

By Rick Docksai

Changing Agriculture From the Ground Up Africa's farmers innovate to meet formidable challenges, offering lessons for the rest of the world, says the Worldwatch Institute.

Hunger, water shortages, and environmental devastation are looming global problems, but farming communities in Africa have workable solutions, according to the Worldwatch Institute's *State of the World 2011*. The report documents improvements that growers throughout the continent are implementing, sometimes with outside help and sometimes on their own, to increase yields while reducing their ecological footprints.

The report follows the completion of the Institute's Nourishing the Planet project, which traveled through 25 countries in sub-Saharan Africa. The project researchers met with individual farmers and community-based organizations working to solve the intersecting problems of hunger, poverty, and environmental degradation. The researchers witnessed reforms that they believe could be exported to other continents and bring about a massive—and much-needed—transformation in global food production and distribution.

"These approaches can feed a large portion of the world—while at the same time addressing a host of present and looming problems of environmental degradation, livelihood insecurity, and poverty," the authors write.

Chapters written by Worldwatch Institute researchers and contributing authors detail these innovations. Among them are:

- The nonprofit Heifer International Rwanda imported a South African dairy cow breed known for high milk production and gave cows

to Rwandan farmers. Recipient farmer Helen Bahikwe spent a government subsidy on construction of a biogas collection tank that would take methane from cattle manure and convert it to electricity. The fuel tank emits minuscule pollution compared with a wood-burning furnace, and it frees Bahikwe from the time-consuming chore of collecting firewood.

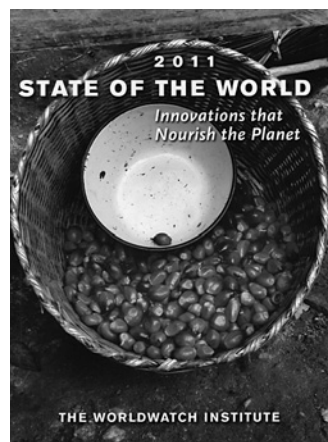
- Corn farmers in Malawi planted nitrogen-fixing trees alongside their corn plants to enrich the soil. This technique quadrupled their corn yields without using artificial fertilizer.

- The Solar Electric Light Fund, a U.S. nonprofit, introduced a solar-powered drip irrigation system to farmers in Benin. Villages that installed the system could for the first time grow fruits and vegetables year-round. Residents' diets improved and their incomes increased.

- Poor storage methods lead to much produce rotting or being infested by insects before it ever reaches markets. But a Village Community Granaries microcredit scheme enabled 27,000 small farmers in Madagascar to build new storage facilities for their rice. They cut crop contamination by 50%.

Aid organizations serve farmers best when they equip farmers to implement their own solutions, the researchers argue. Scientists can provide critical assistance, also, by partnering with farmers to help them conduct their own experiments. What is key is that the aid organizations and scientists listen to the farmers. The farmers know their crops and their ecosystems, and they have the best perspectives on what will work for their unique locales.

Farmers themselves can be great



State of the World 2011: Innovations That Nourish the Planet by the Worldwatch Institute. W.W. Norton & Company. 2011. 237 pages. Paperback. \$19.95.

resources for other farmers, as well. The project researchers reported some farmers forming research committees, farmer-to-farmer educational programs, and radio broadcasts for spreading innovations throughout whole regions.

The authors make clear that it is not just Africa that needs farming innovation, however. Food supplies everywhere stand at a critical juncture: Production increased substantially in the last century, but the increase

exacted huge ecological tolls that set the stage for a looming agricultural disaster this century. Agriculture is a major producer of greenhouse gases. In addition, overgrazing and excess cultivation have depleted soils and compromised their ability to nurture bountiful crop yields in the future.

Meanwhile, flaws in the distribution chain keep food from reaching all the consumers who need it. At least a billion people on Earth continue to suffer from severe malnutrition. In Africa, child malnourishment has increased 30% in the last 30 years.

