

Investing In Regenerative Agriculture: Restoring Land and Building Durable Economies

by Steward



“I am talking about the idea that as many as possible should share in the ownership of the land and thus be bound to it by economic interest, by the investment of love and work, by family loyalty, by memory and tradition.”

Wendell Berry, *The Unsettling of America*

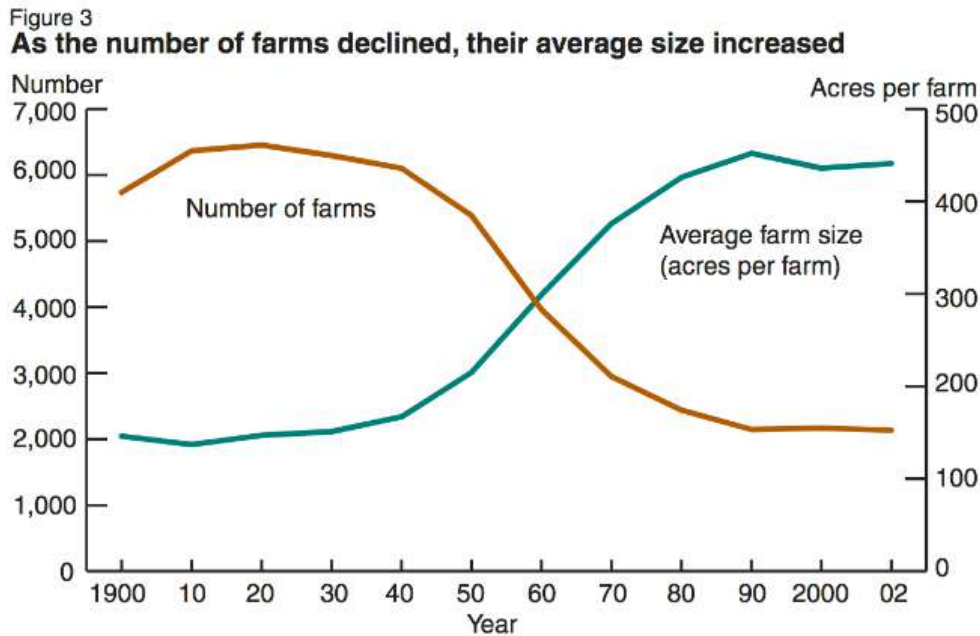
The family farm is still the predominant form of agriculture, responsible for stewarding 75 percent of the world’s agricultural resources and producing 80 percent of our food. Yet, most agricultural financing is geared toward industrial agribusiness. Regenerative farmers are in need of capital support as they restore the health of their land and communities.

Agriculture has sustained humanity for roughly 10,000 years. For 99 percent of that time, the cultivated field was where the needs of plants and people met. Symbiosis—which literally translates to “life together”—defined the relationship. Farmers tended formerly wild plants, protecting and providing for their needs, and in exchange, those plants reliably yielded food, fiber, and medicine—security for their stewards in the face of uncertainty. “Neither nature nor people alone can produce human sustenance,” writes pioneering agriculturalist Wendell Berry, “but only the two together, culturally wedded.”¹

Over the last century, the dynamic of the agricultural relationship changed dramatically. Industry evolved throughout the world wars, and the industrial processes of defense eventually found a new outlet: agriculture. Synthetic chemicals once intended for the manufacture of weaponry became staples in the production of food; industrial plants built to supply nitrogen for wartime explosives were converted to produce cheap fertilizer. This shift represented a cultural transition in the way we thought about food, as well as an agricultural change in the way we produced it. US Secretary of Agriculture Earl Butz succinctly captured the new mindset and policy stance when he described food as “a weapon in the US negotiating kit.” As time-honored forms of fertility were abandoned, the direct relationship between healthy land, healthy food, and healthy communities was obscured.

With the newfound efficiencies of mechanization and synthetic fertilizers, the number of farms in the US declined by half from 1950 to 1970. The number of people on those farms also fell, from over 20 million to less than 10 million. As the negative slope leveled off in the 1970s, Butz instructed farmers to plant “fencerow to fencerow,” urging small-scale producers and family farms to “get big, or get out.” The Secretary of Agriculture wasn’t the only one preaching the gospel of large-scale, industrial agriculture, as it was heavily by incentivized US public policy, but he was one of the movement’s most vocal proponents.

