

Barriers For Farmers & Ranchers To Adopt Regenerative Ag Practices In The US

Identifying Key Levers and Opportunities

A Roadmap For Funders and Stakeholders



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GUIDELIGHT
STRATEGIES

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A NOTE FROM GUIDELIGHT STRATEGIES

In what now feels like a lifetime ago, around the summer of 2019, I embarked on a journey, to better understand the barriers and challenges that US farmers and ranchers are facing daily and how we might best support them to reimagine a new system. In many ways, the journey has felt like both an endless rabbit hole of challenges and roadblocks and an inspirational rocket of solutions and opportunities that are just waiting for someone to push the “go” button. As I sat and ate strawberries on the porches of berry farmers in central California, walked across vast acres of GMO corn fields on what used to be native prairies, and sat around the dinner table with ranchers on snowy Montana nights, there is one thing, above all else, that I took away from this journey: We don’t need to invent our way out of our current extractive agriculture system. The solutions are all around us. They are literally at our fingertips. In the soil. In the hearts of our farmers and ranchers. And in our hearts. If we could only stop to notice them.

But we’ve stopped noticing.

For too long, we’ve been fed the narrative and story that this industrial agricultural system is the only way we can feed people efficiently. And if something in the system seems broken or is failing? Well, we just simply need to extract a little bit more out of the land and out of our farmers and ranchers and feed the system a few more inputs and chemicals. If we can increase yield and efficiency at all costs, the system will work. We’ve been sold the idea that the cheaper the food, the better. The faster it is made and gets to us, the better. The more we centralize the system, the more efficient it will be at feeding everyone.

By and large, we’ve bought into this narrative and story. We want our food to be cheap. We want to eat whatever we want, whenever we want it. We’ve disconnected from the earth and the soil. We don’t really care where our food comes from or how it was produced, as long as it shows up on our plates when we want it.

To believe all of this, though, does require suspending some disbelief. It requires us to stop noticing our deep connection to the landscape. To disconnect ourselves from the larger natural systems around us. To turn a blind eye to the family farmer or farm worker who are scraping by on barely a living wage, who are one disaster away from losing it all. To be comfortable with the idea that 98% of US land is white owned and operated. To look away from the food insecurity of indigenous communities and the many other food insecure communities in what is supposed to be one of the wealthiest countries in the world. To think it totally adequate to feed our children cheap, pre-packaged, nutrient deficient food at schools. To not question the idea of feeding ourselves that same food.

Every day, it requires us to choose not to notice.

As Steve Charter, whose family has been ranching their land since 1950, shared with me as we walked across his land in central Montana, “The reason our food is not healthy is because we have lost the connection to what is deep in our earth and soil, and, subsequently, deep within ourselves. We are not going to figure this out with our brains alone. If we can get this connection back, we can change our brains. We can change the system.”

At the outset of this work, I could have never imagined what the future months would hold. I certainly could have never imagined this current moment of COVID-19 and the structural inequities and supply chain failures that it has laid bare. But now that we are here, and I am on the tailend of this year of work, it feels more important than ever that we take a pause to re-examine our food and agricultural system and its failings, including having hard conversations about our agricultural history.

Across the news these past few months, we've seen farmers leaving their crops in the ground as they have lost their wholesale markets and dairy producers dumping their milk as the demand diminished from institutional markets. All while we've also seen grocery shelves being emptied and communities facing increasingly severe food shortages. We've seen our farmworkers, processors, and other essential food workers put themselves and their families at risk to continue to feed us all, with little to no protection or support. From migrant workers not being able to enter the U.S. to work, to people being too scared or too sick to work, to untold closed businesses, there are countless potential upcoming shocks to our food system.

Our food system was not broken by the pandemic and it was not broken by independent family farmers or ranchers. It was not broken by animals/grazers on the landscape, who are now, too often, the scapegoat. It was broken by large, multinational corporations and the industry who, because of their buying power and size, have undue influence over the marketplace and over public policy. Multinational corporations have concentrated our food system to its breaking point, having extracted profits from farmers, workers, and consumers for too long.

The virus has stripped away the veneer, shining a bright light on these longstanding abuses.

Lately, I've been hearing experts and friends talk about the need to "fix our broken system." But I disagree. Our food and agricultural system is not broken. It is working exactly as it was designed to work—for the benefit of a few corporate companies and their coffers at the expense of everyone else and the land. What we need is an entirely new system. A system that is rooted in justice and equity and puts the land and all people before profits. It's unfortunate that it might take a pandemic for us to realize a new way forward, but I have hope that this moment is the wake up call that we needed.

As Leah Penniman of Soul Fire Farms states, "If you don't have any control over your food system, it essentially puts you at the whim of a racist, capitalist food system in terms of your basic survival needs."

If there is one thing that I would like you to take away from this report, it's this: Our farmers and ranchers are heroes. We don't need to invent some kind of new solution to save us. And we don't need false solutions like highly processed lab foods that are rooted in the same extractive models and backed by the current industry. Our farmers and ranchers, which must include the leadership of our BIPOC agriculturalists, can save our system and our future if we start re-valuing and re-investing in them and into a more localized food system and infrastructure.

When I sat with the elders of a Navajo tribe late last year, one of the elders left me with this thought as we reflected on our current systems and those that control it: "They are always trying to invent new technologies or innovations to correct the problems that their last inventions laid the bricks for." Through all these months, this comment has stuck with me more than most. All around me, I am seeing local producers make profound shifts to the way their food gets to customers, adjusting on the fly and responding to the moment. They are innovating daily to make sure they keep our communities fed, our soil nourished, and our neighbors healthy. Yet, when I look around at much of the funding strategies, language, and opportunities, I see a sector that is heavily focused on finding the next "game changer," the next "visionary" who is going to give us the new silver bullet to all the problems. I see investors and funders still acting as though applying capitalism and market rate returns to a system that is meant to sustain all life, a system that is fundamental for all survival, is somehow possible. What I don't see is enough of this growing interest in food and ag systems transformation, or much of the funding and investment for that matter, going to local producers, activists on the frontlines, local community organizers, local food businesses, and the technical service providers that support them daily.

What I would like to leave you with is...there are no silver bullets. There are thousands of people who are, everyday, working our landscapes, growing our food, picking and processing our food, and providing critical support to our producers. People and organizations, such as the ones listed in this report, who are drastically under-funded and under-resourced, but have a million ideas and solutions that they are helping, against all odds, to take root.

They are the diamonds in the rough.

They are the seed savers. They are the protectors of indigenous knowledge and indigenous food sovereignty. They are the activists who have fought for decades in the shadows for equitable land access. They are the small local food hub workers, working through the night to aggregate food from their local farms and get it to people's doorsteps. They are the small nonprofits fighting for organic and regenerative school and institutional food. They are the advocacy group bringing their constituents together to demand more from their legislators. They are the small food businesses, taking the time to know their local producers and partner directly with them. They are the black farmers in the south fighting to stay on the land and make sure other farmers of color can steward and own the land that is rightfully theirs. They are the women ranchers, gathering together to build solidarity amongst themselves and transform the mindsets in their communities. They are entrepreneurs helping farmers use practical technological advances to streamline and manage their businesses. They are 10th generation conventional corn farmers risking it all to try something different. They are the young farmers trying to get back on the land despite the odds against them. They are the small family farmers packing and delivering your CSA box.

These are the “game-changers.”

In our constant search, as a culture and as funders, for the next shiny new objects, we've left many of the true, unwavering leaders and solutions to scrape the bottom of the barrel for leftover change. It's time we focus our attention on getting them the resources they need to build a new regenerative agriculture system. The solutions are at our fingertips. Sometimes it's as simple as noticing them and, perhaps most importantly, funding them without the illusion of “market rate returns.” If you've paid even a little attention during this current crisis, maybe you've seen the truth—that this current system, as well as the capital structures we've built around it, doesn't work. Not for the majority of us. Not for our landscapes. And if we keep going on this way, for no one.

