Chapter 3. Considering Value, Not Price

As thus: lately in a wreck of a California ship, one of the passengers fastened a belt about him with two hundred pounds of gold in it, with which he was found afterwards at the bottom. Now, as he was sinking—had he the gold? Or had the gold him?
—John Ruskin (1862)

To make wise decisions and investments, it is important to understand the true cost and value of a product, service, or program. Current accounting methods ignore many essential considerations, including life-cycle costs (particularly social and environmental) and benefit values. As a result, poor personal and societal decisions are made that are costly and unsustainable. True cost accounting can help correct these failures.

Value, price, and cost are sometimes related, but often are not. Price is often described as the value in exchange. Price is commonly considered in terms of money paid, however, many exchanges are barter (noncash) or gifts. Price reflects the willingness to buy as well as the supply price (or opportunity cost) of providing a good or service. If environmental and social costs are ignored, then the supply price may be far below the true opportunity cost. This distorts the market and encourages bad decision making and investment.

We often mistake price for value. Value today is often defined by the price we are willing to pay; however, to understand a product’s true value we need to look more carefully at the utility or benefit that it provides and the harm its production, use, or disposal may cause.

Value depends in many cases on situation, use, outcome, and psychological factors. A product or service may have very different value to consumers depending on one’s personal experience and situation. A doctor’s visit in time to treat a potentially deadly cancer can be quite valuable to a patient. A visit to the doctor to demand a drug that the patient does not need and that will not help the patient (e.g., an antibiotic to treat a virus) can have unfortunate and adverse side effects that could be very costly.

In the stock market the price of a stock may change dramatically in a few hours, while the underlying worth or value of the stock has changed relatively little. Only the psychological perception of the stock’s value and the imagined future behavior of the stock market have changed, often based on reporting that may be superficial or biased.

As Mr. Ruskin’s miner discovered, even though gold is very valuable and has a high price, a vest of kapok or cork may be worth a great deal more. Many similar drownings occurred during the world’s many gold rushes, including the sinking of the steam clipper Royal Charter, which foundered on the Welsh coast in 1859 with many wealthy Australian gold miners on board. Most perished, some while trying to take their hard-earned and weighty gold with them.

By the same token, products that appear inexpensive can be very costly. A bottle of cheap vodka purchased for a drunken twenty-first birthday party can have a very low sales price; however, the vodka can ultimately entail a very high cost if drinking too much too quickly leads to intoxication and a car crash that maims or kills someone. The $10 purchase may lead to time in prison, an increase in insurance premiums, and lawsuits involving hundreds of thousands or millions of dollars, not to mention incalculable remorse, grief, and suffering. Sadly, conventional economic calculations often consider the car crash a benefit because it causes spending to increase dramatically. GDP rises with every dollar spent on lawyers, doctors, auto repairs, and prisons!

A state lottery ticket has a relatively low price, essentially no value, and will often increase costs to taxpayers. When state governments began using lotteries to prop up their budgets, they chose an unsustainable and unethical path. Exploiting the poorest, least educated people to raise cash for unsustainable government operations is possible only if true cost accounting is ignored. Loss of limited family funds by gambling on the lottery can reduce investment in healthful food, education, and other long-term sustainable initiatives that can be of value to an individual, family, or community. Only the most heartless and shortsighted legislator could condone such folly.

There are many things that cannot easily be valued in terms of dollars, however, they are nonetheless valuable and costly if lost. An endangered or uncataloged species may prove vital in improving health if it can be used to develop a new medicine or provides a stronger fiber or glue for use in industrial ecosystems. A protected ecosystem may provide critical insight into the functioning of natural systems, which will aid in developing better farming and forestry systems and lead to more sustainable management of urban development. A wilderness area may provide solace, adventure, and the chance to experience beauty and silence, renewing a researcher’s spirit and energy, which could lead to new innovations and valuable new products and services.

It can also be argued that species and ecosystems have rights of their own to exist. While the protection of species and ecosystems may often be supported on strictly economic grounds, aesthetic, moral, and ecological reasons may be equally important.

One of the challenges we face is the problem of trying to value things we do not understand. This is often as difficult or foolish as asking a member of the Kayapo tribal group dwelling in the rainforest to value a car.
Value must ultimately be determined in terms other than money (sometimes considered as utility or benefit) and should be related to the sustainable support of healthy and happy people and to the protection of systems that sustain life. Health and satisfaction are very valuable, as anyone who has lost either can attest. Yet they can be very hard to price.