Farmers listened. In many ways they had no choice—banks and lending entities frequently denied loan requests to farmers who asked for “too little” or whose diverse plantings were viewed as “too niche.” As farmers dedicated themselves to the monocultural production of cash crops, taking on massive debt to purchase new land and farm equipment, earlier trends intensified. Overall, from 1900 to 2005, “the number of farms [fell] by over 63 percent, while the average farm size [rose] 67 percent.”² The most concerning aspect of the rapid increase in farm size over the past century is the corresponding decrease in active, agricultural stewardship.



Source: Compiled by Economic Research Service, USDA, using data from *Census of Agriculture, Census of Population, and Census of the United States*.

At the start of the 20th century, 41 percent of the American labor force was connected to their homeland via agriculture; by 1945 that dropped to 16 percent. It quartered again to 4 percent in 1970 and dipped below 2 percent by the turn of the century.³ The USDA’s 2017 Census of Agriculture⁴ shows the average farm size continues to grow (now 441 acres). Still, the vast majority of farms employ a smaller-scale of stewardship. Farms smaller than 180 acres make up ~70 percent of all farms in the US. The smallest of these (9 acres or less) use only 0.1 percent of all farmland, yet they represent over 13 percent of total farms. In contrast, farms over 2,000 acres (4 percent of all farms) account for 58 percent of cultivated space in the United States.⁵

While these trends are lauded as signs of progress and efficiency, coastal dead zones created by the runoff of industrial fertilizer, historic levels of degraded and eroded soils, and faltering family farm economies tell another story. In the age of industrial agriculture, the opportunity cost of convenience and efficiency is compromised health—the health of our soils, our farmers, and the people subsisting on industrial food.

Industrialized agriculture has delivered on its promise of more and cheaper food, but it has also driven down commodity prices and farm incomes. Over the past decade [2000-10], net farm income has fallen sharply, even as government subsidies have nearly tripled.⁶

Industrial farming is a recent and unsustainable deviation from the agricultural norm. It's also not the whole story. As of 2014, 90 percent of the world's 570 million farms were family-managed,⁷ "making the family farm the predominant form of agriculture." Estimates suggest these family farms "occupy around 70–80 percent of [global] farm land and produce more than 80 percent of the world's food in value terms."⁸ Yet, despite being "the custodians of about 75 percent of all agricultural resources in the world," these farmers do not have access to the same funding and resources as industrial farms, making them (and therefore all of us) "among the most vulnerable to the effects of resource depletion and climate change."⁹

The way we think about agriculture, and by extension, the way we fund it, is at the root of our problem. The industrialization of agriculture was celebrated as a way to "free" people from the labor of agriculture. For many it did just that, but something wonderful was lost in the so-called liberation. "The growth of the exploiter's revolution on this continent has been accompanied by the growth of the idea that work is beneath human dignity, particularly any form of hand work," Wendell Berry explains. "We have made it our overriding ambition to escape work, and as a consequence have debased work until it is only fit to escape from."¹⁰

In the Exploiter's Revolution, farming was transformed from the fulfilling stewardship of a lively and diverse agricultural ecosystem to the maintenance of an industrial machine. In the name of efficiency, we debased a noble vocation to something "only fit to escape from." As a result, direct land stewardship (or in the case of industrial agriculture, machine maintenance) has become rare among those with the socioeconomic ability to avoid it.

This disconnect is to the detriment of those farmers still employing regenerative practices. Because individuals and organizations with the financial ability to support regenerative agriculture now tend to be the least connected to it, they lack a basic understanding and appreciation of its value, and therefore, regenerative farmers lack support.

Agricultural funding has become as convoluted and unsustainable as the connection most of us have to our land and food. Agricultural finance is reliant upon subsidies that hide the real cost of unsustainable practices, and most of that capital originates from banks and government entities (as a direct extension of government policy) that understand the health of agricultural investments only in terms of output. For these reasons and more, regenerative farmers struggle to find capital from a source that understands the full value (financial, cultural, and ecological) of their actions.

The Scale of Sustainability

Whereas the exploiter asks of a piece of land only how much and how quickly it can be made to produce, the nurturer asks a question that is much more complex and difficult: What is its carrying capacity?

Wendell Berry, *The Unsettling of America*

With the bursting size of US farms, "U.S. agriculture has become increasingly efficient and has contributed to the overall growth of the U.S. economy," the USDA reports.¹¹ "Output from U.S. farms has grown dramatically." This is true; but unfortunately, the most efficient farms are not necessarily the healthiest.