Maybe, just maybe, we will see this moment in time as a portal, a gateway between our past world into the new, better future. As one of my favorite authors, Arundhati Roy, recently wrote, “We can choose to walk through it, dragging the carcasses of our prejudices and hatred, our greed and avarice, our data banks and dead ideas, our dead rivers and smoky skies behind us. Or we can walk through lightly, with little luggage, ready to imagine another world. And ready to fight for it.”

I hope we fight for it. I hope we fight for the organizations and leaders in this report and the countless others that aren't mentioned here. Let's not let this moment pass us by.

Jennifer O'Connor
Guidelight Strategies

A BRIEF READERS GUIDE

Goal of This Analysis

The goal of this analysis is to highlight the key barriers our farmers and ranchers are facing in moving towards a healthy, resilient, and regenerative food and ag system and illuminate critical pathways to support the breaking down of these barriers. It is our hope that this report will help bring to light the interconnectivity of the challenges across the system and, by doing so, fuel a more systems-oriented, collaborative, and equitable approach to funding and investment across the sector.

As the sector constantly evolves and shifts, so too will this analysis continue to provide a snapshot of best possible pathways and opportunities to support our farmers and ranchers, with the goal of putting nature back in the heart of our working landscapes. While we attempted to capture many of the notable organizations and projects doing critical work to transform our food and agricultural system, there are many more organizations, leaders, and activists, especially at the regional level, that are not mentioned here or that are continuing to emerge, which makes them no less noteworthy and critical.

Intended Audiences

Primary Audience: Funders

This report was written with funders, particularly philanthropic funders, in mind as the main audience. The report provides funders a multitude of opportunities and strategic pathways to engage in supporting farmers and ranchers, as well as the communities and organizations that support them, on their path to a regenerative agricultural transition. Investors will also find a variety of potential investment strategies and opportunities highlighted throughout the report, especially in the “Financial Capital and Incentives” and “Regenerative Supply Chain” sections.

Secondary Audience: Policy-Makers

The report provides policymakers with a high level snapshot of the issues that farmers, ranchers, the landscape, and consumers are facing at both the local and national level. The report also identifies many examples of and opportunities for successful policy, especially in the “Policy Reform” section, to support the transition towards an agricultural system that is climate-smart, resilient, healthy, and equitable.

Tertiary Audience: Farmers, Ranchers and Non-Profit Leaders

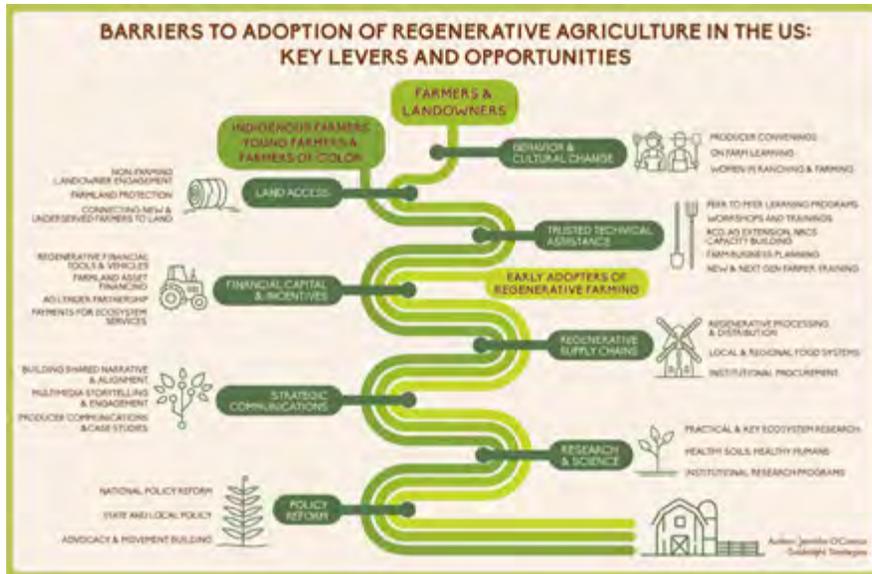
Farmers, ranchers, and the non-profit leaders and activists working across the sector were the main contributors to this report and, as such, much of what is highlighted here reflects their daily lived experiences and understanding. However, we do hope the report can be a useful resource for these stakeholders to continue to advocate for their work, as well as get a snapshot of other organizations, leaders, and activists working on similar, related, or complimentary issues.

Overview Of Barrier Sections

The main barriers we have identified for the purposes of this report are outlined in the graphic on the following page.

Within each barrier section we will:

- Highlight and provide an overview of the key levers by which funders and stakeholders could attempt to approach the barrier.
- Highlight and provide an overview of current and emerging opportunities within each lever. These are organizations, businesses, or projects working towards a regenerative agricultural transition that need our continued and increased support.



A matrix of organizations mentioned throughout the report, and the suite of levers their work touches, can be found in Appendix A.

Icon Key

Each barrier section will contain a corresponding icon, as referenced here, that you will find in the lower left corner of each page within that section. There is a lot of material to cover, so use these icons to never lose track of what section you are reading.

BEHAVIOR AND CULTURAL CHANGE



LAND ACCESS



TRUSTED TECHNICAL ASSISTANCE



FINANCIAL CAPITAL AND INCENTIVES



REGENERATIVE SUPPLY CHAINS



STRATEGIC COMMUNICATIONS



RESEARCH AND SCIENCE



POLICY REFORM



REGENERATIVE AGRICULTURE, REGENERATING OUR LAND AND OUR COMMUNITIES

DRAWDOWN SOLUTIONS ARE NEEDED TO TACKLE CLIMATE CHANGE

Even if we were able to totally eliminate anthropogenic greenhouse gas (GHG) releases to the atmosphere, concentrations of heat-trapping gases (primarily carbon dioxide, nitrous oxide, and methane) would remain at or above current levels. Therefore, the only way to return to safe concentrations is to also remove excess heat-trapping gases, most importantly carbon dioxide (CO²), from the atmosphere. Efforts to remove CO² and retain the recovered carbon in terrestrial reservoirs (e.g. underground storage, minerals, soils, root systems, living biomass, and the built environment) are often highlighted as key solutions to “drawdown.” Climate drawdown is defined as the point at which greenhouse gas concentrations in the atmosphere level off and begin to decline on a year-to-year basis.

A recent analysis by Project Drawdown of the top 100 strategies for climate drawdown, placed 8 agriculture-based strategies in the top 20. As stated in the book *Drawdown*, “it is estimated that at least 50 percent of the carbon in the earth’s soils has been released into the atmosphere over the past centuries. Bringing that carbon back home through regenerative agriculture is one of the greatest opportunities to address human and climate health, along with the financial well-being of farmers.” In the recent IPCC Special Report SR15, agriculture and food was again identified as both a significant contributor to and potential mitigation strategy for climate change. The report highlighted that it is vital that we develop removal solutions, in addition to reduction strategies, because all 1.5°C emissions pathways rely upon carbon removal to some extent. Regenerative agriculture production methods is one of the best known removal solutions we have currently.

A study published recently in *Scientific Reports* and conducted by an international group of scientists from the Chinese Academy of Science, The Nature Conservancy (TNC), and International Center for Tropical Agriculture (CIAT) says that increasing soil carbon in croplands through improved soil management and agricultural practices could contribute to annual carbon emissions reductions of up to 1.85 billion tons per year, equivalent to removing up to 400 million cars from the roads.¹ Project Drawdown puts the soil carbon sequestration mitigation potential closer to 4.8-8.7 billion tons per year.²

While the exact soil carbon sequestration potential is varied in many reports, according to IPCC, we have 12 years to radically shift agricultural systems worldwide and what is increasingly clear is that food and agriculture absolutely have to be part of that conversation around climate change. If you look at projections moving forward 10-20 years, unless we’re making some radical shifts, the impact of the food and agricultural sector is going to move us towards a point of total ecological collapse. We must act now and with increased urgency.