As the world population continues to climb, and climate change strains communities everywhere, keeping food supplies stable will be more important than ever. Present-day adoption of sustainable farming practices stands to benefit not only the farmers, but all of humanity, in the long term.

"Healthy rural economies are also fundamental to global sustainability," the authors write.

State of the World 2011 tells of the ground-level successes taking place on a continent not often associated with success. The authors objectively state the problems facing Africa and the rest of the world, but illuminate

a multitude of encouraging answers to them that are already saving lives and livelihoods. It is an eloquent, painstakingly researched sound of warning and expression of hope.

About the Reviewer

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Introduction to Personal Futuring

You can't predict your future, but you can direct it, says a professional futures workshop leader.

You may find yourself living in a shotgun shack.

You may find yourself in another part of the world.

You may find yourself behind the wheel of a large automobile.

("Once in a Lifetime," song lyrics by David Byrne et al.)

Anyone who has heard the Talking Heads' hit song "Once in a Lifetime" will agree with the lead singer that a person's future holds many alternative possibilities. But unlike the song's protagonist, you don't need to look around one day and tell yourself, "Well, how did I get here?"

Verne Wheelwright, a professional futurist, emphasizes in his new book *It's Your Future ... Make It a Good One!* that the years of life ahead of you are much less mysterious than you might believe. With proper thinking and evaluating, you can obtain a clear sense now of the direction your life is heading in and what you can do to guide it toward the outcome that you want.

"You will be surprised to find out how much you can know about your future. And, you will be surprised at how much influence you can have over your future," he writes.

Government agencies and businesses throughout the world rely on formal foresight exercises to help them identify plausible futures and plan ahead how they will navigate them. Wheelwright adapts these exercises to the personal level to show how you can thoroughly map out where you might go—and where you might want to go—in the next 10, 20, 30, or more years of your own life.

"If you have a plan for your life, then as you make daily decisions, small as they may be, you will keep moving toward your plan and toward the future that you want for yourself," he writes.

Wheelwright's methods begin with you observing your present situation and your past. Next, you develop several scenarios for what your future might entail: best case, worst case, most likely, and a few unexpected "wild card" scenarios.

Alternatively, you could backcast—i.e., start in the future and work backward. This entails having a preferred destination in mind and then working through the steps that you would have to take to reach it.

Wheelwright demonstrates how you can use Excel sheets to list the "stakeholders" in your life—family members, co-workers, supervisors, elected officials, and other individuals who can impact your future for good or ill. Then you can similarly chart the "forces" that motivate you: finances, social relationships, housing, health, etc. Don't forget to employ "environmental scanning" methods, which Wheelwright explains are how you look around to identify events and people likely to impact your future: marriage, job



It's Your Future ... Make It a Good One! by Verne Wheelwright. Personal Futures Network. 2010. 253 pages. Paperback. \$17.50. An accompanying workbook is available as a free download from www.personalfutures.net.

change, illness, divorce, and so on.

Self-awareness is integral to Wheelwright's methods, also. He advises you to determine your values, as well as your strengths and weaknesses. You must know what you want and what would be the best approach you could use for attaining it.

The future can be a bewildering and intimidating concept. Wheelwright helps readers to not be daunted, however. The exercises and strategies he lays out in *It's Your Future* can help any reader apply the long-term perspective necessary to find a desirable future and proceed

confidently toward it. —Rick Docksai

BOOKS IN BRIEF

Edited by Rick Docksai

Sustainability's Dividends

Climate Capitalism by L. Hunter Lovins and Boyd Cohen. Hill and Wang. 2011. 364 pages. \$26.

A business that lowers its fossil-fuel use is not only benefiting the planet's health; it is also increasing its own profitability, argue L. Hunter Lovins and Boyd Cohen. In *Climate Capitalism*, they demonstrate how businesses in a variety of industries are adapting to the recession by adopting policies of environmental sustainability.