Best agricultural practices require attentive management. Intricate crop and grazing rotations, nutrient recycling, and integrated pest management—the hallmarks of regenerative stewardship—cannot be practiced on the farmer-per-acre scale of industrial agriculture. Orchestrating the appropriate level of diversification is simply too complex for one person to properly manage thousands of acres. In general, as intensity of management decreases, so does the quality of care and land health.

When health is factored into the equation, industrial agriculture is neither cheaper nor more efficient; the expense of its so-called efficiencies is borne by environments, economies, and individuals. The externalized costs of conventional agriculture (including damage to water resources, treatment for microbial pathogens, pesticide impact, damage to soil, wildlife, and ecosystem biodiversity) in the United States alone has been estimated at \$5.7-\$16.9 billion USD annually (and that was in 2005!).¹²

“[Today’s] federal farm subsidies and other policies push farmers to focus on a few commodity crops, grown in ways that create costly downstream problems that taxpayers and others must clean up,” explains the Union of Concerned Scientists¹³.

“In short, federal farm policies and programs are economically inefficient, spending billions of taxpayer dollars to promote a farming system that ultimately produces poor outcomes for taxpayers, consumers, businesses, and even for most farmers.¹⁴”

Industrial farms also “employ fewer workers at lower-skill and lower-wage levels than did the traditional farming operations they replace,” the Iowa Alliance for Responsible Agriculture¹⁵ adds. “The burden or costs of providing quality employment opportunities for those who are displaced by factory farms are imposed on farming communities and society as a whole – they are externalized.”¹⁶ A farm, by design, is a cyclical, self-supporting system that, by means of committed stewardship, captures value from the basic elements of the natural world. The industrial model we have committed to accomplishes the opposite. It demands high levels of input, generates high volumes of waste, and pushes the cost of these efficiencies onto external parties.

Contrast this with the model of regenerative agriculture, which seeks to internalize as much as possible by converting waste into fuel on-farm. “In day-to-day practice,” The Demeter Association Biodynamic® Farm Standard¹⁷ describes, “the goal is to create a farm system that is minimally dependent on imported materials, and instead meets its needs from the living dynamics of the farm itself.

“It is the biodiversity of the farm, organized so that the waste of one part of the farm becomes the energy for another, that results in an increase in the farm’s capacity for self-renewal and ultimately makes the farm sustainable. This requires that, as much as possible, a farm be regenerative rather than degenerative.¹⁸”

Profit Potential

Regenerative agriculture¹⁹ is only sustainable if it can profitably perform in the field and the marketplace. Critics of the regenerative approach argue that sustainable agriculture yields at a lower rate than the conventional, industrial model. This is often true when measuring in terms of overall yield per farm; but total yield is a simplistic and faulty measure of success.

“ Robert Rodale, son of J.I. Rodale, the “father of the modern organic farming movement, ” coined the term “regenerative organic” in an effort to describe farming that “goes beyond sustainable.” For Rodale, regenerative organic²⁰ described a “holistic approach to farming that encourages continuous innovation and improvement of environmental, social, and economic measures.”²¹ ”

When thinking about regenerative agriculture yields, The Rodale Institute provides an important reminder: “the continued use of the trope that ‘we will soon need to feed nine billion people’ as justification for seeking ever greater yields is duplicitous. Hunger and food access are not yield issues. They are economic and social issues which, in large part, are the result of inappropriate agricultural and development policies that have created, and continue to reinforce, rural hunger.

We currently overproduce calories. In fact, we already produce enough calories to feed nine billion people. Hunger and food access are inequality issues that can be ameliorated, in part, by robust support for small-scale regenerative agriculture.²²

A growing body of research demonstrates that regenerative practices reduce risk, rely less on external inputs, and generate less pollution and emissions.²³ **Regenerative farms regularly yield more per acre and generate higher levels of profit because they do not require expensive inputs of fossil-fuel-based fertilizers and chemical pesticides.** The cost of labor is higher on regenerative farms (the fitting reality of a higher level of stewardship), but so are the profits.