Our Current Ag System: Driven by Fossil Fuels and Fueling Climate Change and the Demise of Rural America

By the Numbers:

According to the EPA's latest report on U.S. Greenhouse Gas Emissions and Sinks, agricultural activities were responsible for emissions of 542.1 MMT CO² Eq., or 8.4% of total U.S. GHG emissions. Agricultural soils are also the largest anthropogenic source of N²O emissions in the United States, accounting for approximately 73.9% of N²O emissions and 4.1% of total emissions. Emissions from agriculture are increasing rapidly and are expected to continue to increase over the next decades. The largest sources of GHG emissions in agriculture are agricultural soils and enteric fermentation. With the advent of synthetic fertilizers, nitrogen applications are the largest source of N²O emissions, a GHG with 298 times the warming potential of CO². Historically, we have also lost an estimated 133 gigatons of carbon from our lands and many of these degraded areas are prime targets for restoration and changed practices.³

MMT= Million Metric Tons
CO² = Carbon Dioxide
GHG = Greenhouse Gas
N²O = Nitrous Oxide

America has an estimated 60 years of harvests left.

Losing Our Soil:

In addition to being a source of greenhouse gases, our current agriculture system is facilitating the loss of up to 3 billion tons of topsoil from cropland every year, which is windswept and washed away 10 to 40 times faster than it is replenished. Generating three centimeters of top soil takes 1,000 years and, if current rates of degradation continue, officials at the Food and Agriculture Organization of the United Nations (FAO) have stated that all of the world's top soil could be gone within the next 60 years.⁴ At this rate, America has an estimated 60 years of harvests left.⁵ Industrial farming methods have left soil vulnerable to erosion and severely taxed the fertility of what is left, making it ever more challenging for farmers to keep up. With no topsoil, American farmers, the economy, and our food security are at risk. Billions of dollars in lost revenue, millions of lost jobs, and all domestic food production are on the line.

In our current conventional ag system, a system of farming we have been implementing only over the course of the last 100 years or so, we have treated soil fertility as a matter of chemistry: a balance of nitrogen, phosphorus, and potassium (NPK) that could be achieved with the correct application of fertilizer. Among the reasons this strategy is not working is that soil fertility is also a matter of biology. Soil is alive. Or at least it used to be. By now, industrial agriculture has systematically killed off much of the diverse community of microorganisms in the living fraction of the soil, soil organic matter, which is just as essential, if not more so, than N, P, or K.

And where do all these inputs come from? It is fossil fuels that make the fertilizers, fossil fuels that make the herbicides, and oil that powers the tractor. The inputs our farmers have been forced to rely on, all fossil-fuel based chemicals, are causing serious problems for human health and the environment, including ground-water pollution, marine dead zones, obesity, alarmingly high rates of cancer and much more. Essentially, wealthy individuals who sit at the helm of our chemical-intensive agriculture system

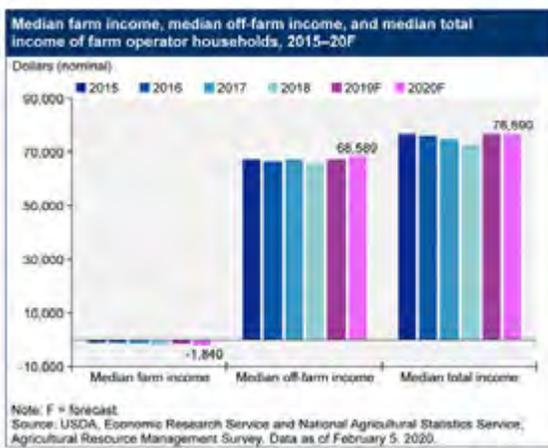
100 years ago, our farms produced 14 calories of food for every 1 calorie of fossil fuels used to grow the food; now it is almost reversed - about 10 calories of fossil fuels used for every 1 calorie of food we produce.²¹

are profiting from death and destruction. And, as many of the experts we spoke with pointed out, the roots of this extractive agribusiness approach lie in a system of slavery and the expropriation of land from Native peoples.

The median farm income in 2019 was -\$1,383, a slight increase from -\$1,735 in 2018. These incomes are expected to decline to -\$1,840 in 2020.

chemicals necessary to grow the high-yielding and mono-cropped commodity crops that our farmers are expected to produce. Basically, it has been a “get big or get out” approach since the 1970’s, at great peril to our rural communities and our land.

The result? Farmers are among the most likely to die by suicide, compared with any other occupation, according to a January 2020 study by the Center for Disease Control and Prevention. The study also found that suicide rates overall had increased by 40% in less than two decades.



Destroying Rural Communities:

On top of all the climate, ecosystem, and equity consequences of our current system, financially, it is no longer penciling out. The economics of modern agribusiness depend on massive scales of production, which seems to be the only way to afford the expensive package of machinery and

Most farmers operate at a loss, especially if you remove the aid of government subsidies, and are trapped in a system that loads them up with debt, machinery and inputs while they barely get by. According to the USDA Economic Research Service, the average farm income was \$1.3 million in debt in 2017 and, since 2013, farmers’ net income has fallen by 50%. The median farm income in 2019 was -\$1,383, a slight increase from -\$1,735 in 2018. These incomes are expected to decline to -\$1,840 in 2020.⁶ In recent years, roughly half of farm households have had negative farm income each year and, as a result, many of these households rely on off-farm income to make ends meet. Black farmers

fare even worse, with median household incomes less than half of their white farm counterparts.

In 2019, Chapter 12 bankruptcies totaled 580 filings and were up 24% from the previous 12 months and these levels are expected to continue to rise according to the USDA. Although they have not yet reached the level of the farm crisis of the 1980s, experts pointed out that this is likely due to relief from trade assistance, farm bill programs, crop insurance, and disaster aid.

Facing this income reality, our producers have no room to take on any risk and are increasingly reliant on crop insurance and other forms of extractive loans or capital that are keeping them in a cycle of more and more debt. At this rate, it’s unclear how long farming and ranching will continue to be a viable business. If we continue to push our systems and our producers to these limits, then the question quickly becomes, “What are we going to eat?”

Fueling a Health Crisis:

Consumers have fared equally as bad. In the United States, obesity and diet-related chronic disease rates are escalating, while the public’s health is further threatened by rising antibiotic resistance; chemicals and pathogens contaminating our food, air, soil and water; depletion of natural resources; and climate

Reimagining our food and fiber systems will also result in serious benefits to human health, including addressing the cost of healthcare where 20- 40% of all US healthcare spending is devoted to the metabolic diseases caused by diet.

change. These threats have enormous human, social, and economic costs that are growing, cumulative, and unequally distributed. The impact of obesity alone on the U.S. economy has eclipsed \$1.7 trillion, an amount equivalent to 9.3% of the nation's gross domestic product.⁷ Agricultural production goals focused mainly on maximizing crop yields have also led to a significant decline in nutrient concentrations over the last 50-70 years. An assessment of the nutritional concentrations of 43 crops, mostly fruits and vegetables, revealed a decline in most nutrients. "Six key nutrients—protein, Ca, P, Fe, riboflavin, and vitamin C—significantly declined between 6% to 38%."⁸ The same study also revealed higher water and carbohydrate concentrations in our food.

While grain yields have more than doubled in this time period, grain protein concentrations have declined significantly—"wheat, rice and barley as much as 30%, 18% and 50% respectively." This suggests a "dilution effect, an inverse relationship between yields and a measured nutrient. Such an effect is reason for concern, as more than half of the world population suffers from undernourishment of nutrients critical for maintaining proper health, and grain products constitute a significant portion of many diets."⁸

When it comes to farm animals, antibiotics and heavy metals are routinely used to promote growth in

The European Union recently phased out all routine use of antibiotics as animal feed additives, an example we must aim to follow.

food animals in feedlot systems. More than 70% of all US antibiotics are estimated to be fed to hogs, poultry, and beef cattle for such non-therapeutic reasons. Although evidence suggests no financial benefit, this practice may compensate for heightened disease risks and other problems from concentrating animals under confinement and for feeding them grains rather than on pasture or grass, including

contributing to the epidemic of antimicrobial-resistant infections afflicting humans. Feed additives can also pass through animals into manure that is land applied, therefore contaminating soil and potentially air and groundwater as well.

