PART I

THE END OF THE WORLD AS WE KNOW IT

CHAPTER 1

The Most Likely Disasters You'll Face

This awful catastrophe is not the end but the beginning. History does not end so. It is the way its chapters open.

—St. Augustine

Sometimes we worry so much about the big disasters that could overtake us—an energy crisis, global financial meltdown, famine, or pandemic—that we don't prepare for smaller-scale disasters that can still be devastating on a personal or local level. Local disasters will turn your life upside down, but most Americans will watch them with only passing interest, and perhaps even indifference.

The two disasters you're most likely to face are fire and flood—it's as simple as that. And yet, most people are completely unprepared for them when they happen. If you do nothing else, skim over these next few pages and write down some notes on what you *should* do. Importantly, by preparing for fire and flood, you are also starting to prepare for the big, movie-of-the-week disasters that may be coming.

In this chapter, I'll give you some facts on fires and floods, how to prepare for them, what to do when they happen to you, and some useful web sites. Then we'll also look at two disasters that could have global impact—an energy crisis and a food crisis.

Two *Ordinary* Calamities

As mentioned previously, there are two ordinary disasters that we will likely face in our lifetime—fire and flood.

Fire

Deadly fires can start in anyone's home; in fact, there are about 400,000 residential fires in the United States annually. Modern building materials make homes *more flammable*, not less, so the risks of you having a serious fire are actually rising.

Common places where fires start are the kitchen, laundry room, or fireplace. From 1999 to 2002, 60,000 house fires started due to the improper cleaning or lack of cleaning of washers and dryers. As for fireplaces and chimneys, they cause more fires than oft-maligned space heaters.

Careless smoking causes 15,000 fires a year. And even Christmas trees get in on the action—200 residential fires each year are caused by Christmas trees. But the biggest single cause of *careless* house fires is candles. Candles alone cause 18,000 home fires every year.

There is good news. Deaths from home fires have decreased by 50% since the 1970s because of public education and the widespread use of smoke alarms. But the candle fire problem has been growing. Half of candle fires are caused by combustible materials coming too close to candles. A whopping 44% of candle fires begin in the bedroom.

How to Prepare. Experts say 80% of all candle fires can be eliminated by four basic safety precautions:

1. Never leave a burning candle unattended.
2. Keep candles away from things that can catch fire.
3. Keep candles away from children and pets.
4. Place candles on secure, heat-resistant surfaces (like ceramic bowls), which will not transmit heat to the furniture on which they are placed.

You should always have a fire extinguisher in your bedroom. Also have at least one for every floor of the house, and the one in the kitchen should be able to put out grease fires.

Wildfires

Peak season for wildfires runs from April through October. Annually, wildfires claim hundreds of thousands of acres, resulting in the evacuation of millions of people. Thousands of homes go up in flames, causing damage estimated in the billions of dollars.

How to prepare: Remove dead branches and trim all trees and shrubs. Cut back trees near your home and roof. Clean gutters and remove debris from your roof. Store firewood at least 30 feet from your home.

A wildfire is a case when you want to plan and practice an *evacuation plan* from your home and neighborhood that includes primary and secondary routes. Ask someone out of state to be your *family contact* in case people are separated, and be sure everyone knows the contact's address and phone number.

Make sure every adult (and the bigger kids) in the house knows how to use the fire extinguisher; hold fire drills. Also, you need smoke detectors on every floor of the house and outside all sleeping areas.

Flood

Flooding is the United States' *most common natural disaster*, and caused more than $7.1 billion in property damage in the 10-year period leading up to Hurricane Katrina (Katrina alone caused more than $81 billion in damages). Flooding occurs in all 50 states, and not just in those areas considered to be at high risk for floods and other disasters. In fact, one in four flood insurance claims is submitted by someone who lives in a low or moderate flood risk zone.[1]

To find out if you live in a high-risk or a low-risk zone, go to http://www.floodsmart.gov and type in your address and zip code. This will tell you the general flood risk of your area.