Planting 1,000 acres in corn year after year may actually produce more annual food calories, but that corn is completely reliant upon maintaining the status quo of fossil fuel availability and the prevalence of an industrial, processed food system (not to mention its detrimental impact on biodiversity, watershed health, and soil microbiology). Now imagine that same 1,000 acres stewarded by ten or more self-sufficient farms that practice complex rotations, operate within the limits of their landscape, convert costly waste into free fertility in-house, and produce value-added products for local markets with a high degree of adaptability. One approach produces more food calories, more waste, and more commodity products. The other produces more soil, more jobs, more security, and more profit.

Value to the Farmer

A peer-reviewed study²⁴ published in 2018 compared corn grown conventionally with corn grown in accordance with regenerative practices throughout several Midwestern states. “Pests were 10-fold more abundant in insecticide-treated corn fields than on insecticide-free regenerative farms, indicating that farmers who proactively design pest-resilient food systems outperform farmers that react to pests chemically,” LaCanne and Lundgren reported.²⁵ “Regenerative fields had 29% lower grain production but 78% higher profits over traditional [industrial] corn production systems.” Though the overall yield was lower, the study found “the regenerative system was nearly twice as profitable as the conventional corn farm.”

“ In perhaps the most striking revelation for producers considering regenerative practices, the researchers found that “[p]rofit was positively correlated with the particulate organic matter of the soil, not yield.”²⁶ ”

By eliminating many of the expensive inputs required by industrial agriculture and replacing them with on-farm forms of fertility, the regenerative agriculture yield was substantially more profitable and more secure.

In addition to building more biodiverse farm ecosystems (which harbor beneficial insects that help manage pest populations), farms practicing regenerative agriculture typically have multiple, diverse revenue streams and prioritize direct-to-end-user sales. In the same way diversity protects from biological extremes (droughts, pests, floods), it also protects farmers from economic extremes—the inherent risks of committing to a single product or market.

Truly independent farmers are liberated from the volatility of global commodity prices and the profit-drain of moving their products through multiple tiers of middlemen. **The reduced costs and better margins of low-input production, combined with the pricing power of selling direct to end-users is the foundation of regenerative agriculture’s economic advantage.**

Value to the Consumer

Consumers are making it clear that they care about the impact of the products they purchase. In the 2015 Nielsen Global Corporate Sustainability Report²⁷, 66 percent of responding global consumers said they were “willing to pay more for sustainable brands.” This was up from 55 percent the previous year. The trend was especially pronounced in the younger generation. “73% of global millennials are willing to pay extra for sustainable offerings—up from 50% in 2014,” Nielsen reported.²⁸

Nielsen also details²⁹ that “Since 2014, [sustainably minded] shoppers have grown sustainable product sales by nearly 20%, with a compound average growth rate (CAGR) that’s four times larger than conventional products (3.5% vs -1.0%** comparatively).” Nielsen projects that the market for sustainable fast-moving consumer goods will expand to \$150 billion by 2021—an increase of \$14-\$22 billion.³⁰

As awareness about the impact of food purchasing decisions continues to grow, the market for sustainably-produced food, fiber, and medicine is projected to grow as well. Regenerative farms are producing in-demand products for their local communities. Investment opportunities allow customers to support sustainable farms directly, as well as through product purchases.

Opportunity for the Investor

USDA estimates³¹ total farm real estate debt at \$263.7 billion for 2019³². In 2015, 90 percent of U.S. farms were small and medium-sized family operations with under \$350,000 in annual gross cash farm income (GCFI). These farms account for 24 percent of the value of production, leading to an estimated a \$63.3 billion addressable market for small and medium-sized farm financing in the US.³³



Diversification

Investing in regenerative agriculture presents a natural way to diversify an investment portfolio. Heirloom produce in urban Detroit, perennial hemp in the Pacific Northwest, biodynamic, natural wine in the Swiss Alps—regenerative farms represent an incredible variety of ecosystems, geographic locations, products, and markets. Should one region battle drought, one crop face intensified pressure from pests or pathogens, or one market experience a recession, a properly diversified portfolio alleviates the sting.



Security

Regenerative agricultural practices can transform farms from egregious carbon emitters to restorative carbon sinks.

Regenerative practices protect investors as well as farmers and soils. ESG risks such as unjust labor practices, dependence on fossil fuels, and monoculture plantings are mitigated on regenerative farms, which are designed for increased climate resilience.



Returns

Regenerative agriculture is an underfunded market with a tremendous upside. By working with natural systems and investing in the long-term health of land and farmers, regenerative agriculture mitigates many of the risks that are inherent to industrial farming which leads to true economic growth and real returns.