It's no fluke that Toyota and Volkswagen became the world's largest car companies in recent years by marketing fuel-efficient cars, according to the authors. Nor is it too sur-

prising that General Motors regained solvency after its 2008 bankruptcy by selling hybrid cars. Companies are increasingly recognizing that wasting energy and materials is a high-risk strategy, while implementing environmental sustainability in their business models creates jobs. They also increasingly view corporate environmental responsibility as the most promising path toward improving performance, government relations, brand reputation, and management of their supply chains.

Lovins and Cohen profile major companies, such as Google and Walmart, that are embracing environmentally friendly innovations. They also profile the fast growth of new alternative-energy markets, green venture capital, and energy-efficient building design.

Climate Capitalism portrays a hopeful, sustainable future for global commerce: Even if some business leaders used to think that their profit margins and the environment's health were mutually exclusive, they will very likely think otherwise in the years ahead. Market watchers, environmental advocates, and general readers of all kinds will find in *Climate Capitalism* a compelling counterweight to business as usual.

Public-Service Futures

Jobs That Matter: Find a Stable, Fulfilling Career in Public Service by Heather Krasna. JIST. 2010. 292 pages. Paperback. \$14.92.

Even in slow job markets, those who use the best job-search strategies will find many opportunities for rewarding careers in public service, says career advisor Heather Krasna in *Jobs That Matter*.

"Public service" jobs are ones whose main objective is solving societal problems, rather than earning profits or promoting an association's members' interests. Public-service opportunities abound in govern-

ment, the nonprofit sector, and the growing field of social entrepreneurship. Krasna gives readers a detailed breakdown of dozens of job categories, projections of their future hiring



rates, and resources for finding jobs in each field.

Krasna projects rapid increases in hiring for many types of public-service jobs, such as social work, public relations, human resources, and epidemiology. Career opportunities in public works—including

urban and regional planning, civil engineering, and water treatment—are also set to increase at rapid rates. And although print journalism jobs are disappearing, the future looks promising for digital media strategists who know how to utilize social media to launch effective viral marketing campaigns.

Jobs That Matter thoroughly assesses the job market and what it will offer in the years ahead for job seekers who want to use their skills to serve others. With the book's consumer-oriented focus, job seekers will find it very approachable and useful.

When the Oil Wells Run Dry

Life Without Oil by Steve Hallett and John Wright. Prometheus. 2011. 400 pages. \$26.

Petroleum enabled the world population to reach its present-day total of 7 billion, argue environmental scientist Steve Hallett and journalist John Wright. They both doubt that this population will sustain itself once oil supplies run low this century.

Credible evidence suggests that we have already entered the era of peak oil—when the world has discovered all the oil there is to discover and supplies will steadily shrink ever after. Oil yields have been declining in the United States,

Venezuela, and every other major producing nation, and most large oil companies have been reducing their investments in exploring for new reserves.

The oil companies are planning for a future beyond oil, and the rest of us would be wise to do so, as well, Hallett and Wright warn. The authors expect the point of noticeably depleted oil supplies to be as soon as 2015. Vast disruptions in modern life will follow.

Nations will rush for coal, the easiest substitute for oil, and greenhouse gas emissions will accelerate. Astronomical spikes in energy prices will set in. Russia, which possesses some of the largest remaining oil reserves on earth, will flourish, but the United States, India, and most other countries will be at risk of dramatic economic contractions. The Middle East will descend deeper into violence as national governments clash for remaining reserves.

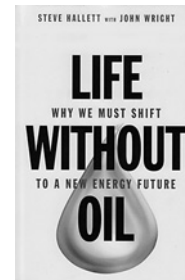
Global hardship is inevitable, Hallett and Wright conclude. Alternative energy and ecosystem conservation will not save us from it, even though they are both necessary. The world will essentially have to rebuild itself into a new civilization that exists within nature's limits.

Life Without Oil is a grim forecast that is sure to encourage deep thinking and debate about human society's future. It may resonate with conscientious economists, environmentalists, and public policy analysts.

It Pays to Share

The Mesh: Why the Future of Business Is Sharing by Lisa Gansky. Portfolio. 2010. 242 pages. \$25.95.