These desirable goals stand in stark contrast to the current drive to make available the “lowest price goods at any cost.” This perverse pursuit has indeed led to products with remarkably low prices; however, they are no bargain. They are usually of low quality, hard to maintain, and impossible to repair and they entail extremely high social and environmental costs around the world.

If the lowest price is the goal, why not make all products with forced labor? Why not pollute the environment even more? What does it matter if a product sickens people if it contains lead paint or when melamine plastic is added to wheat gluten to improve a protein test? The wrong way to produce a product or provide a service is almost invariably the cheapest way to do so.

The lowest price at any cost has helped make China a prime supplier of cheap goods. Labor in China, however, is becoming “too expensive” as a result of slight increases in wages and minimal added regulations to reduce pollution. New manufacturing locations are, therefore, being selected where total exploitation is still possible. The dangerous pursuit of the lowest price at any cost will continue until true cost accounting and more complete labeling and reporting are adopted.

If a prestigious consulting firm were asked to develop the most hazardous, harmful, and extravagant policies, they would be hard-pressed to outdo those of the current economic system. If the only concern is to provide profits to shareholders as Milton Friedman, and his disciples, including Alan Greenspan have argued, and to pad the politician’s pockets then the existing market needs no repair or revision.

To create an economic system that is sustainable and that improves the environment and the quality of people’s lives, a more complete and integrated view of the market must be considered. This should include consideration of life-cycle costs and benefits and careful calculation of current and future impacts on environmental and social systems.

These policies will be developed, monitored, and improved with stakeholder input to ensure value over time. A strong democracy is also needed to overcome the power of special interests. The free market has never been free, and most industries create their own subsidies and protections and defend them vigorously.

Figure 3.1 contrasts old and new market views.

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**The old view**

Property rights -- profit to shareholders -- price narrowly determined

<table>
<thead>
<tr>
<th>Private-Political (NOW)</th>
<th>Manufactured capital</th>
<th>Economic process</th>
<th>Goods and services</th>
<th>Consumption</th>
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<td>Labor</td>
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<td>Investment</td>
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**The new view**

Complex property rights and responsibilities – sustainable value

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<th>Private – Public – Commons (Including future generations) Sun</th>
<th>Social capital</th>
<th>Natural capital</th>
<th>Economic capital</th>
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<td></td>
<td>Economic process</td>
<td>Ecological services and amenities</td>
<td>(manufactured, invented, organized)</td>
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<tr>
<td></td>
<td>Goods</td>
<td>Services</td>
<td>Earth</td>
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<td></td>
<td>Wastes</td>
<td>Well being (individual and community)</td>
<td>Investments</td>
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These often-complex market and government forces determine how basic human needs for clean air and water, safe food, and comfortable shelter are met and influence how security, justice, care, and companionship are provided. If someone has to work two full-time jobs to make ends meet, he or she will have little time to provide care, nurturing and education, or even companionship. Basic human needs should be met in ways that protect the environment, families, and communities, as well as the ability of future generations to meet their own needs. Access to resources and opportunities should be equitable. Rather than policies that favor the rich, there should be policies that favor the industrious, kind, frugal, and compassionate.

Meeting Basic Needs—The Value Proposition

How well has the U.S. market worked with Milton Friedman’s dictum, only shareholders matter, as its guiding tenet? Not well, as can be seen by reviewing how water, air, food, and shelter are managed. Flawed accounting encourages mismanagement and pollution, resulting in extensive and unnecessary costs to people and the environment. Water is increasingly polluted and scarce. Everyone on Earth is exposed to airborne pollutants. Food shortages exist and many foods are unhealthful and contaminated with chemicals, which create large social and environmental costs. And more than a billion people have only marginal shelter or shelter that can be made comfortable only with the enormous inputs of fossil fuel energy.

Water

Roughly 3 billion people live in areas where the water supply is under stress and water use is at unsustainable rates. Many countries and regions have very limited water supplies, and 40 percent of the people in the world are involved in water conflicts. In many cases, people are overusing groundwater reserves, mining water to meet today’s needs and stealing from future generations.