How to Prepare. Here's what you can do to prepare for the risk of flood:[2]

- Buy flood insurance coverage. Homeowners insurance doesn't cover flooding. It takes 30 days for a policy to go into effect, so don't wait. You can obtain flood insurance through the

National Flood Insurance Program, from your insurance agent. To find an agent near you call 1-800-427-2419.

- Stay alert during stormy weather. Listen and watch for thunder and lightning. Heavy rain upstream could send a flash flood your way without you even feeling a drop of rain.
- Know your local area. If you live near a dam, keep away from areas downstream of the dam when heavy rains hit. If the dam is breached, this can result in a flash flood. Also, know where the streams and rivers in your area run and locate safe zones of higher ground nearby.
- Take care of your property. Take photos or videos of important possessions. This documentation will help you in filing a flood insurance claim. You might want to store these photos on the Web or in a fire-and-flood proof container. Finally, make a list of items you might want to move as high as possible in the case of a flood, and move them.
- Avoid driving into water more than two feet deep. Nearly half of the deaths associated with flash floods involve vehicles. As little as two feet of moving water can easily carry away most cars and trucks. Abandon your car immediately if it stalls in water, and head for higher ground.
- Elevate your furnace, water heater, washer, and dryer. Admittedly, this involves a bit more effort than a couch potato is likely to exert, but if you're in a flood-prone area, consider it. It could save you a *lot* of money in the long run.
- As with fires, when dealing with floods it's good to plan and practice a flood evacuation route, and have an out-of-state person as your emergency family contact.

Lastly, if you live in an area like New Orleans that could be flooded by waters higher than your rooftop, consider doing two things:

1. Keep a crowbar, hammer, chisel, saw, and other heavy-duty tools, as well as a flashlight, up in your attic. If rising waters chase you up into the attic, you need some way to cut your way out.
2. This last tip isn't cheap, but you can also buy a life raft that stows in its own suitcase. You can buy a four-person emergency life raft that never needs recharging for $1,150 at http://tinyurl.com/c2gzo2, and you can Google for other options.

If I lived in a below-sea-level area like New Orleans, I might keep one of these in my garage.

Two Crises That Will Rock Your World

Now that we have looked at two ordinary disasters that can affect you regionally, let's explore two global crises you might face in more detail—energy and food. We'll also look at some smart ways you can prepare for them without moving to a goat farm.

Energy Crisis: America is Running on Empty

Our civilization runs on oil. If the oil stops flowing tomorrow morning, life as we know it starts to crumble tomorrow night. There is no economy without energy, no transportation besides your own two feet, and no communication beyond the sound of your voice.

Here are some facts that keep me awake at night:

- The United States only has 4.8% of the world's population, but consumes about 25% of the world's daily oil use.
- The United States has 3% of the world's known oil resources (there could be more in offshore fields or locked under ice in Alaska), but pumps about 7% of the world's production. In other words, we are depleting our resources faster than other parts of the world.
- Since the mid-1980s, oil companies have been finding less oil than Americans have been consuming.
- Of the 65 largest oil producing countries in the world, up to 54 have passed their peak of production and are now in decline, including the United States.
- The world uses a billion barrels of oil every 12 days. We don't find one-tenth of that. The peak of world oilfield discoveries already occurred way back in 1965.

We are on a collision course with an oil crisis, and would be in even worse shape than we are now if the recession of 2008 hadn't downshifted the world's oil use—for a while, anyway.

Bottom line: We don't have enough oil to meet our own needs and we cannot drill our way out of this. Pullbacks in oil prices are likely very temporary, and will also likely lead to even *higher* surges in oil prices—perhaps sharper than anything we've seen so far.

Lower oil prices in 2008 lead to droves of oil projects being shuttered in 2009. Non-OPEC oil production probably fell by 2.5 million barrels per day in 2009. A drop that steep, combined with OPEC cuts, could more than make up for the steep fall in global oil demand. In fact, experts say non-OPEC supply should continue to drop in 2010, losing an additional 460,000 barrels a day.

How the Next Oil Crisis Could Be Different—Supply. The high oil prices of 2008 deflated like a blown tire, and previous oil crises—in 1973 and 1979—also ended eventually. Maybe so, but things change.