Joining the Movement

Because the model of regenerative agriculture is cyclical and systems-based, it makes sense on every level: ecological, financial, individual, and communal. It may seem novel because we have become so accustomed to a linear, mechanized agriculture, but regenerative practices are old concepts that are experiencing a resurgence and rediscovery. In the 2017 National Young Farmers Coalition (NYFC) survey, 75 percent of beginning farmers described their practices as “sustainable,” and 63 percent as “organic.”³⁸

There is a growing growing desire to return to the land and manage it restoratively. A decade ago, USDA census data showed a noticeable rise in the overall number of farms, of which, the “largest growth in percentage and absolute terms was farms with less than 50 acres.”³⁹ **For only the second time in 100 years, 2007-2012 saw an increase in the number of farmers between 24 and 35 years old.**⁴⁰

Unfortunately, support for these new farmers has not grown alongside them. In the 2011 NYFC survey, 78 percent of respondents named “lack of capital” as the number one challenge for beginning farmers.⁴¹ Six years later, “land access...particularly finding and affording land on a farm income” remained the top barrier.⁴²

To restore a holistic culture of agriculture, the lack of support and cultural tradition guiding regenerative farmers of all ages and experience levels must be addressed. Steward is built to stand in that gap, enabling investment to fuel the movement of regenerative agriculture and expertise to foster its growth.

You may already be “voting with your forks,” supporting local farmers through markets or CSAs. **Steward provides the opportunity to take the next step: directly invest in the future of agriculture by financing its reform.**

What is Steward?

As the world’s first crowdfarming platform™, Steward applies a proven crowdfunding investment model to a clear and urgent need: promoting regenerative agriculture by supporting practicing farmers. **Unlike traditional funding methods, Steward investors are dedicated to supporting regenerative agriculture and, through direct, online investment, providing backing to farmers who are stewarding their land and improving the health of their families, communities, and ecosystems.**

This allows farmers to purchase the land and equipment they need to grow and investors to earn a return while supporting a future they believe in.

The vision of Steward’s work is to be part of a broader movement to reconnect with our food and land—to address the global problem that Wendell Berry details “We now have more people using the land (that is, living from it) and fewer thinking about it than ever before. We are eating thoughtlessly, as no other entire society ever has been able to do. We are eating—drawing our lives out of the land—thoughtlessly.”⁴³

The foundation and promise of regenerative agriculture is that by reversing this trend—by thinking deeply and investing our best resources into our most important vocation, we can restore a cultural symbiosis that yields healthy farms, communities, and economies by first promoting healthy soils, ecologies, and farmers. That is the definition of a good investment.

New Funding for Traditional Agriculture

●● [The] care of the earth is our most ancient and most worthy and, after all, our most pleasing responsibility. To cherish what remains of it, and to foster its renewal, is our only legitimate hope. ●●

Wendell Berry, *The Unsettling of America*

Steward was born when founder Dan Miller started talking with farmers and realized that the agriculturalists most committed to regenerative practices still face the biggest obstacles when it comes to accessing the capital they need to grow. A lot has changed in the last decade, but most lending entities continue to see these farmers as too small, too diversified, and too different.

But in the fragile system of industrial monoculture, different is a solution, not a problem. Different means farms that enhance biodiversity, build soil, and are protected from an uncertain future by the diversity of their plantings and rotations. Different means family farms that can actually support families and farm scales that align with ecosystem limits.

The Steward Model



What We Support

“ The exploiter’s goal is money, profit; the nurturer’s goal is health—his land’s health, his family’s, his community’s, his country’s. ”

Wendell Berry, *The Unsettling of America*

Because agriculture is a relational vocation, the quality of each action is of utmost importance. As our name suggests, we support land stewards. Steward-funded farms represent a wide variety of agriculture, aquaculture, and forestry projects that use sustainable practices. Qualifying farms are:



Regenerative: Practice farming techniques that increase biodiversity, enrich soils, improve watershed health, sequester carbon, and enhance ecosystem services.



Sustainable: Farming systems prioritize self-sufficiency and are capable of sustaining farmers, resources, and communities.



Appropriate: Farm designs fit the local landscape, community, and ecology.



Equitable: Farming businesses provide fair wages and avoid externalizing costs.