As a direct result of our chemical driven cropping systems, the USDA has estimated that 50 million people in the United States obtain their drinking water from groundwater that is potentially contaminated by pesticides and other agricultural chemicals. The US Geological Survey found 70% of domestic and public drinking water well samples to be contaminated with at least 1 volatile organic compound, pesticide, or nitrate from human sources; 12% of wells exceeded environmental or human health criteria for at least 1 sample.⁸ Two studies examining the external and economic costs of agricultural production in the United

In 2005, the US Department of Agriculture reported finding detectable pesticide residues in 73% of fresh fruit and vegetable samples and 61% of processed fruit and vegetable samples.

States in the International Journal of Agricultural Sustainability calculated US public health costs of pesticide use at about \$1.1 billion per year based only on acute poisonings plus associated illnesses and cancer. Further human and social costs come from pesticide effects on the neurologic, respiratory, and reproductive systems. In 2005, the US Department of Agriculture reported finding detectable pesticide residues in 73% of fresh fruit

and vegetable samples and 61% of processed fruit and vegetable samples. Organically produced foods have fewer pesticide residues. One 2006 study found that, "organic diets significantly lower children's dietary exposure to organophosphorus pesticides."⁹ In another report published in the Environ Health Perspect, they found that when children switched to organic diets, their urine pesticide levels dropped "immediately and precipitously."¹⁰ Exposures are also especially high for farm workers and those living near farms. Long-term pesticide health effects include some cancers and rising problems in the reproductive, immune, endocrine, and nervous system function.

Food As a Human Right:

While these are just some of the health issues at the heart of our current food and ag system, it is important to note that the right to food is a fundamental human right whose pillars we are failing to meet. In 2004, the United States signed on to United Nations Voluntary Guidelines that build on the Rome Declaration on World Food Security, Plan of Action statement:

“Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. The four pillars of food security are availability, stability of supply, access and utilization. A broad range of issues are involved in ensuring this right, including protecting nutritional quality, ensuring food safety and freedom from adverse substances, providing adequate livelihood to enable purchasing food, and avoiding abrogating the rights of others including farmers and other workers. The right to food is to be fulfilled progressively through ongoing efforts of the signatory nations, including the United States.”

Within our current system, The United States has eroded the pillars of food security. This is a critical moment in time for the movement to come together to advocate for and help restore the pillars and ensure that our food system is sustainable for all people and the planet.

IT IS BECOMING IMPOSSIBLE TO IGNORE THESE REALITIES

- Energy-intensive, external-input farming cannot be sustained in the future
- Continuing to exploit natural resources, rather than regenerating them for ecological health and valuing them for more than just profit, cannot continue
- Climate change is making farming more difficult with extreme weather; the agricultural sector needs to become more resilient
- Simply maintaining soil fertility by inserting NPK inputs does not bode well for the future of farming since soil is also a matter of biology
- Chemical inputs damage soil biology. Supporting soil biology is an essential part of regenerative agriculture
- Healthy soil is ‘living’ soil which supports a diversity of plant, animal and crop life and is resilient to the extremes of climate change

- The current system is built on the exploitation of black, Native, and immigrant communities; the system cannot truly be reformed without addressing these inequities
- Farmers and ranchers are squeezed from both ends of the food system: by increased costs for seeds and other inputs and lower prices for their products

Regenerative Agriculture as a Mitigation, Adaptation and Resiliency Solution

Agriculture is clearly part of the problem—multiple problems—including climate change. Greenhouse gas emissions from agriculture need to drop, along with emissions from every other sector of the economy, to address the climate crisis. But agriculture also has the potential to be a significant and positive part of the solution. As noted in the report “Soil Wealth”, based on an analysis of Project Drawdown’s published data, projected out to 2050, “implementing climate-friendly agricultural practices could mitigate nearly 170 GtCO₂e, while generating a nearly \$10 trillion net financial return” (GtCO₂e = gigatonnes of equivalent carbon dioxide).¹¹ The recent report “Healthy Soils To Cool the Planet” also noted the role agriculture has in climate mitigation, **“changes to agricultural land management, combined with conservation and restoration of forests, wetlands, and grasslands, can provide over 1/3 of the cost-effective climate mitigation needed to stabilize global warming below 2 degrees C.”**¹² Much of the GHG mitigation potential in agriculture comes from soil carbon sequestration, particularly through cropland management, grazing land management, restoration of cultivated organic soils and degraded lands. It is also widely accepted that a 1% increase in soil organic matter can hold up to 20x its weight in water on land. That’s around 27,000 gallons of water per acre in the top six inches of soil.¹³

Perhaps more importantly beyond climate mitigation, regenerative agriculture facilitates increased system resiliency and adaptation. By restoring and enhancing natural ecosystem processes like water and nutrient cycling, pest predation, and weed competition, regenerative agriculture improves ecosystem function and builds resilience over time. While there continues to be argument about the soil carbon mitigation potential, there is no doubt that we need to develop a system that is much more resilient and adaptive in the face of a changing climate and new crises. Highlighting this sentiment, the farmers, ranchers, and advocates we spoke with across the country attached much broader meanings to the term “regenerative agriculture” to include the host of ecosystem, landscape, and community benefits. Understanding these perspectives is critical in order to take a systems approach to overcoming barriers to adoption, realize the full potential of regenerative agricultural systems, and address the equity and justice issues that are at the heart of the current extractive system.

What Does Regenerative Agriculture Mean in Practice

While regenerative agriculture looks different in our highly varied agricultural communities and soil & climate zones, a few key principles apply:

- reducing disturbance of the soil
- minimizing chemical inputs
- keeping the soil covered
- increasing diversity, both crop and animal

Regenerative agriculture, an alternative form of food and fiber production, is a system of agriculture that enhances and restores resilient ecological systems supported by healthy soils that are rich in organic matter and capable of producing a full suite of ecosystem benefits. Among the most important are soil carbon sequestration, or taking carbon out of the atmosphere and storing it in the soil, and improved soil water retention. Integrating the principles of organic farming, agroecology, traditional indigenous knowledge, and holistic management, regenerative agriculture serves to counter the decline in biodiversity, rise in atmospheric carbon dioxide, destruction of rural livelihoods, loss of topsoil, and increased water pollution caused by our current industrial farming practices. In practice, this means growing more perennial crops, reducing tillage, reducing external chemical inputs such as synthetic fertilizers, diversifying crop rotations, integrating livestock grazing with cropping systems, and improving or establishing functional natural areas.

Author David Montgomery, in his latest book, *Growing a Revolution*, writes that soil health/regenerative agriculture offers “a triple harvest of societal benefits, along with better farm profitability. It simultaneously builds soil fertility to help feed the world and improve food quality, stores carbon to slow climate change and boost agricultural resilience to it, and conserves biodiversity on agricultural land. As a bonus, taxpayers could save money through reduced subsidies.”¹⁴

Regeneration is a both a new and very old paradigm, built upon centuries old indigenous wisdom that has been married with our current scientific understanding and innovations. For thousands of years, farmers have provided humanity with sustenance and nutrition, developing creative and progressive techniques that work with nature, not against it. Yet our society consistently overlooks and undervalues them in favor of a food system developed and promoted by corporations, not farmers.

Soil Health:

One of the most talked about aspects of regenerative agriculture is soil health. Healthy soils increase plant growth, reduce erosion, prevent against pest and disease out-break, and can serve as a carbon sink. Physically, healthy soils have high aggregate stability, low bulk density, and high available water capacity. Chemically, healthy soils have neutral to slightly acidic pH, abundant and stable levels of phosphorus and potassium, adequate levels of micronutrients, and low salinity. Biologically, healthy soils have large amounts of organic matter, high levels of active carbon, adequate and stable levels of mineralizable nitrogen (having too-high levels of nitrates can decrease soil health), and a thriving microbial ecosystem.