U.S. oil production peaked in 1970 at about 9.6 million barrels a day. In 1973, we imported about 3.1 million barrels a day. So when the Arabs cut off our imported oil, it hurt, but we could adjust.

Today, the import to domestic production ratio has flipped; we import about two-thirds of our oil. So, when people say we're *addicted to oil*, that's only part of the problem. The real problem is we're addicted to *foreign* oil—much more so than in the past. (See Figure 1.1.)

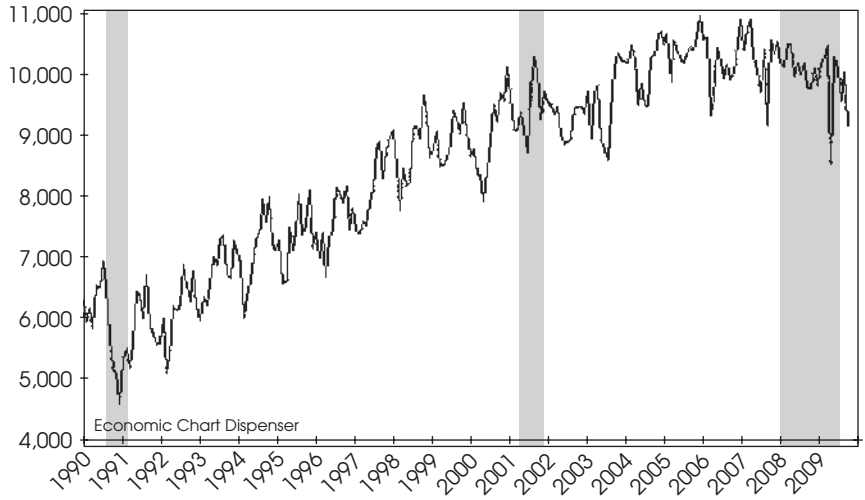

Figure 1.1 Total U.S. Crude Oil Imports (thousand barrels per day)
Source: Economagic.com.

We saw U.S. oil imports drop in 2008 and 2009 due to the recession. Oil imports have dropped every time we've had a recession. And every time the recession ends, oil imports go right back up.

In the 1970s, OPEC slapped an embargo on oil shipments as punishment for U.S. support of Israel (in 1973, Israel and Egypt fought the Yom Kippur War). The reason for oil stoppage was political and artificial. However, it caused real conservation in the United States. By 1979, virtually all the big *full-size* American cars were downsized. When the Iranians turned off the taps, it didn't hurt nearly as much as the first oil crisis.

And it went beyond cars. Conservation became the buzzword across the United States. President Jimmy Carter installed solar panels and a wood burning stove at the White House. Carter's energy saving measures were promptly trashed by Ronald Reagan when he took office, as the energy crisis receded in the rear-view mirror.

But America's conservation proved to be OPEC's undoing. When they wanted to sell oil again, we didn't need as much of it. And without U.S. demand, oil prices plummeted.

This time around, the demand growth isn't limited to the United States or even the Western world. There are 10 million new cars and trucks hitting the road this year in China alone, and millions more joining traffic jams in India and other emerging markets. OPEC is starting to realize that because of this new demand, they need us a lot less than we need them.

The stark differences between supply/demand then and now explain only part of the uncharted territory we are now navigating. Here are five other forces:

1. **Accelerating decline in net oil exports.** The *Export Land Model*, or ELM, is a theory proposed by Jeffrey Brown and others associated with TheOilDrum.com, an excellent site for information on the oil crisis. (See Figure 1.2.) Unfortunately for U.S. consumers, more and more evidence is showing the ELM oil prophecies to be painfully true.