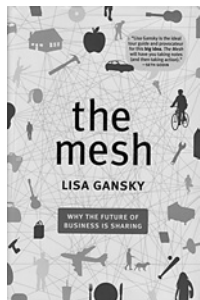
A new business model is emerging based on sharing rather than selling



and owning. Entrepreneur Lisa Gansky calls the new model the Mesh and reports that a variety of new businesses are using it to become far more responsive to their customers' wants and needs.

Mesh businesses rely heavily on social media, online marketing, and word-of-mouth recommendations to gain new customers, interact with them, and deliver to them extra-personalized services at far lower economic and environmental costs.

Gansky profiles dozens of Mesh businesses and describes the strategies that most often help them succeed. Some Mesh businesses



rent products: Netflix lends movies, for example, and Zipcar offers cars that customers borrow and drive on an as-needed basis. Others sell wares that they produce in close collaboration with their customers: Chocolate merchant TCHO rolls out new flavors in as little as 36 hours by continuously testing "beta versions" of recipes on customers.

Aspiring entrepreneurs should take great interest in *The Mesh*. As Gansky notes, all those who have products that their communities would enjoy sharing could launch successful Mesh businesses.

Breakthroughs Gone Wild

The Very Next New Thing: Commentaries on the Latest Developments That Will Be Changing Your Life by Gini Graham Scott. Praeger, 2011. 184 pages. \$34.95.

Woolly mammoths could once again roam the frozen tundras. People recently killed by freezing or drowning could be brought back to life. And chimpanzees might take up day jobs in professional movie studios as cinematographers and camera operators.

These are just a few of the seemingly impossible developments that Gini Scott, founder of Changemakers Publishing and Writing, argues could be possible within our lifetimes once cutting-edge scientific research taking place today attains further fruition.



Many of these developments are bound to be controversial. For instance, Scott tells readers that medical researchers recently inserted human DNA into newborn pigs. The pigs grew to adulthood and were able to receive donated human blood, which would normally be incompatible to pigs. Scott speculates how scientists might one day build upon this experiment: Could actual human-ape, human-dog, or human-cat hybrids live among humans? Human-hybrid marriages and questions over whether to bestow citizenship on hybrids would loom large.

The Very Next New Thing is a walking tour of our future world radically made anew by technologies and discoveries that the scientific community has just recently grasped. General audiences who are curious about what today's science could bring to tomorrow's world will find it an exciting and engaging read.

Reality Check for Virtual Living

Virtually You: The Dangerous Powers of the E-Personality by Elias Aboujaoude. W.W. Norton & Company, 2011. 349 pages. \$26.95.

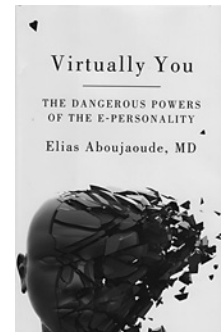
The Internet has a propensity for bringing out reckless, cruel, and sometimes psychopathological behaviors in people who are normally rational and stable, says psychiatrist Elias Aboujaoude in *Virtually You*.

Citing clinical surveys and a series of patients that he personally treated for Internet-related behavioral disorders, he describes how the seeming unreality of cyberspace can lead Internet users to say or do regrettable things online and wreak real damage to their careers, relationships, and health.

We do not think, talk, or behave online as we would in everyday life, he explains. On the Internet, our personalities become "e-personalities": more impulsive, more ambitious, and less restrained by common sense and personal responsibility.

Web users who are disciplined, rational, and polite in everyday life are known to fire off brusque e-mails that offend colleagues or co-workers, shop or gamble compulsively in online retail outlets and casinos, or create online profiles that brim with uncharacteristic bravado and overconfidence. And many young people are unable to pay attention to anything in everyday life for more than a few minutes at a time because Web surfing has atrophied their attention spans.

Virtually You is a reality check on the Internet's power to enrich life and, conversely, impoverish it. Readers will find a thorough, firsthand account of the destructive side of Internet use and a challenge to reevaluate who they are on and off the Web.