More than a billion people still do not have access to a healthy and adequate water supply, and many women everyday have to carry water across considerable distances for their families. When water has to be carried a long distance, daily use drops below 5 liters per person, which is not enough for sanitation and cleaning, and therefore the family’s health suffers. Many others are forced to drink water that is polluted or infested with disease-causing organisms. Nearly two million people die every year from drinking bad water, and most are children. This is equivalent to 10 jumbo jets crashing everyday, however, this tragedy receives almost no attention. Privatization of water development and delivery often improves service and reduces costs to the rich and middle class. At the same time, privatization often raises the price beyond what poor people can pay and reduces their access to safe water. But privatization also values water more appropriately and reduces waste and consumption.

Global water supplies have been polluted as a result of poor management and incomplete accounting. Agrochemicals, fertilizers, and biocides; manure and other animal wastes; salt from irrigation and sea water intrusion; toxic element buildup from irrigation drainage; and industrial, residential, and commercial waste disposal into water are all endemic problems. Surface and groundwater reserves are polluted in developed countries and often hideously polluted in developing countries. Groundwater pollution is a special concern because it often cannot be remedied at any cost. In urban areas, groundwater pollution is often caused by leaking buried fuel tanks, inappropriate disposal or leakage of chemicals (many wastes used to be injected into the ground), runoff from dairies, sewage, and deposition of airborne pollutants, all of which entail potentially high ecological and health costs.

Sadly, even in developed countries it is not known how polluted the water is because water-quality monitoring at the state and national levels is woefully inadequate as a result of limited funding. In farming areas and cities across the United States, thousands of wells have been capped as one chemical after another is found in the water. As additional studies with more sophisticated instruments are done, new contamination will be found. For example, the pesticide DBCP was found in 3,500 wells in California in the 1980s, even after its use was prohibited in 1977 for health reasons. It is still found in wells.

The then head of the California Department of Food and Agriculture (and former head of the California Farm Bureau) overruled a staff recommended ban on aldicarb after studies had shown that it was considerably more dangerous than initially thought. This type of conflict of interest is all-too-common, as industry foxes guard the public chicken house. These political appointees understandably protect their friends and the chemical companies who help support them. It is important for them to protect profits, even if it is clear, as the Los Angeles Times noted, that decisions show “willful illogic.” Early beliefs about the stability and slow movement of pesticides in soils have proven false, and their persistence has surprised researchers.

The aerospace and military industrial complex in the San Fernando Valley contaminated many aquifers by dumping water laced with toxic and hazardous chemicals into the ground over many years during the cold war. At the time this was the cheapest option for disposal and was not illegal. As a result carcinogenic solvents and chemicals were ultimately found in the aquifer that supplied groundwater to 90 percent of the people in the San Fernando Valley, and 25 percent of the most polluted wells had to be shut down. Later studies identified 200 square miles of the San Fernando Valley where the
groundwater was so polluted they were designated a hazardous waste site by the Environmental Protection Agency.

In a 1986 survey, 40 percent of the wells in Los Angeles county were polluted, 17 percent in San Bernardino county, and 13 percent in Riverside county. The cost for cleanup, if it is attempted, will be in the billions of dollars and would take decades or centuries. The health costs for the contamination clearly could be very high, but have never been calculated.

Water currently drawn from the Colorado River and used by millions of people in southern California is contaminated with rocket fuel, nuclear by-products, and too many chemicals and drugs to count. Although the concentrations are often low, it is likely there is no level that is safe.

Higher rates of diseases, birth defects, sterility, cancer, and miscarriages are common in areas that have polluted water, even in developed countries. A study in 1988 by the California Department of Health Services showed that mothers who drank bottled water had an unusually low incidence of birth defects, which was reconfirmed by a study in 1997. One-third of families in Southern California were drinking bottled water or had home water delivery by the mid-1980s, but bottled water is costly and beyond the reach of families with limited incomes and who are living in the highest risk areas.

Bottled water, however, is a very costly solution to a problem that would be better solved by protecting and cleaning up the piped drinking water supply. Poor accounting for value has caused many consumers to choose a non-sustainable product in bottled water. The plastic in the 25 billion bottles of water produced each year represents about 17 million barrels of oil. And then there are costs for transportation, refrigeration, and cleanup.

The best water value for all is clean, safe drinking water treated with ozone instead of chlorine and with harmful contaminants removed. The health savings alone would probably more than offset the added costs to protect and clean up the water supply.