As described in Andrew Stevens’ 2015 report, one can “categorize the various benefits of soil health into several distinct groups: in one dimension, ecological/environmental benefits vs. agronomic benefits, and in another dimension, private benefits vs. external benefits. Ecological/ environmental benefits are those that contribute to the resiliency of the area without directly increasing agricultural yield, while agronomic benefits are those that manifest specifically in increased yield. Private benefits are those that are realized by a farmer, while external benefits are realized by others. The table below illustrates these distinctions.”¹⁵

	Ecological/environmental	Agronomic
Private	<ul style="list-style-type: none"> • erosion control • local biodiversity, natural beauty, etc. • flood control 	<ul style="list-style-type: none"> • increased yields (direct effects) • pest control • reduced fertilizer expenditures • less necessary irrigation
External	<ul style="list-style-type: none"> • erosion control • cleaner water (fewer nitrates, etc.) • flood control • carbon sequestration 	<ul style="list-style-type: none"> • lower risk for pest outbreaks • lower risk for disease outbreaks • fewer unwanted nitrates from runoff

Original Source: The Economics of Soil Health, Andrew Stevens 2015

Water:

Regenerative farming practices—specifically perennial pasture, crop rotation, planting cover crops, and avoiding synthetic pesticides and fertilizers—increase the biodiversity and organic matter content of our soils. Functionally, this creates channels for air and water movement, resists compaction, and allows for soil organisms to breakdown potential water contaminants in runoff. By maintaining surface residues, roots,

“Regenerative is definitely common nomenclature in ag right now. Everybody’s talking about it, but there’s a lot of confusion around what that means. Carbon is definitely the prettiest girl at the dance right now, but there’s so much more to consider in terms of biodiversity, water, ecosystem services and rural livelihoods.”

and soil structure with better aggregation and pores, soil organic matter reduces nutrient runoff and erosion, filters and stores water well and releases it slowly between rain and irrigation events.

By setting up our farming system to have higher water retention and infiltration rates, we decrease the amount of irrigation water required as compared to unhealthy or conventionally managed soils. Lower irrigation requirements reduce the need

to pump water out of rivers and aquifers, both lowering operational costs and leaving more for others. And the water we leave for others is made clean by healthy soils that have been weaned of highly soluble fertilizers and pesticides that often pollute local and downstream water sources. Each 1% increase in soil organic matter helps soil hold 20,000 gallons more water per acre.⁵ And heightened water holding capacity also means crops are more resilient through times of drought or heavy rain.

Putting Community at the Heart of “Regeneration”

In interviews with farmers, farm advocates, and activists of color across the country, nearly all interviewees expressed a sense that intentional community-building must be a part of a truly regenerative approach. A university-trained researcher echoed this understanding, stating that “a lot of definitions fail if they are overemphasizing soil and not focused on livelihood of farmers and rural communities who rely on those systems. You could divorce the two, but there’s a real danger to do that.” A California rancher added to this perspective, describing the hollowing out of his rural town and noting that this was an aspect of what he called the “degenerative” current system, adding, “the social aspects of regenerative agriculture are key—they’re not spoken of very much—not only are we poisoning our water and soil, we’re killing the communities where our food comes from.”

Producers and advocates also expressed wariness about the term “regenerative agriculture” that is important to heed. Some in the field described regenerative as the “newest word that is in vogue right now” and one where “especially a lot of corporations have attached themselves to it.” One Midwest grazer contrasted regenerative to the set definition of “Certified Organic” and the murkier one for “sustainable,” noting,

“regenerative is a lot like sustainable in that we picture something much more holistic... and I have a similar concern that it will be co-opted or greenwashed over time, because it doesn’t have a set definition.” A CA rancher highlighted the importance of a shared holistic understanding, stating, “Regenerative is definitely common nomenclature in ag right now. Everybody’s talking about it, but there’s a lot of confusion around what that means.

“We understand that for a lot of people it means soil health and grassfed livestock production. But we’d expand it to say that it also includes vibrant communities—the communities where the farmers actually live. Because in order for it to be regenerative, you actually need to grow the next generation!”

Carbon is definitely the prettiest girl at the dance right now, but there’s so much more to consider in terms

of biodiversity, water, ecosystem services and rural livelihoods.” He concluded that we need to “really see how the interconnectivity of all of these things is building the resilience of the whole system.”

Equity, Justice, and Regenerative Agriculture

Critically, activists of color and those representing indigenous communities had even stronger views on the meaning of regenerative agriculture.

Activist Karen Washington of Black Urban Growers and Black Farmer Fund put it most starkly when asked how she defines the term regenerative agriculture: “I’m not going to hold back. Why do white people take things and make things sound like they’re new? These are indigenous practices! These practices have been done for centuries. How do you talk about regenerative farming without lifting up and giving credence to the indigenous people?”

Other activists of color echoed this perspective, noting the importance of “understanding that even within our movement for sustainable or regenerative or whatever, we still often end up whitewashing the story of who has access and who’s losing.”

As a result, she and other activists of color advocated strongly for an approach to regenerative agriculture that prioritizes farmers of color, indigenous, and immigrant farmers and includes “a restorative framework based on reparations—that is about relationship to land.”

Addressing and righting these historical inequities is not only just, but critical for building a movement strong enough to resist corporate influence and the co-opting of the term “regenerative” to serve entrenched interests, without meaningful climate or community benefits. Reflecting back on the early years of the “sustainable” agriculture and food movement, one activist of color shared the realization that “In terms of mainstream media [at the time], it became more about knowing where your food comes from, connection to farmers, local food. So there wasn’t a dominant conversation about power, understanding the big ag industry as just as toxic as big oil, big pharma.” And he reflected on a “heavy element of racial politics and dynamics that plays into all of this . . . and this lack of racial equity analysis was a key omission in those early years. Organizations and movements broke up over that.” Currently, he added, “We have cohorts of youth of color who are picking up their work on ‘Big Food’—but the conversation about corporate consolidation gets coded white, so we have to talk about it in a way that’s applicable for communities of color.”

Activists of color are not the only ones expressing the importance of an equity focus in expanding the adoption of truly regenerative practices. A white-led Midwest organization noted, “Our policies are ultimately rife with racial inequities. So, as we’re continuing this work in networks, our organization, which fundamentally is a white farmer-led organization, is focusing on racial equity and looking to thought leaders outside of our immediate circle. We look to our partners and allies in Native communities. They are leading on this work, and they need to be supported extensively because we’re all in this together.”

“Yes, we know that all farmers are suffering under the corporate system - but everything that is happening right now is within the historical framework of exploitation and extraction.”

As funders consider the most effective opportunities to engage as a strategic grantmaker in this space, it’s critical to acknowledge the importance of naming and addressing the racial inequities at the heart of the current extractive food system, and those perpetuated in the early years of the sustainable and organic food movement. Without this intentional focus on equity and justice, regenerative agriculture risks being undermined by the lack

of a strong multi-racial movement that takes an intersectional approach to changing the current extractive system.

With this foundation in place, activists called for prioritizing intentional work with farmers of color, Native and immigrant farmers, and the organizations that advocate for them.

Karen Washington described walking in to a recent conference held by a major national agricultural organization, where she

“I walked into a sea of whiteness.” She added, “there were no black, Mexican, Native farmers in the audience. How do you talk about equity and diversity? You talk about diversity when it comes to milking cows, or the next crop, but you never talk about diversity among people. The people came and they had so much information, but the people who needed to hear that info were not in the room. You speak amongst yourselves and you speak amongst your organizations. But you don’t speak to the people and the farmers who need to hear it.”

