea that industrial farming is a highly complex, technical, and economic process. While it brings large crop yields, overall it is responsible for major ecological problems and increasing human health problems that further reduce quality of life despite a high standard of living. The creation of a large processed food industry further accelerates the health crisis by encouraging eating a poor diet with diminished nutritional quality. Alternative methods of farming show promise in producing high crop yields with greater nutritional quality and greatly reduced ecological impacts. The only drawback is that they do not readily lend themselves to large-scale farming techniques. They do, however, increase the localization of food for greater overall food security, which can be implemented on a worldwide scale. This would create greater global equity overall.

A second aspect of a healthy lifestyle comes from being more active. Not only would this change further reduce the occurrence of obesity from a bad diet and poor nutrition, but would create a more vigorous population with reduced health problems and longer, vibrant life expectancy with a higher quality of life. Many social benefits will also be realized as a healthier population spends more time outside interacting with nature and each other.

## Vocabulary Terms

anthroposophy

antibiotics

antioxidants

artificial additives

biodynamic farming

biotic–abiotic system

car culture

colloids

cross-fertilize

crossbreed

desertification

detritivores

economies of scale

eustress

food security

food supplements

genetically modified organisms (GMOs)

herbivorous

hormone growth factors

humus

industrialized diet

integrated pest management

Land Institute

mastitis

micronutrients

monoculture

multicrop

noninvested third party

overgrazing

perennial polycropping

phytochemicals

prion

rangeland carrying capacity

rumen

seed banks

trophic level

weight set point

## Terms With Definitions

**anthroposophy—**A philosophy that tries to objectively merge scientific thinking with spiritual thinking.

**antibiotics—**A group of chemicals that kill or damage bacteria; used in medical treatment for bacterial infections.

**antioxidants—**Chemicals that inhibit the oxidation of other molecules that can create damaging free radicals, which can interfere with biological chemical processes.

**artificial additives—**Chemicals added to food meant to improve flavor, appearance, or shelf life.

**biodynamic farming—**Philosophy acknowledging Earth as a series of self-regulating, biodiverse ecosystems that must exist in harmony for healthy land and hence healthy communities.

**biotic–abiotic system—**The interaction between inorganic chemicals and the organic forms that create life.

**car culture—**A lifestyle that requires suburban dwellers to have a car to reach work and amenities that are not close to home.

**colloids—**When a chemical is evenly distributed or dispersed throughout another chemical.

**cross-fertilize—**To mix male and female genes from different individuals of the same species.

**crossbreed—**To select for specific traits with members of the same species to produce offspring with more of the desired trait.

**desertification—**A loss of more than 10 percent of soil productivity that creates desertlike soil conditions due to factors such as erosion, soil compaction, overgrazing, drought, and depletion of water resources.

**detritivores—**A group of species that gain their nutrients by feeding on detritus (decomposing organic matters).

**economies of scale—**Typically, an increase in the efficiency of production of a number of goods being produced. An advantage is that it lowers the average price per unit since fixed costs of manufacturing remain the same.

**eustress—**A kind of positive stress that prevents boredom by stimulating enhanced focus and concentration to complete a task.

**food security—**The availability of adequate and nutritious food with constant access to it.

**food supplements—**Generally refers to specific nutrients such as vitamins, minerals, fiber, fatty acids, amino acids, or other nutrients that may be absent or limiting within a food diet. These supplements are usually key metabolic chemicals that help the body in processing nutrients.

**genetically modified organisms (GMOs)—**Organisms where the genetic composition has been deliberately modified using biochemical techniques. In some cases, different genes from other species may be mixed together (*transgenics*) to create unique species with traits never seen in the natural form.

**herbivorous—**An animal that eats only vegetable matter.

**hormone growth factors—**Chemical factors that regulate cellular processes involved in cellular growth and development.

**humus—**A form of soil that is highly stable and organically nutritional.

**industrialized diet—**A diet that is primarily composed of processed foods consisting of saturated fats and excess carbohydrates, and which is low in fresh fruits, vegetables, and whole grains.

**integrated pest management—**An integrated approach to managing crop pests through prevention, observation, and intervention while minimizing or eliminating the use of pesticides.

**Land Institute—**An agricultural research group dedicated to finding an agricultural system with the ecological stability of a prairie but with crop yields comparable to those from annual crops.

**mastitis—**An infection in the udders (milk-producing glands) of cows.

**micronutrients—**Nutrients found only in the diet that are required in small amounts for effective chemical functions in the body.

**monoculture—**The farming of just one main crop. While good for efficient management with industrialized mechanization on farms, it creates the risk of failure if the crop has a blight or pest infestation that cannot be treated.

**multicrop—**Growing multiple crops on a farm. While not readily as useful for industrialized farming, crop diversity gives the farm the advantage of being unlikely to fail.