Air

Management of the vital air resource is no better, and the effects are more widespread. In addition to the widely recognized problem of global warming, humankind also faces very serious challenges from other pollutants, ranging from particulates (fine dust) to sulfur and nitrogen, as well as from less common toxic gasses, persistent organic pollutants, and nuclear materials.

The dispersion of these materials in ecosystems can have very costly impacts on human and ecosystem health. Emissions come from point sources, such as industry and power plant stacks, and from distributed or nonpoint sources, such as auto exhaust, home fireplaces, furnaces, incinerators, and farming practices. Efforts to control air pollution with end-of-pipe solutions have failed, and the many adverse impacts include global warming, damage to the ozone layer that protects the Earth from ultraviolet radiation, higher incidence of disease and death, and damage to ecosystems, agriculture, and buildings. Smog kills thousands of people every year and leads to very high costs for treating asthma and other lung disorders.

The high level of polychlorinated biphenyls (PCBs) in the Inuit people of the Arctic region is a stark example of how social costs can be created by poor accounting for true costs. More than 4 billion pounds of PCBs were produced before their use was restricted in 1979 and finally banned. Some of these PCBs were cycled into the atmosphere and circulated into the Arctic, where they were carried by rain and snow into the ocean. The PCBs were then biomagnified in the food chain, increasing in concentration by 10 times as they moved from plankton to zooplankton, by another 10 times as they moved from zooplankton to small fish, and by another 100 times in the steps to bigger fish and finally to seals. The Inuit, at the top of the food chain, have such high levels of PCBs in their blood that some mother’s milk would be considered a hazardous material.

Food

Food should be safe, healthful, and sustainable, as it has been through most of life on Earth. Instead, however, poor accounting and mismanagement have made food agriculture one of the most destructive practices humankind undertakes. The challenge of agriculture is seemingly simple—harvest less than what can naturally be recovered or increased. Most agriculture, however, involves soil erosion, poor groundwater management, the misuse and overuse of pesticides and fertilizers, and loss of biodiversity. Agricultural practices erode value instead of building it.

Soil is lost from most farm fields at rates 10 to 40 times faster than it is replenished. As a result of soil erosion, 30 percent of the world’s land has become unproductive in the past 40 years. The economic cost of soil erosion from agriculture in the United States alone is estimated at $38 billion per year. Erosion rates are three to four times higher per acre in China and India than in the U.S. Worldwide the cost of soil erosion exceeds $200 billion, and it will cost far more than that to return soil to fields from the rivers, lakes, and reservoirs where it ends up. Developed and urbanized lands have up to 1,000 times greater rates of soil erosion than undisturbed ecosystems.

Worldwide an estimated 3.7 million acres (an area six times the size of Rhode Island) are lost to production each year as a result of salt buildup or water-logging from poor irrigation management. Although researchers found that salt buildup could be slowed by flushing the soil with water using buried drainage tiles or through surface flooding this created additional problems when wastes became concentrated in reservoirs and evaporation ponds. This led to disasters such as the toxic selenium buildup at
the Kesterson Reservoir in California’s San Joaquin Valley, causing extensive damage to birds and other wildlife.

Salinity levels in California’s Salton Sea, an agricultural sump, have become fatal to most fish species and the risks to waterfowl grow each year. The current estimate of the cost to stabilize the important Salton Sea ecosystem is more than $7 billion, which highlights the magnitude of the challenge of fighting salinization. Restoring damaged agriculture land and improving agricultural practices around the world are critical challenges for the future.

Current agricultural production is very energy intensive and relies almost entirely on fossil fuels. While traditional farmers in many areas get a return of 15 times as much energy as they invest (and up to 30 times as much in some cases), American agriculture overall runs a deficit of 10 to 1. That is to say it takes 30,000 calories of energy to produce the 3,000 calories a day we eat. Most of the energy input is from fossil fuels, primarily oil. Exporting crops creates an ecological deficit of energy, water, soil, and land ecosystem deterioration.

Much of the costly decline in natural capital and nature’s services from agriculture comes from misuse of pesticides. In the 1940s, 31 percent of crops were lost to pests. By 1990 the number had risen to 37 percent, despite the use of 33 times more pesticides! Widespread dispersal of pesticides leads to widespread ecological and health costs, which are currently not counted.