   The ELM says that, after a country's oil production peaks, it will decline at a 5% annual rate at the same time that local consumption increases by 2.5%. Add the production decline and consumption increase together and the decline in a country's net exports will reach zero, nine years after peak

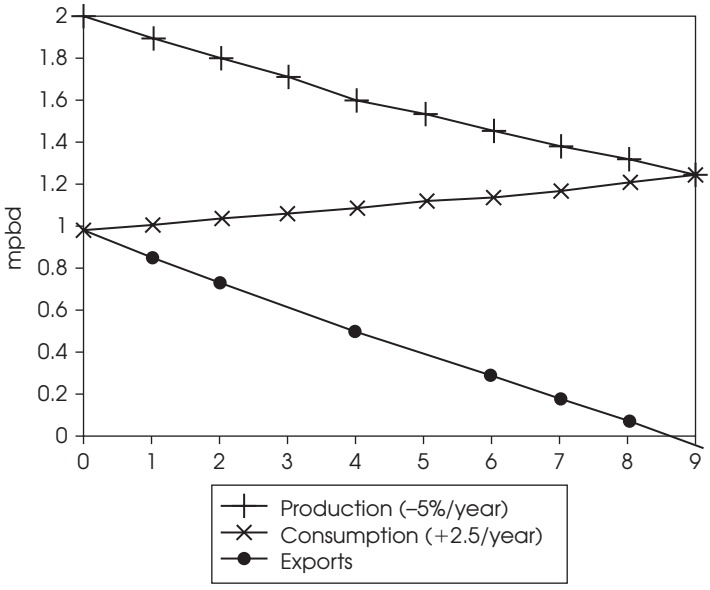

Figure 1.2 Export Land Model

Source: TheOilDrum.com.

production. After that, the former exporter becomes an importer.

We've seen this model hold true in the United States, China, Great Britain, and Indonesia. For example, China went from a net exporter in 1993 to importing four million barrels a day today—with those imports projected to rise another 50% over the next 10 years.

The real problem is that many of the world's exporters are now at their peaks. And that means much higher prices are on the horizon.

2. **Catastrophic decline in Mexico.** Mexican oil production is falling off a cliff. Crude oil production at Mexico's super-giant Cantarell oil field plunged 16.8% in 2008 from 2007. What's more, output at Cantarell was expected to decline by 28%—about 750,000 barrels of oil per day—by the end of 2009. Overall, Mexico's output should decline by 10% to 11% at the same time. Mexico produced 2.79 million barrels of oil a day in 2008.

   Speaking to an energy conference in Houston, Pemex Chief Jesus Reyes Heroles said: "The decline of Cantarell

and other mature fields will imply a loss of production with respect to today of 1.1 million barrels per day by 2012 and 1.8 million bpd by 2017."

Mexico is now the third-largest supplier of oil to the United States, according to the EIA, a drop from their prior spot at number two. We should really worry when one of our top suppliers goes into an oil crash.

Mexican President Felipe Calderon would like nothing better than to open up the Mexican energy sector to outside investment, but he faces stiff opposition in that country's legislature. Meanwhile, the Mexican government's battles with drug gangs are a civil war in all but name, so he's a bit distracted from pursuing energy initiatives.

Mexico does have a new field called Ku-Maloob-Zaap, but it is not enough to offset the failure at Cantarell. Importantly, the decline at Cantarell has been worse than the worst of the government estimates.

Mexico is a country in crisis. In the Joint Operating Environment 2008 report issued by the U.S. military's Joint Forces Command,[3] Mexico and Pakistan were listed the most likely states to collapse in the immediate future. One is our third-largest supplier of oil; the other has nukes. *Both* should be serious causes for concern. If Mexico implodes, it could destabilize our economy.

3. **Resource Nationalism will tighten the screws.** Americans sometimes act like other countries are sitting on *our* oil, and as such, they have a duty to provide it to us as quickly and cheaply as possible. But more and more countries are realizing *their* oil is a national treasure, and they're starting to sell as little of it as possible at the highest prices they can. It's called Resource Nationalism and it is bad news for U.S. consumers.

   Here's why:

   - In Venezuela, President Hugo Chavez's nationalization crusade has forced out two of the world's largest energy companies. In addition, the OPEC nation is preparing a *windfall* oil tax to boost its share of profits from its fields.
   - In Russia, Vladimir Putin has used hook and crook to bring more than half of his country's oil industry under state control, grabbing properties and projects from large foreign oil companies in the process.

- Saudi oil executive Sadad Al-Husseini was quoted as saying: "There has been a paradigm shift in the energy world whereby oil producers are no longer inclined to rapidly exhaust their resource for the sake of accelerating the misuse of a precious and finite commodity. This sentiment prevails inside and outside of OPEC countries, but has yet to be appreciated among the major energy-consuming countries of the world."