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“We still have trauma in our veins and until we talk about that, we negate all our efforts and you just go forward with tunnel vision.” ~Karen Washington

When considering financial incentive programs for regenerative ag, one interviewee provided the important feedback that such programs need to be structured to directly meet the needs of all people, like women and women of color producers.

“Don’t just say ‘there’s one fund and we’ll get everybody’ - it doesn’t end up working that way. If they are competing in the milieu with other mainstream or mostly white male farmers, they won’t do as well. This also holds true between white women and women of color.”

Defining Regenerative Agriculture

While definitions and narratives around regenerative agriculture are varied depending on who you ask, we have come to define regenerative agriculture as a system of land stewardship, rooted in centuries old indigenous wisdom, that provides healthy, nutrient rich food for all people, while continuously restoring and nourishing the ecological, social, and cultural systems unique to every place.

While the ecological benefits of farming with nature are becoming increasingly apparent, as described above, just as important are the social and cultural benefits. Divorcing the ecological impacts of agriculture from the social and cultural aspects of agriculture is a tactic of the current “degenerative” system. To build a truly regenerative system, we must also build resilient, economically viable, and equitable systems for farmers and for everyone who depends on them.

We Must Act Now

As these definitions and reflections highlight, regenerative agriculture has the potential to be a resilient approach that will sequester carbon, reduce input costs, promote farm viability, bolster food security, support local and rural economies, improve water retention and ecosystem resilience, and increase biodiversity all while, at the same time, mitigating climate change. It allows producers to spend their days fostering life instead of “waking up thinking about what to kill next.”

Building soils and supporting regenerative agriculture offer immense benefits and will enhance resilience. Few investment pathways are more urgent or important. All civilization rests on agriculture, and so it follows that the real revolution begins in the soil and the real revolutionaries are our farmers and ranchers. We must begin to better understand why their work is so vital to all of us and support them in their endeavors to feed all of us and the earth. If we continue to not heed nature’s warnings, history is filled with examples of flourishing civilizations that failed due to the loss of soil health.

Most landowners have a strong interest in managing their land to support these diverse values, yet they face many challenges in doing so. It takes more than just desire and vision to keep land healthy, productive and intact: it takes community, skilled labor, science, equitable access to land, knowledge of what practices will work best where, the right kinds of capital, strategic communications, supportive public policies, and so much more.

“Most people see sustainable agriculture as just ‘less bad’ than conventional ag - I want to promote a positive role for agriculture, through regenerative practices” ~ farmer from Massachusetts

ACOMA TRIBAL LANDS, NEW MEXICO



Farm/Ranch Name: Acoma Tribal Lands

Farmer/Rancher Name: Aaron Lowden

Location of Farm: Acoma Pueblo, New Mexico

Years Farming this land: 8

Crop or Animal Specialties: Heirloom corn, beans, squash, melons, chile, tobacco, and amaranth.

Ancestral Lands has been operating a program called Farm Corps since 2012 as a space to revitalize the traditional knowledge, practices, seed, and food production of Acoma Pueblo. We work with High School to college age young adults by immersing them in the practice of growing food for our Acoma community. We typically cultivate 1.5 acres through flood irrigation and 1 acre of dryland as well as a 30x96 ft. passive solar cold frame. All food stays within the community and is shared three ways; to the members of the program, Senior Center elders, and seed for our Ancestral Lands Seed Bank.

is a huge indication that Acoma's knowledge, practices, and seeds are endangered. Acoma tradition teaches that everything has a life and that we treat our crops with the care of a parent. Teaching this cultural perspective grounds our youth members in the practice and has also been the motivation for me to pass it on to the next generation. Our heirloom seed is also dependent on continual planting and propagating which as mentioned is not happening. It has been a personal mission of mine to save viable seed and disperse to the community, as well as rematriate the seed that was taken outside of Acoma lands.

Acoma Pueblo's agricultural practices have faced waves of issues that have deterred many from taking up the practices of our ancestors. The number of farmers and the practical and traditional knowledge is being lost as we lose our elders to time. This transition of knowledge has created a gap so wide that most of our young people aren't aware that we were a farming community.

Revitalizing Traditional Practices and Seeds

Personally, farming came out of the need to revitalize a piece of Acoma cultural practices that are on the verge of disappearing. There are less than 12 individuals, mostly over age 40, that consistently farm in Acoma, which is historically a farming community. This



Regenerative Practices are Rooted in Traditional Practices

All the practices we have are traditions that are already inherently regenerative and sustainable with examples of minimal or no-tilling, biodiversity, companion planting to name a few. Time, space, and

funding resources to teach and pass on these traditions are some of our biggest barriers in the work we are currently doing. In my opinion, commercial farming and soils are what funders have been trending towards in recent years. This leaves little attention and support for those that are training the next generation of farmers. I personally would like to see more funding towards indigenous peoples that have been historically and systemically displaced from their lands, waters and traditional knowledge.

“I would also love to see a resurgence of small-scale people of color community-based farms. The food apartheid is a glaring reality for those of us with little access to basic communal needs like grocery stores or running water. Prioritizing funding towards those communities will give them the agency to create the solutions to their problems and help offset the historic and current inequities in this country.”



FARM ANCESTRAL LANDS CORPS



THE MISSION

We aim to spur a movement to restore our local food systems through agriculture, seed, and traditional knowledge.



WHAT WE DO

Based in Acoma we recruit young people from Acoma ages 17 to 25 years old in a immersive holistic approach to revitalizing Acoma Food Systems. Members serve 6 month terms through the growing season and are compensated with a weekly living stipend and education award. Members learn though practice everything from field design to seed saving.