The use of fertilizers in the United States rose from 14 million tons in 1950 to 131 million tons in 1986, which has resulted in the poisoning of groundwater, ecosystems, and people. Nitrogen pollution from agriculture is believed to be one of the causes of the unprecedented decline and die-off of frogs and other amphibians. Babies in agricultural areas may develop “blue baby syndrome” from excess nitrogen in the water.

Misuse of agrochemicals and pesticides has continued in most farming in the United States and around the world because no accounting for environmental and health costs is done. The late Dr. Robert Van den Bosch, a professor of entomology at the University of California–Berkeley, observed that 23 of the 25 worst pests in California were either pesticide enhanced or created. This pesticide treadmill has been very profitable for the chemical manufacturing companies; however, the decline in biodiversity and in the health of agroecosystems due to the misuse of pesticides represents a clear decline in asset value. The economic loss of natural predators that used to help control pest populations has not been measured. These costs are simply passed off to farmers and to future generations.

Improved accounting will change how Dupont, Monsanto, BASF, and other big international chemical companies work. They are capable and competent and can adjust to new accounting methods; but they are also likely to resist change and are very powerful. The combined revenues of these chemical companies is comparable to the gross national product of the Czech Republic. They have gotten rich by ignoring external costs and the enormous declines in asset value that their products cause. If proper asset- and value-based accounting were done, farm chemicals would cost more and they would be used more carefully and only when needed.

Many of the worst toxic dumpsites are contaminated with wastes from agricultural chemical manufacturing, including a large wasteland of DDT off the California coast. These wastes are often very persistent and difficult to deal with. Much of the cost for cleanup toxic wastes would be placed in the agricultural chemical industry accounts if the source of contamination was identified more carefully. In 1986, the cost to clean up the 20,000 hazardous waste sites then identified in the United States was estimated at $300 billion.

Chemicals and toxic wastes are also spread by natural disasters. During the extensive Mississippi River flood of 1993, pesticides and other toxic materials collected by the floodwaters from farm fields, flooded storage facilities, warehouses, and developments contaminated a large area of the Gulf of Mexico and killed critical phytoplankton over hundreds of square miles. What would it cost to remedy this die-off and to prevent it from ever happening again? One solution is the creation of on-farm and marketplace storage of chemicals that is flood and tornado proof. Also, the cost of storage should include an insurance fee related to the potential risk of chemicals being released.

Even when chemicals are used legally and “appropriately,” they are much more persistent than was once thought. Dr. Martin Alexander and his associates at Cornell University found that many chemicals do not biodegrade and instead remain for decades in groundwater and soils. Chemical companies have profited while farmers and the society at large have suffered losses. Future generations will have fewer options and face greater costs as a result of short-term folly and the avoidance of true costs.

The misuse of antibiotics in agriculture is having similar impacts on the environment and human health, and yet few voices have been raised against it. The value of this practice would disappear if true cost accounting were done. The abuse of antibiotics is likely to cause devastation in the future when key antibiotics no longer work against common pathogens. In the short term the industrial meat production companies and drug manufacturers have profited, but at a very high cost to the environment, human health, and future generations.

Rangeland management is equally problematic. Some of the most extensive and serious environmental problems worldwide result from overgrazing, which can lead to severe erosion, floods, and dust storms (Figure 3.2). Poor rangeland management may be driven by
economic pressure, greed, desperation, and, more rarely, ignorance. The loss of productivity and value in arid or semiarid rangeland is often the result of a chain of events triggered by drought and resulting in a step-by-step decline that is very hard to stop. As a drought deepens, range managers are reluctant to cut herd size because everyone would be selling their animals at the same time, which would ensure minimal market prices and severe economic losses.

Figure 3.2. Dust storm from overgrazing

Globally more than 60 percent of rangeland is in decline or at risk of further degradation. A study reported in 2008 that in the western United States dust deposition levels had increased fivefold as a result of settlement, grazing, and development. Poor accounting has led to the misuse of these fragile resources, limited the ability of dryland residents to make a living, reduced quality of life, destroyed communities, led to conflicts over land and water, decreased health and life expectancy, and severely affected natural systems and biodiversity.

Until recently the value of the ecosystem services provided by nature were not counted, health costs were ignored, and an economic justification for improved management and restoration was lacking. Improved true cost accounting is needed to reform food production systems.