The reality is that national oil companies control 94% of the world's conventional oil and gas reserves. And they'll want more control in the years to come.

When it comes to bargaining chips, the United States is sitting at the table with a pair of twos, and there are others at the table with full houses, aces high. And they *aren't* our friends.

4. **Oil demand is climbing with global population.** Everyone in the Third World wants to live and drive like big, fat Americans. The global recession may have slowed them down, but both India and China, to name two examples, are still adding drivers at a furious pace. In 2008, emerging markets combined (China, India, Russia, and their other *life in the fast lane* buddies) passed the United States in oil use. Going forward, global oil consumption is expected to keep climbing even as U.S. consumption eases. After all,
   - Americans each use 25 barrels of oil per year.
   - The Chinese each use 2 barrels of oil per year.
   - And the folks in India each use just 1 barrel of oil per year.

   Where do you think the growth is going to come from? The rest of the world wants to live and drive like Americans!

   And there are simply more people all the time—6.7 billion of us at last count. And with a growth rate of 1.17%, the world's population in 2030 is expected to be double that of 1980, or 8 billion people.

   I don't think we'll get to 8 billion, for the simple reason that we wouldn't have 6.7 billion if it weren't for how fossil fuels (oil and natural gas) have allowed our agricultural output to boom. And with oil production hitting a peak and about to decline, agricultural production won't be far behind.

Oil first entered general use around 1900 when the global population was about 1.6 billion. Since then, the population has quadrupled. That's not a coincidence.

5. **Peak Oil is going to hit like a ton of bricks.** Peak Oil doesn't mean *running out of oil*, but rather oil production *hitting a peak*. That's because we are rapidly running out of cheap and plentiful oil, and the oil we have left is harder to get and therefore much more expensive.

   Inexpensive oil supports our very way of life, as we know it. It is crucial for our transportation, food production, economy, and basically everything that we use on a daily basis. Again, if we ran out of oil tomorrow morning, our civilization would end tomorrow night.

   I don't think we're going to run out of oil. I think it will be used in some form in our grandchildren's day. But in the long run, it's going to get a lot more expensive—probably so expensive that we will have to seriously change our way of life, or have change forced on us.

   All in all, it's a recipe for much higher prices. As long as the world's civilization runs on oil, we'll pay whatever it costs. There are alternatives to oil, but they aren't ready yet.

   Oil prices went down in 2008—great! But when prices go lower, oil companies (1) stop their high-cost production and (2) stop looking for more oil. So, cheaper oil prices just lay the groundwork for the next oil shock.

   And what does that mean? That means that sometime in your future . . .

   Gasoline prices will go much higher. As in, high enough to cause a severe economic disruption and send the country sliding into a recession, or worse.

   Get used to bumpy roads. Roads are paved with asphalt, and that requires oil. The last surge in oil prices sent paving bills soaring by about 25%, so cities and states are cutting back on needed roadwork. That means more potholes as you drive back and forth to work—that is, if you still have a job.

   Your neighborhood will have a lot of empty homes. An oil crisis will bring an economic crisis, and that will be bad news for already strapped U.S. consumers and

homeowners. Higher fuel prices are going to squeeze consumers mercilessly, worsening this problem, and perhaps even *doubling* the number of Americans kicked out of their homes.

Prepare for heating oil shock. Heating oil prices could double. If you heat with natural gas, you won't be spared—an energy crunch could send the price of nat-gas much higher as well.

Prepare for rolling blackouts. Our national power grid runs on natural gas and coal (and some nuclear power), so it might sound safe, but think again. Our natural gas supply is under threat, and it could be devastating for the American way of life.

Brace yourself for higher food prices. If oil and gas become more expensive, food costs will go along for the ride.

These are just *some* of the changes you may face as oil spirals higher. And the rise in oil prices might *not* be gradual. There are a number of triggers that could send oil prices skyrocketing overnight.