Funding Farms that “Fit”

Rather than requiring all farms conform to the industrial model (large scale, high efficiency, low diversity) Steward funds farms that fit their community, market, and ecosystem. Aristotle summed up the approach of regenerative agriculture quite well when he defined virtue as balance—acting “to the right extent, at the right time, with the right motive, and in the right way.”

An industrial farm may turn out a profit, but if it does so at the expense of its soil, watersheds, workers, and neighbors, the profits are unconscionable and shortsighted.

“Given all that we now know about topics ranging from the molecular structure of carbon dioxide to the psychology of human satisfaction, we need to move decisively to rebuild our local economies,” asserts Bill McKibben in *Deep Economy*.⁴⁵ “These may well yield less stuff, but they produce richer relationships; they may grow less quickly, if at all, but they make up for it in durability.”

Investing in to regenerative farmers is one of the most practical and achievable steps towards building durable, local economies.

Join us at GoSteward.com as we invest in the land that sustains us all.

Case Studies

Beiler's Heritage Acres

Kinzers, PA, USA

Summary

When the local cooperative to which he had been selling raw milk went under because of declining prices, Amish farmer Omar Beiler knew he needed to invest in the independence of his family farm. Beiler Heritage Acres used Steward funding to purchase dairy processing equipment that would allow the farm to produce value-added dairy products on-site (butter, cream, yogurt, A-2 milk and more) and sell directly to end-users.

Omar now sells more than 500 pounds of butter each week to famed local chef Spike Gjerde of Woodberry Kitchen in Baltimore. Beiler Heritage Acres has also picked up a new account with Dolcezza, a well-known regional gelato company, which was only possible with the new processing equipment.

With Steward's support, Omar was able to adapt his business in the face of challenging market conditions. Cutting out middlemen allows him to sell his premium products direct to end-users, proof that small dairy farms can still thrive in modern economies.



Fisheye Farms

Detroit, MI, USA

Summary

In 2015, Andy Chae and Amy Eckert started growing produce and flowers on borrowed land next to a dry cleaning business belonging to Andy's uncle in urban Detroit. Though they had less than one-tenth of an acre of land under cultivation, Fisheye Farms made \$10,000 in the first year.

After two years of splitting time between the original plot and additional land in nearby Pontiac, Michigan, Steward provided funding for Fisheye Farms to purchase land 10 times the size (about an acre total) and establish a hoophouse, packhouse, and the needed utilities.

In September of 2018, Andy and Amy were married on the property. As Fisheye Farms continues to grow, they are looking to Steward for more funding to purchase an additional 2-3 acres to meet the demand of the local Detroit restaurants they supply.



Continuing the Conversation

If this is all new to you, we invite you to explore the writings and resources listed below. For many of us at Steward, our journey towards regenerative agriculture was sparked by one of these great thinkers—the vision they cast for a holistic future and the inspiring work they did to make it a reality.

As Wendell Berry explains, our agricultural problem is at its heart a cultural problem, and rebuilding a healthy culture around the global production of food, fiber, and medicine will involve a great deal of conversation and education. Start with these words and then join us as we put them into practice, investing in the land we all call home.

“Where language meets the earth, there is the holy, there is the sacred.”

N. Scott Momaday

Regenerative Agriculture Resources

Books

The Unsettling of America - Wendell Berry*

Consulting the Genius of the Place - Wes Jackson

Soil not Oil - Vandana Shiva

Restoration Agriculture - Mark Shepard

Braiding Sweetgrass - Robin Wall Kimmerer

The Omnivore's Dilemma - Michael Pollan

An Agricultural Testament - Sir Albert Howard

Articles

[“The Language of Regenerative Agriculture: Terms You Should Know”](#) - CSU Chico

[“Why We Need Small Farms”](#) - National Geographic

[“Sustainable Ag Reading List”](#) - Blocks of Success

Research and Additional Information

[Savory Institute Science Library](#)

[USDA Sustainable Agriculture: Information Access Tools](#)

[Regenerative Organic Agriculture and Climate Change: A Down-to-Earth Solution to Global Warming](#) - Rodale Institute

[“Wake up Before It's Too Late: Make Agriculture Truly Sustainable Now for Food Security in a Changing Climate”](#) - UNCTAD 2013 Trade and Environment Review

*This text was formative to the vision and development of Steward. Perhaps more than any other, it captures the heart of the global agricultural crisis and the myriad benefits to be reaped by reinvesting in a regenerative agricultural system.

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