Shelter

Shelter is also inexcusably destructive, utilizing unsustainable materials and fossil fuels to provide often unhealthful and uncomfortable housing. True cost accounting could correct most of these problems, although providing housing for all will remain a challenge. In 1996, the United Nations Center for Human Settlements estimated that more than one billion people did not have access to safe housing, were homeless, or lived in conditions that were life or health threatening. In 2008, one-third of the world’s urban residents lived in slums, favelas, and shantytowns, often without water systems, sanitation, or reliable energy service.

Even for wealthy residents in developed countries housing comes at a very high cost. As physicist Amory Lovins has noted, a system of often perfectly perverse incentives encourages almost everyone in the development industry in the United States to do the wrong thing. Small but important incentives make it most profitable for designers, builders, and installers to make inefficient, costly, and unhealthful buildings. This has been compounded by poor training in schools (both architecture and engineering), lack of adequate training for builders, and government subsidies that artificially reduce the cost of energy, water, and building materials.

A study by the Wuppertal Institute found that buildings and dwellings accounted for 30 percent of material consumption in Germany. In the United States, buildings are responsible for 40 to 50 percent of global warming gas emissions. Building and particularly roofing materials are also a significant source of pollution, as rains carry ecotoxic amounts of zinc, copper, and lead into aquatic ecosystems.

These problems have been compounded by a rapid increase in expectations. Housing sizes in the United States have more than doubled since 1950 and occupancy has dropped, leaving each person with almost three times as much space. This has been made possible by abuses and fraud in the lending and financial markets as well as by flawed accounting.

Buildings are particularly important because they have such long life cycles. Many buildings in Europe have been in use for hundreds of years, and even more poorly built buildings in the United States are likely to be in use for 100 years or more. A poorly designed and constructed building has enormous life-cycle costs.

After the oil embargo of 1973, research on climate- and solar-responsive buildings began in earnest and by 1976 considerable progress had been made in constructing them. Following the 1979 Iran revolution, the future of housing in the United States should have become clear—super-insulated climate- and solar-responsive buildings should have become the norm. Instead, engineers, designers, developers and builders returned to the pursuit of the lowest first cost and the worst value strategies that had developed following World War II. As a result, more than 30 percent of homes now in use in the United States were built poorly even after the lessons had been learned about how to build more responsibly and sustainably. The energy predicament that the United States currently finds itself in would be much less challenging if true cost accounting had been implemented in the aftermath of the 1973 oil embargo. Israel did learn part of the lesson and required that all homes built after 1973 have a solar water heater.

The problem of unsustainable building is the direct result of incomplete accounting and a failure to consider long-term value. Few other problems can so easily be corrected. The energy and material use of buildings can be cut by 70 to 90 percent with minor changes and minimal increases in prices. For example, sustainable materials such as straw bales are increasingly well
understood and cost competitive. Straw is the waste material left after grains such as wheat and rice are harvested and often baled with a machine towed behind a tractor. Straw bales can be used as building blocks to construct and retrofit homes, industrial and commercial buildings, farm buildings and schools. Although some types of straw bales can be used structurally, they are more commonly used as infill in timber, wood, or concrete frames.

Straw bales and earth or lime plasters are becoming increasingly popular as materials for constructing homes, outbuildings, and commercial and industrial buildings. This technology is “all American,” born and bred on the treeless plains of Nebraska, and has spread all over the world to Australia, Austria, Belarus, Canada, Chile, China, Denmark, England, France, Germany, Iraq, Israel, Mexico, Mongolia, the Netherlands, Nicaragua, Norway, Russia, Saudi Arabia, South Africa, Spain, and Sweden. Residents like homes constructed using straw bale technology because they are quiet, comfortable, fire and energy efficient (often using 80 percent less energy), strong, durable, and attractive. They are also friendly to build, and families can work together to create their own homes (Figure 3.3). Even small children can participate in the process and they love it.

In Santa Fe, New Mexico, a straw bale house can be built for much less than a traditional adobe home. In Ciudad Obregón, Mexico, Bill and Athena Steen from the Canelo Project have helped homeowners build energy-efficient straw bale homes for just a couple of dollars per square foot. However, until true cost accounting is done, these proven examples will not displace current practices.