Four Forces That Could Cause the Next Oil Spike. Let's look at four wildcards that could cause an oil price spike—a sharp, sudden movement in oil prices. They include an Islamist takeover of Saudi Arabia, a confrontation with Iran, an al-Qaeda attack on U.S. oil facilities, and potential killer hurricanes in the Gulf of Mexico.

1. **Islamist takeover of Saudi Arabia:** The threat of militant Islamic attacks on Saudi oil facilities seems to have eased for now. But in recent years, the Saudis have had managing expectations of future capacity heading steadily downwards. All in all, Saudi Arabia is a mixed bag, and still has potential to have an explosive effect on oil prices.
2. **A confrontation with Iran:** The United Nations nuclear watchdog has warned that a military strike on Iran to prevent it from developing atomic weapons would turn the region into a *fireball*. Iran would probably use both the threat of blocking the flow of oil out of the Gulf and an actual sharp reduction

of its exports of oil to spike the price of oil. And that would almost certainly send prices spiking.

3. **An al-Qaeda attack on U.S. oil facilities:** Al-Qaeda seems disorganized, demoralized, and downright unpopular in much of the Muslim world. However, it remains very popular in so-called U.S. ally Pakistan, where a secret agreement between the Pakistani government and certain tribes allows al-Qaeda-linked militants to remain in North Waziristan. If al-Qaeda launches another attack on the United States, our energy infrastructure would be a likely target.
4. **Hurricanes:** The Gulf of Mexico is home to 40% of the United States' refining capacity, along with 20% of the natural gas and 30% of the oil produced in the United States. Hurricanes Katrina and Rita proved that the Gulf of Mexico is America's soft underbelly, vulnerable to a devastating punch from Mother Nature during hurricane season.

   Category 5 systems, such as Hurricane Katrina at its peak over the Gulf of Mexico, have winds greater than 155 mph. And while offshore platforms have been reinforced since hurricanes wreaked havoc in the Gulf of Mexico's *Energy Alley*, all it would take is one bad storm in the wrong place to still swamp refineries or even knock out the Louisiana Offshore Oil Port (LOOP), which is connected to 50% of U.S. refinery capacity.

How to Prepare. Basically, in a major energy crisis, you'll have to find alternative forms of transportation. Your job is at risk, food could become scarce, and civil unrest could break out in more urban areas. If you live in a northern climate, you could freeze to death. If you live in the Sunbelt, you run a higher risk of disease and heat stroke.

There are ways to prepare for these things:

- Stay plugged in to the local news. If you are on the Web and use Google, set news alerts for fuel shortages and gasoline shortages.
- If you're not the kind of complete idiot who could accidentally blow yourself up with a can of gasoline, get some jerry cans—cans specifically designed to store gasoline.

I recommend you only fill them when you hear that fuel shortages are beginning. *See Chapter 10 for more on storing gasoline and alternate transportation.*

What About a Long-Term Oil Collapse?

There is a nation that is living through Peak Oil right now. When the Soviet Union collapsed in 1990, Cuba's economy went into a tailspin—85% of its trade disappeared. Cuba's imports of oil were cut by more than half and its imports of food fell by 80%.*

Transportation ground to a halt. Without a substitute for fossil fuels used in large-scale farming, agricultural production plummeted. People went hungry—the average daily caloric intake in Cuba dropped by a third—and the average Cuban lost 30 pounds.

There were frequent blackouts in Cuba's oil-fed electric power grid, up to 16 hours per day. This went on for years! Without power, refrigeration didn't work. Without refrigeration, food spoiled and the food crisis became even more acute.

But it wasn't the end of the world. Cubans started to grow local organic produce out of necessity, developed biopesticides and biofertilizers as petrochemical substitutes, and incorporated more fruits and vegetables into their diets. Today an estimated 50% of Havana's vegetables come from inside the city, while in other Cuban towns and cities, urban gardens produce from 80% to more than 100% of their food.

Since they had no fuel for their cars, they walked, biked, rode buses, and carpooled. Cubans are also replacing petroleum-fed machinery with oxen, and their urban agriculture reduces food transportation distances.

Today, Cuba's life expectancy is the same as in the United States, and infant mortality is below that in the United States. The literacy rate in Cuba is the same as in the United States.