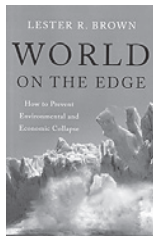


Bringing the Planet Back from the Brink

World on the Edge: How to Prevent Environmental and Economic Collapse by Lester R. Brown. W.W. Norton & Company, 2011. 210 pages. Paperback. \$14.95.

Many great civilizations collapsed due to exhaustion of their resource

bases, and our civilization is on the brink of repeating history, warns Lester Brown, president of the Earth Policy Institute, in *World on the Edge*. He traces a plethora of present crises brought on by unchecked human activity: rising food prices, shortages of freshwater, instability in dozens of failing states, pervasive malnutrition, and tangible effects of climate change, among others. The global community must change course before it is too late, he warns.



pellently describes a wide array of looming problems and then spells out how the world can fix them. All readers who are concerned for human health and the planet's health may take great interest in what he has to say.

Editor's note: An excerpt from *World on the Edge* is scheduled for the July-August 2011 issue of THE FUTURIST.

Tapping the Fountain of Entrepreneurial Youth

Young World Rising: How Youth, Technology, and Entrepreneurship Are Changing the World from the Bottom Up by Rob Salkowitz. John Wiley & Sons. 2010. 206 pages. \$29.95.

Brown presents an ambitious plan to stabilize energy supplies, conserve resources, diminish poverty, halt pollution, and cut carbon-dioxide emissions by 80%—all by 2020. The technologies that would make each goal possible are with us today. Burgeoning solar industries are taking off in the Middle East, Germany is on course to get 30% of its energy from renewable sources by 2030, and growing numbers of Northern Hemisphere communities are producing their fruits and vegetables locally in greenhouses powered in winter months by geothermal turbines.

Brown has much promising news on the poverty front, also. Liberia is a successful test case in rescuing a failing state, and Iran showcases how a government can use education and incentives to lower its population's birthrate. And the percentages of children attending regular schooling is rising worldwide.

In a brief 210 pages, Brown com-

Geography and income may separate the young people of developing and industrialized countries, but digital technology is a powerful common ground, according to tech entrepreneur Rob Salkowitz. In *Young World Rising*, he describes the spread of digital communications technology among developing nations and the new opportunities that it creates for disadvantaged young people to patent new products and launch new businesses.

With Internet access, business-

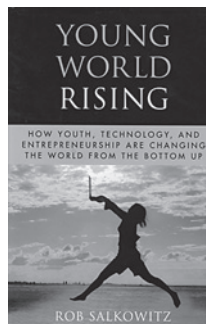
minded youths anywhere can more easily study markets, acquire training, and connect to people and resources. Civic-minded young professionals employ digital systems to make government agencies more effective and root out corruption. Youths create new software programs at low cost by "open-sourcing" their development. And young entrepreneurs start tech companies that are hugely profitable while embodying sustainability and investing back into their communities.

Since many developing nations' populations are composed disproportionately of people less than 30 years old, young "consumer entrepreneurs" have vast potential to raise developing-world standards of living. It is not certain that they will succeed. Troubled economies, unstable governments, and blowback from established business interests threaten their successes. But if this

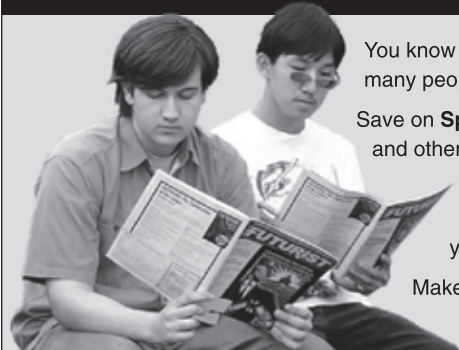
young entrepreneurial wave navigates the challenges, it could make profound and lasting impacts on the global marketplace.

Young World Rising tells of the vast changes that young people could bring to economies everywhere. It is well suited for public policy analysts, global development advocates, and for all who are interested

in how developing nations might attain greater prosperity and greater influence in the twenty-first century. □



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