Figure 3.3. Straw bale building workshop

More Elusive Needs

According to an old Turkish proverb, “Millions of men have lived without love, but none have lived without water.” Once basic human needs are met, and it is clear that they are not currently being met for many people on the planet, more attention can be focused on meeting more elusive human needs and aspirations: love, community, opportunity, hope, happiness, and satisfaction (in relationships, careers, and personal fulfillment). Two key elusive needs are satisfaction and community.

Satisfaction

It is possible to distinguish between happiness (which is hard to prescribe, as it is personal and fleeting) and satisfaction (which is more predictable and long term). Happiness is defined as having a feeling of great pleasure, such as the feeling of seeing your family again when you return home after a long travel (and, perhaps paradoxically, the feeling you have getting away again a few days later). Happiness is a word rooted in Middle English (from hap, meaning an occurrence). Satisfaction, on the other hand, is defined as fulfilling needs or expectations, contentment. It is also derived from Middle English (from satis, meaning enough), and is closely linked to wisdom.

Satisfaction is a goal that can be defined and pursued, and it is unrelated to money. As the Rolling Stones put it, “I can’t get no satisfaction.” As Elvis Presley, Janis Joplin, and many other pop stars have discovered, money is not enough. They each had it all, riches, adulation, travel, sex, drugs, but lacked the philosophical base that would enable them to find meaning and satisfaction. Across the globe, the Rolling Stones’ lyric resonates with the rich as well as the poor.

What makes for a satisfying life? Psychologists and economists have developed many theories, and most include a mixture of physical and psychological needs. It is clear that the current stampede to massive consumption of the lowest price goods is not the answer. In recent years a new view has emerged, suggesting that people would be better off if they consumed less, spent more time with their family and friends, worked to improve their communities, maintained their physical and mental health, and spent more time enjoying nature. These goals are all valuable, yet are not currently counted in the consideration of the economy.

The value of friendship cannot be underestimated. Satisfaction with life for most people depends on positive interactions with family and friends, which can be hard work. But like most hard work, positive interactions are often very well rewarded. Friendships and family relationships require patience, persistence, forgiveness, and commitment. Be responsible, considerate and kind. If you fail, apologize. If you care, let people know. Treat your friends and family at each meeting as though you knew you would never see them again. Surprise your friends and family with gifts of time through letters, emails, and cards. Nothing provides better value.

Friends are much better to have than money. One of my friends provides a good example. She had crafted a satisfying career teaching community building and sustainable technologies (including as part of cross-border programs with Mexico). These are not high-income producing activities in our current value system. When a hip replacement became essential, she was faced...
with tough problems—no benefits, no insurance, and not enough savings (she is a giver, not a saver). Fortunately she had friends, and one of her friends organized a fundraiser (by mail) without her knowledge. Within a month she had received almost $15,000 from her friends around the world and was able to go ahead with the surgery.

**Community**

Community is equally important for satisfaction and personal growth. Increasing disruption of families and communities occurs as children leave to pursue economic opportunities. I spent the formative years of my youth in a small town (Winthrop, Washington, population then 364 people), and I cherish the memories of living in a vital community. Most of the children, however, have left. It was not a wealthy community measured in dollars, but it was set in a beautiful and rich environment. When the Watts riots took place in Los Angeles and were televised, the locals in Winthrop wondered why people who had painted houses and indoor water and plumbing would complain. They failed to understand the “wealth” they possessed in being able to provide for themselves in a rural setting and the value of having more control over their destiny than the residents of Watts.

Some of the defining aspects of many small, traditional societies are the sharing of resources, extensive personal interactions (working only 12 to 14 hours per week for the !Kung, for example, offers much more time for family and community), and a general sense of personal satisfaction. Even within wealthy, largely urbanized countries some small communities such as this still survive. Many rural residents still resemble, at least in small ways, the hunter–gatherers of the past. Residents of Winthrop garden and grow part of their own food supply as well as hunt and fish to supplement their food supply, as my family did when we lived there. None of these activities are factored into conventional accounting practices because no money changes hands.

Consider, for example, the Amish community. Contrast the difference between a barn fire on an Amish farm and one on a modern, independently owned or corporate farm. The Amish are self-insured. Almost immediately after the fire, the Amish community gathers to comfort the victims and clean up the debris. Within a couple of weeks the community will again come together to build and restock a new barn as part of a one- to two-day barn-raising. Official economic statistics will include very little from the event, as much of the labor is unpaid and the materials to build and restock the barn are either purchased or traded for by the family who will own it. For a barn fire on an independently owned or corporate farm, the owner, the insurance company, and their lawyers will wrestle over the price of repairs for several years. Within two or three years the barn will be rebuilt, but the family or firm will be scarred for years after a bruising battle with the insurance company.