Despite the peak oil crisis, Cuba maintained its free medical system, one of the major factors that helped them to survive.

The Cubans showed an amazing ability to adapt, had a government that was willing to try anything in pursuit of long-term goals, and the people pulled together as a nation and in local communities to take care of each other. Will the United States, a much more car-focused, *me*-oriented society, be able to make that transition? Without violence? Maybe.

*Megan Quinn, "The Power of Community: How Cuba Survived Peak Oil, "Global Public Media, Feb. 25, 2006, http://globalpublicmedia.com/articles/657.

But Cuba's adaptation still doesn't make it a place you'd want to live. Along with a repressive government, it still has plenty of problems, many of which have been worsened by the fuel crisis.

And Cuba isn't immune from the global economic crisis, either. Lines are getting longer in Cuba, electricity is being cut back, and food rations are getting smaller.

The Cubans are to be congratulated for not letting their fuel crisis spiral into a severe food crisis. In contrast, the United States—a nation that is designed around the automobile—is almost guaranteed to see a fuel crisis turn into a food crisis.

A University of Michigan study in 2000 states that every calorie of food energy consumed in the United States embodies over seven calories of non-food energy. Other studies place the ratio at 10 calories of energy for 1 calorie of food.

What's more, the food on your dining table travels an average 1,200 miles to get there. Along with wheat from Iowa and potatoes from Idaho, we eat Granny Smith apples from South Africa, bananas from Honduras, and grapes from Chile.

Now, we give the world back much more than we get. Agriculture in Europe, America, and Australia produces 80% of the world's wheat exports, and 86% of corn exports. If oil and gasoline prices continue to climb, those exports will start to fall. And that could be the difference between life and death for two billion chronically malnourished people in the world.

- Look into alternatives to heat or cool your house. Depending on your locale, climate, and financial situation, a woodstove or solar backup might be a worthy investment.
- Have a month's worth of food on hand. I can't emphasize enough that if we have an extreme fuel shortage, your local supermarket is probably going to run out of food *very* quickly.

Now for the good news: I don't think we're going to run out of gasoline overnight, and I think we'll see a lot of mini-shortages before a major fuel emergency starts. Our energy supply lines are more resilient than you might think. But a mini-shortage can happen after any natural disaster. So it's best to be prepared.

Food Crisis—The Era of Cheap Food Is Over

Over the past eight years, the price of food worldwide has increased 75%; the price of wheat has gone up a dramatic 200%.[4]

And the rate of inflation is accelerating. In a recent report, the United Nations predicted that food prices are likely to remain high for a decade.

Here are some facts:

- As of December 2008, 37 countries faced food crises, and 20 had imposed some sort of food-price controls.
- The prices of the world's three main grains—rice, wheat, and corn—have more than doubled in the past year.
- Part of rising food prices is due to rising fuel prices—as the Saudis raise the price of the oil they sell us, we're going to be raising the price of wheat we sell them.
- Another part of the equation is weather. Extreme weather shifts over the past two years have reduced the worldwide wheat harvest by nearly 10%. And it's not just wheat. Since 1971, in the United States, droughts or floods have wiped out up to a third of the Midwest corn crop four times.
- Wheat production in South America and Western Europe has been cut from 5% to 20% in each of the past two growing seasons.
- Australia was once the second-largest exporter of grain, harvesting about 25 million tonnes in a good year. But the worst drought in a century reduced the crop to only 9.8 million tonnes in 2006 and 13.1 million tonnes in 2007.

Now, this year could be different. If good weather holds, we could see record crops that would send prices tumbling.

On the other hand, people in China and India are changing their diets, eating more and better food.

- The Chinese ate just 44 pounds of meat per capita in 1985. They now eat over 110 pounds a year. Each pound of beef takes about seven to 10 pounds of grain to produce, which puts even more pressure on grain prices.
- In fact, over the next decade, according to tentative U.N. and OECD forecasts made in February, the price of corn could rise 27%, oilseeds like soybeans by 23%, and rice by 9%.

- U.S. consumers know that food prices are already rising. The Bureau of Labor Statistics reports that ground beef, milk, chicken, apples, tomatoes, lettuce, coffee, and orange juice are among the staples that cost more these days.