**noninvested third party—**Also called noninterested third party, where a separate group is called upon to evaluate and research a situation or product. Since the group gains nothing from the outcome or results, they do not have a vested interest in biasing the results, which retain more validity.

**overgrazing—**When plants are exposed to grazing animals over time without a long enough recovery period. May also denote when grazing animals have eaten for too long in one area such that the plants are essentially killed off, leading to desertification.

**perennial polycropping—**Growing multiple types of crops on a farm, but where the crops once planted come up every year without the need for seeding.

**phytochemicals—**A wide range of plant-based chemicals that may serve as nonessential micronutrients that promote efficient metabolism in the body.

**prion—**A uniquely malformed protein that can act as an infectious agent in the appearance of a series of rare but progressive neurodegenerative disorders. Mad cow disease is one example.

**rangeland carrying capacity—**Managing grazing animals to maximize the number that may be grazed in any specific area yet allows the growth and recovery of the grazed area.

**rumen—**The first chamber of a ruminant animal’s stomach where vegetable matter is partially digested by stomach chemicals and various types of microbes before continuing through the rest of the stomach.

**seed banks—**Facilities where wild and useful seeds are stored and preserved; a kind of genetic depository.

**trophic level—**In its most simplistic understanding, the specific level at which an organism exists within the food chain. Photosynthetic organisms are often classed as the lowest trophic level with herbivores, then carnivores as one moves up the chain.

**weight set point—**A kind of body weight regulatory point where complex feedback mechanisms work to maintain a specific weight.

## Extended Learning Activities

1. Look up the term *permaculture* and find examples of alternative farming systems that are currently under way around the world. What are the similarities and differences between these future farming systems? What makes them sustainable? Compare them to industrial farming and compare how the ecological systems for the different farming techniques either ruin the land or help it. How is sustainable farming mimicking the natural systems of how plants grow?
2. It is important to understand how your food was created and analyze the full cost of the food between where it was grown and the moment it reaches your lips as a tasty meal. Consider two different kinds of sandwiches: One is a typical fast food beef burger with lettuce, tomato, and onion on a white bread bun, and the other is an organic range-fed beef burger with organic lettuce, tomato, and onion on an organic whole wheat bun. Track down the difference in calories between the two burgers and especially the breakdown of calories into the proteins, fats, and carbohydrates. Do not forget the various additives that may make their way into the meal. Then, try to find out where and how the different meat and vegetables were grown and fully cost them (include the bread bun as well). What conclusions can you reach about the industrially produced fast food burger versus the organic burger?
3. Determine how the primary and secondary school environment can contribute to childhood obesity. Record a typical day where you may be sedentary in a classroom and more active at other times such as recess or getting to or from school. Consider factors such as lunch menus, presence of vending machines for snacks and sodas, presence or absence of physical education and health classes and the types offered or required, the types of activities present in the physical education classes, the duration of exercise, presence of advertising, and any others that come to mind. How much time were you sitting versus being on the go? What, if anything, are schools doing to address this problem? If possible, visit a few schools in your community, take a tour, and talk to the parties involved in health and physical education.
4. Analyze your own diet for 3 or 4 days. Record the types and amounts of each food and drink consumed. Discuss how your diet is considered healthy or unhealthy and why you came to that conclusion.

## Research and Response Questions

1. Research the lunch menu of 2 or 3 public elementary, middle, or high schools in your area. Determine how many calories are served, how nutritious the foods are, and where the food is purchased. Is this meal healthy or unhealthy? Describe your criteria for making your decision. How does this menu compare to that of a menu in a country of your choice where the average person is not obese?
2. Interview a few local principals of public schools in your area and determine from the interviews how they are addressing the problems of childhood obesity in their schools (e.g., physical education classes, food). Do you think they are addressing the problem appropriately? Why or why not? What type of physical education do the students receive?

## Web Links

[American Society for Nutrition](http://www.nutrition.org/)

[America's Health Rankings](http://www.americashealthrankings.org/)

[Centers for Disease Control and Prevention](http://www.cdc.gov/)

[Food First/Institute for Food and Development Policy](http://www.foodfirst.org/)

[Grant Family Farms](http://www.grantfarms.com/)

[Health Benefits of Exercise](http://www.nutristrategy.com/health.htm)

[Indian Line Farm](http://www.indianlinefarm.com/)

[Mayo Clinic](http://www.mayoclinic.com/)

[NutritionData](http://nutritiondata.self.com/)

[Obesity Facts: Adolescent and School Health](http://www.cdc.gov/healthyyouth/obesity/facts.htm)

[Prevention](http://www.hhs.gov/safety/index.html) (U.S. Department of Health and Human Services)

[U.S. Department of Agriculture](http://www.usda.gov/wps/portal/usda/usdahome)

[*World Health Organization Assesses the World's Health Systems*](http://www.photius.com/rankings/who_world_health_ranks.html)

[WHO constitution 1948](http://www.opbw.org/int_inst/health_docs/WHO-CONSTITUTION.pdf)