Electronic technology has made it possible for people to build a community beyond their immediate one. Much of my personal community is now scattered around the world. We may only meet in person once or twice a year or every few years, but we can communicate via the Internet any time. The Internet has also helped some communities remain intact as children or even whole villages have left their homelands. Through the Internet people can remain in touch and connected to their community wherever they are in the world.

A community can be better designed and built at no cost. If true cost accounting were done all developments would adopt these sustainable features. In Davis, California, I was fortunate to live in a 220-unit solar subdivision called Village Homes. I was able to help make this development possible through my research on narrow streets and natural heating and cooling methods and after many battles with the city engineering and planning staff. The subdivision designers and developers, Mike and Judy Corbett, included solar features and sustainable materials as necessary ingredients for a good design, but focused their attention on two goals that they felt were most important—social interaction and community building. Design features to facilitate these goals included shared space (where several families had to meet and decide on use), community gardens, a community pool, an emphasis on walking and biking instead of cars, and a community farm (Figure 3.4). These all involved more personal interaction and cooperation than a conventional development and created a delightful and vibrant community. It became a place where children could run around under community supervision, where neighbors worked together and knew each other, and where help was available when needed.

![Figure 3.4. Village Homes](image)
There is no reason why the United States cannot have more Village Homes! And the same principles work as well in underdeveloped countries. The village of Gaviotas, in a barren area of Colombia beset with civil war, has successfully developed as a sustainable community. Comparable ecological and social successes exist in rapidly developing cities as well, as Curitiba, Brazil, has shown. Under the guidance of a remarkable mayor, Jaime Lerner, Curitiba has developed a remarkable infrastructure and support for education, health, environmental quality and recreation. The innovative transit system works well and is economical, offering lessons that could benefit many cities in the U.S. The people are much more satisfied with their city than are residents of comparable American cities.

Rediscovering Value

One of our biggest failures as a Society has been our inability to recognize the differences between price, cost, and value. Changing social norms and reinventing the economy with a sustainability perspective will take time, but it can be done if accounting practices are reformed. Wal-Mart has set the stage by changing its tag line, “Always the lowest price” has been replaced with “Save money — live better.” A small but symbolic beginning.

If we wish to create a way of life that is sustainable and improves the quality of people’s lives while protecting and restoring the environment, environmental and social costs and benefits need to be considered. To make these changes accounting systems will need to be restructured to more clearly identify true costs and value. This information will need to be presented in ways that make it accessible to a wide range of stakeholders, particularly consumers. Engaged and active stakeholders can help ensure that value increases over time.

Our democracy will also need to be strengthened to overcome the power of special interests and the “free lunches” that they have created and gorged on in recent years. The ongoing financial collapse of 2008 and recent changes in the capital markets may help make this possible, but it will not be easy.

The growing interest in sustainable economics, business, and management is a sign that change is possible and has begun. The transition may be much easier than most people would suspect, because the cost difference between unsustainable and sustainable, even by today’s flawed accounting standards, is often only 10 percent or less. And sometimes it is free or cheaper to do the right thing. For example, the redesign of a tract home in California by the Davis Energy Group improved solar heating and natural cooling enough to reduce annual energy use for space conditioning by 70 percent, and also reduced the cost of construction.

A recently completed synagogue in central California uses natural heating, cooling, ventilation, and lighting and has cut its energy demand 80 percent below the state’s increasingly strict building code (Figure 3.5). The San Luis Obispo Sustainability Group has designed and built more than 100 environmentally responsive buildings. Their off-grid offices and homes demonstrate the potential for comfortable, affordable, and sustainable living.

Business leaders, government decision makers, and organizations can help refine the value proposition through better accounting. Choosing more sustainable options can reduce costs and risks and increase profits. It can also protect markets as resource costs rise and supply security is threatened.

Ultimately we all assign value whenever we buy something. Every dollar we spend is a vote, for or against the future. Consumers, however, cannot make good purchasing decisions unless they have better information on what the short- and long-term value is likely to be.

Figure 3.5. Congregation Beth David Synagogue, San Luis Obispo, California