Overall, food prices rose nearly 5% a year in 2007 and 2008. And this is already having an effect. A survey by the Food Marketing Institute showed the average number of weekly shopping trips falling below two per household for the first time.[5] Food banks are seeing increases in their overall client loads.

If things worsen, we'll probably see food riots. Americans rioted over food in the Great Depression,[6] with the former middle class smashing the windows of grocery stores and grabbing everything they could lay their hands on.

Could that happen again? Yes! The U.S. food supply is more vulnerable than ever, due partly (or mostly, depending on your point of view) to the Green revolution—the advances in agriculture that allowed more and more food to be grown by less and less people, usually at a cost of more and more energy.

Energy consumption by agriculture has increased 100 times, or more. According to 1994 data, 400 gallons of oil equivalents are expended annually to feed each American. The energy consumption breaks down as follows:

30%	for the manufacture of inorganic fertilizer
18%	for the operation of field machinery
15%	for transportation
12%	for irrigation
7%	for raising livestock (not including animal feed)
5%	for crop drying
5%	for pesticide production
8%	miscellaneous[7]

These estimates don't include the energy used in packaging, refrigeration, transportation to retail outlets, and cooking.

At the same time, the vast majority of Americans have gotten further and further away from their food sources. Many Americans have never been to a real farm. End result of all this—some depressing facts about Americans and food:

- 1% of the U.S. population grows all of the food for all Americans.[8]
- Most Americans know essentially nothing about where the food they eat every day comes from, and they don't want to know. All they know is it's cheap, it's as close as their local store, and it's there in enormous quantities.
- Nothing is stored for very long in a supermarket, but then, with just-in-time inventory, nobody stores anything. Grain is produced and stored in the Midwest and shipped daily to the rest of the United States.
- Again, the lion's share of grain produced in the United States comes from a concentrated part of the Midwest—Missouri, Illinois, Iowa, and Kansas—and moved to the coasts, where two-thirds of Americans live, by only two railroads. The bulk of the food we eat comes from grain. Half of what a meat animal is raised on is grain so when you eat meat you are really eating grain, primarily corn. The grain our food animals eat is not produced where the cows and pigs are located.
- The system we have now is a huge contrast to what the United States did up until the 1980s. At one time, up to a year's worth of grain was stored in elevators around the country. But now, very little is stored. We produce what we consume each year. So what's plan B if something goes wrong? ***There is no plan B.***

This disconnect between modern American life and our food source will likely prove deadly in a real energy crisis or another emergency that disrupts our national transportation system or food supply.

Heck, in order for riots to break out the whole food supply doesn't have to be wiped out. It just has to be threatened sufficiently. And if heavily armed Americans start to panic about food, there won't be enough police and National Guard to hold the line between order and chaos.

How to Prepare. The devastating potential of a food shortage is why having your own food storage is so important. For more on that, see Chapter 4. Long-term food storage is daunting, so start with building up just a week's supply of food and water for everyone in your household. If even a week is too big of a task for you to tackle, just work on gathering three days' supply of food. If you have three days' worth of food in emergency storage, plus whatever

you have in your cupboard, you'll be way ahead of most of the semi-conscious land mammals on your block.

I also recommend you grow a garden; we'll cover that in Chapter 8. Most U.S. gardens are only 100 square feet in size. That's not enough to feed your family, but it is plenty enough to make your emergency rations palatable as you wait for normal life—or whatever comes next—to be restored.

These disasters that I've outlined here may still seem a little esoteric. You might be thinking, civilized people don't *really* have to worry about living through a societal collapse, do they? In the next chapter, we'll look at a couple of real-life stories of people who did just that—in the societal chaos of post-Katrina New Orleans and the economic and civil chaos of Argentina.

The Least You Can Do

- Learn and follow the basic fire safety precautions explained in this chapter.
- Keep fire extinguishers in your bedroom and kitchen.
- Make sure you have working smoke detectors for every floor of the house.
- Buy flood insurance coverage and stay alert during stormy weather.
- Stock up on extra food now, before an emergency strikes.