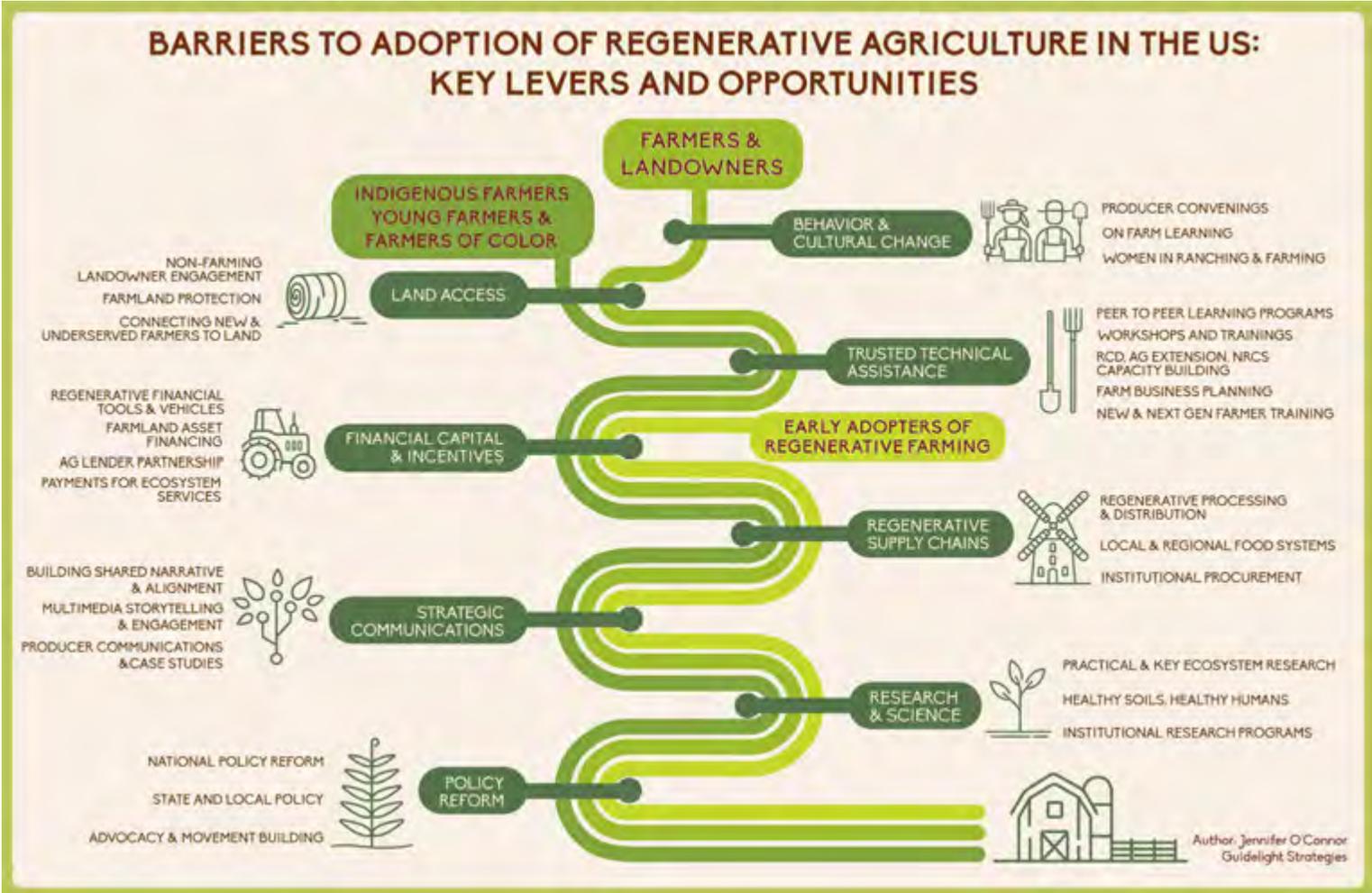
RECLAIMING OUR KNOWLEDGE

As of 2019 there are less then 10 farmers in Acoma consistently practicing irrigated farming and “nibama” or dryland farming is nearly extinct. Since 2011 we have been working to revive our agricultural knowledge, practices, seed, and cultural perspective through our young people. All our practices are inherently sustainable and are based on stewardship and conservation.

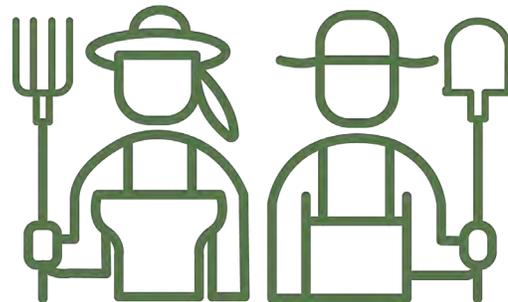
BARRIERS AND KEY LEVERS

The main barriers we have identified are listed below and, while they are presented separately here, it is important to note that most of these strategies work best in alignment with others. Within each barrier we expand on “Key Levers” and “Current and Emerging Opportunities”.

- BEHAVIOR AND CULTURAL CHANGE
- LAND ACCESS
- TRUSTED TECHNICAL ASSISTANCE
- FINANCIAL CAPITAL AND INCENTIVES
- REGENERATIVE SUPPLY CHAINS
- STRATEGIC COMMUNICATIONS
- RESEARCH AND SCIENCE
- POLICY REFORM



BEHAVIOR AND CULTURAL CHANGE



The transformative potential of regenerative agriculture has seen growing attention, but few studies and organizations have explored and focused on the processes by which farmers enter into, navigate, and, importantly, sustain the required paradigm shift in their approach to managing their properties, farm businesses, and personal lives. Transitioning to regenerative agriculture involves more than a suite of ‘climate-smart’ mitigation and adaptation practices supported by technical innovation, policy, education, and outreach. Rather, it involves subjective, nonmaterial factors associated with culture, values, ethics, identity, and emotion that operate at individual, household, and community scales and interact with regional, national and global processes.

A lack of awareness, knowledge, or willingness to change on the part of farmers and ranchers was named as a barrier by most interviewees—one stated that “the six inches between the ears is a barrier”—but importantly, this was always in the context of the larger system barriers described in detail in this analysis. A combination of the lack of trust and clear, accessible entry points was at the root of this barrier in many cases. As one farm advocate noted, “Farmers learn from each other first and can smell BS from a mile away.” Another added, “By and large in all the producers I’ve worked with, there’s a reticence to fully trust the information that’s coming from anyone but other farmers.”

The sobering barrier of farmer mental health stresses was emphasized by several interviewees and must be considered in conjunction with behavior change. As one Midwest farmer and advocate explained, “that mental stress of not being able to access capital or implement new ideas degrades one’s sense of self and potential. You can’t think creatively, and you can only see the barriers.” Recent coverage of the increase in farmer suicides underscores the fact that the willingness to adopt new practices, or lack thereof, may be driven by a sense of desperation.

The recent study conducted by Hannah Gosnell, Associate Professor of Geography in the College of Earth, Ocean, and Atmospheric Sciences at Oregon State University, dove deeply into this topic. Their findings “suggest:

1. Transformational adaptation on the farm can be triggered by crisis, epiphany, and exposure to alternative pathways
2. That decisions to transition to regenerative farming involve important non-material subjective factors associated with feelings, emotions, virtues, drives, and motivations
3. That sustained adoption is influenced by a range of environmental, economic, social/cultural, and personal/psychological factors
4. That certain types of traction can support self-amplifying feedback loops that involve ongoing experiential social learning and increasing consciousness which plays out on the landscape and in surrounding communities.¹²²

Many organizations that support on-farm demonstrations, farmer and rancher networks, uplifting and supporting women in the field, and peer-to-peer learning efforts are working to address this barrier. Through our research, many have also recommended a tiered approach. The first tier would have an implementation focus, targeting farmers most likely to adopt, and the second tier would continue to increase individual capacity and awareness by using networks and targeted, regionally appropriate language and outreach to inform other farmers about the benefits of adoption.

KEY LEVERS AND OPPORTUNITIES

Producer Networks and Convenings

Neat rows of high-yielding commodity crops are about more than just economics. A farmer's reputation for tidy fields and sound decisions has been hard-won, earned with decades of toeing the line and hard labor. The prospect of losing that community respect by trying something different, stepping outside of the status quo, can be almost as distressing as losing the farm. Sparsely populated plains and rural farming communities are lonely enough as it is, and for the unconventional farmer, skipping the trip to the fertilizer dealer means losing a friend. Thus, in most rural farming communities, it often doesn't make sense to step too far out of line.

Facing the double isolation of rural life and an unorthodox approach, sustainable producers can find moral support, community, and new ideas at gatherings and convenings without ever having to be explicit about it. As with most things, transformation is rooted in diverse and strong relationships among key stakeholders in a system and, as such, we need to build and support highly adaptive networks built on deep relationships that can navigate the transformation we need. In this way, networks, gatherings, and convenings are a critical entry point for further adoption and can be paired well with additional technical assistance and support providers as a farmer or rancher moves through the process of transition.

Advocates for women in agriculture and leaders of color interviewed both emphasized a particular need for networks and convenings that provide separate learning spaces. One leader of color saw a barrier to adoption of regenerative agriculture in the "very real relationships that need to be built between folks, and there are not a lot of spaces to do that are not white and male dominant."

CURRENT & EMERGING OPPORTUNITIES

Many of the current and emerging projects and organizations listed here, for both Networks and Convenings and On Farm Learning, are providing key technical assistance to farmers and ranchers who are interested in transitioning towards regenerative agriculture. As such, some of these projects and others are highlighted under the "Trusted Technical Assistance" barriers section below. With that in mind, we felt it was important to also mention a few convenings here that many farmers and ranchers noted as the turning point for them or the "ah ha" moment that changed their mindset about their practices and the ag system more broadly.

No Till on the Plains

No-till on the Plains is an educational organization whose mission is to provide education and networking on agricultural production systems that model nature.



They provide information for producers to adopt high-quality continuous no-till systems, and to further develop those systems. Each year No-till on the Plains presents educational events such as the world-renowned Winter Conference, Agriculture's Innovative Minds (AIM) Symposium, Whirlwind Expo field days, International tours, and regional bus tours, allowing attendees to get practical and relevant production and management information from fellow producers and preeminent scientists, all of whom are setting the reference standard in no-tillage systems.

Ranching For Profit School

This school, run by Ranch Management Consultants, empowers ranchers to transform their ranches and farms into sustainable businesses.

Founded in 1981, the organization, with over 7,000 alumni worldwide, has improved the quality of rancher's lives, the health of their land and the profitability of their businesses. They offer online courses and one week in-person courses throughout the year, where farmers and ranchers

learn to increase profit while also improving their management practices and improving the health and productivity of their land and animals. Upon completion of the course, Ranching for Profit School offers an on-going coaching program referred to as Executive Link (EL). In EL, alumni are formed into peer advisory boards and discuss business decisions and consult with each other on business related tactics.

A majority of farmers and ranchers we spoke with in the inner mountain west and northern plains cited Ranching For Profit as the organization that got them started down the path towards regenerative farming and ranching

RegeNErate Nebraska

RegeNErate Nebraska is a network of farmers and ranchers, tribes, urban farmers, supporting businesses, organizations, food consumers, and communities who are committed to a shift away from extractive industrial food production in favor of an ethical and regenerative food system. RegeNErate Nebraska is focused on developing new regenerative food pipelines that connect rural and urban communities, and break down the problems that lead to lack of nutritional food access.

Soul Fire Farm

Through their BIPOC FIRE program (Black-Indigenous-People of Color Farming in Relationship with Earth) they annually train over 100 adults to take leadership as farmers and food justice organizers in their communities and 300+ youth to heal their relationship with earth and imagine new futures.

Using land as a tool to heal from racial trauma, they work to reverse the dangerously low percentage of farms being owned and operated by people of color and increase the leadership of people of color in the food justice movement. Their graduates receive ongoing mentorship to access resources, land, and training and are invited to join their speakers collective so they can amplify their voice in the food system.

Soul Fire Farms is a sister organization to Black Farmer Fund



The Southeastern African American Farmers' Organic Network (SAAFON)

SAAFON is the first regional network for Black farmers committed to using ecologically sustainable practices to manage their land and the natural systems on it in order to grow food and raise livestock that are healthy for people and the planet. The SAAFON network allows their members to connect with like-minded farmers, to build collective power in order to achieve our visions of land-based success, and to model alternative ways of living in the 21st century.

Dakota Rural Action Farmer Network

Dakota Rural Action is structured and operates as a grassroots, membership organization of family farmers, ranchers, workers, educators, and small business people who are dedicated to social and economic justice for South Dakota people. The Farmer Network is a networking group of Dakota Rural Action members that connects beginning and established farmers and ranchers to farm-related opportunities through resource-sharing and education. The Farmer Network hosts at least 6 farm tours or skills sessions each year and presents multiple winter workshops on farm-related topics such as production, financials/record-keeping, and enterprise profitability.

Intertribal Agricultural Council

IAC was founded in 1987 to pursue and promote the conservation, development and use of our agricultural resources for the betterment of American Indian people. IAC's Annual Conference is one of the largest gatherings of Indian producers and other tribal members focused on agriculture, with over 600 attendees at its recent December 2019 gathering. IAC's programs include a technical assistance program and a recently-launched CDFI, called Akiptan, which will focus on investing in Native agriculture.

On Farm Learning

Field days are a great way for early adopters to share innovative ideas and practices with fellow farmers and ranchers and have served as an entry point into regenerative agriculture for many of the farmers and ranchers we interviewed. Hosting a field day also gives these producers a rewarding opportunity to showcase their hard work and achievements—the best practices for sustainability they have learned, in-field experiments, conservation efforts, ways to increase yields and profits, and more. Farmer-to-farmer education may be one of the best uses of time to increase the sustainability of the whole community. Producers' most preferred ways of learning new methods and practices are through hands-on activities and on-farm demonstrations. A field day encourages peer-to-peer learning and highlights real-world practices that are successful. As farmer in the Northeast noted: “we need spaces for peers to learn from each other about locally adapted practices.”

CURRENT & EMERGING OPPORTUNITIES

Midwest Organic and Sustainable Education Service (MOSES)

MOSES promotes organic and sustainable agriculture by providing the education, resources and expertise farmers need to succeed. Their Organic Field Days program educates farmers about specific organic practices that are unique to their farm and



region. These on-farm events give farmers the chance to see firsthand how successful organic farmers manage their operation and opens their eyes to new ideas and innovations.”

Practical Farmers of Iowa

From field days, farminars and workshops to their annual conference, Practical Farmers hosts many events throughout the year to help farmers connect with and learn from each other. Planning events and learning opportunities in response to members’ needs and desires is a core way in which Practical Farmers fosters farmer-to-farmer learning and information sharing. Some events – such as their field day series, annual conference and Cooperators’ Meeting – are foundational events that have defined Practical Farmers since the beginning.

Alternative Energy Resources Organization (AERO) On Farm Improvement Clubs

AERO is a statewide, grassroots membership organization dedicated to building a resilient Montana since 1974. AERO empowers neighbors and communities to build sustainable food, energy and community systems for all Montanans, right where they live. They support networks of Montana farmers and ranchers to employ the principles and practices of sustainable agriculture by building community and sharing their experiences and findings at the community level. They are also building a new generation of farm improvement clubs across their region, which are re-granting funds and other resources to producer groups that are advancing on farm research and shared-problem solving in their communities.

Women in Farming/Ranching

Women are increasingly emerging as the leading voices in regenerative agriculture. Women make up more than half the US population, and own an increasing number of farms. Surveys by The Women’s Food & Agriculture Network show that women own or co-own nearly half the farmland in the Midwest, for example. Many of these women have a strong conservation ethic and are deeply committed to healthy farmland, farm families, and farm communities. Yet, women face gender-related barriers to managing their land for long-term sustainability. And while women increasingly are the primary decision-makers on farms and inclined towards conservation, they are underrepresented in USDA conservation programs and on the boards of policy-making entities and face numerous barriers when accessing information from agencies and institutions.

Working-lands women are increasingly seeking ways to connect with one another, to promote leadership and inspire creative solutions for how best to support a growing resource of female leaders. As our colleagues at Women In Ranching state, “We can support them by organizing around simple yet powerful principles: provide opportunities for working-lands women to convene away from home, work and family; focus on personal, professional and network development; and foster increased agency.

CURRENT & EMERGING OPPORTUNITIES

Women In Ranching (WiR)

WiR emerged in direct response to an expressed need: working-lands women



throughout the West were seeking ways to connect with one another, to promote leadership and inspire creative solutions for how best to support a growing resource of female leaders. Their gatherings foster progress in ranching by building a network of social capital that is centered around empowering and supporting women's work on the land, holding space for women to explore roadblocks, and finding strength in their unique voices.

Women's Food & Agriculture Network (WFAN)

WFAN exists so that women can give each other the information, connections, and encouragement they need to be effective practitioners and supporters of sustainable agriculture and healthy localized food systems. They are engaging women in building an ecological and just food and agricultural system through individual and community power. WFAN members come from all across the US and several other countries, from diverse ages (ranging from teens to eighties) and backgrounds. They support women who are farmers, urban gardeners, environmental educators, community activists, academics, and others who care about food and our environment.

American Farmland Trust - Women for the Land Initiative

The goal of AFT's Women for the Land initiative is to engage women who own and manage farmland and ranchland in the mission to protect farmland, promote sound farming practices and keep farmers on the land. This national initiative combines three complementary strategies: (1) research into the barriers women landowners face, (2) learning circles to engage women landowners in conservation, and (3) technical assistance and policy reforms to better serve women landowners.



SPRINGS RANCH AND THE JEFFERSON CENTER FOR HOLISTIC MANAGEMENT, CALIFORNIA



Farm/Ranch Name: Springs Ranch and the Jefferson Center for Holistic Management

Farmer/Rancher Name: Abbey Smith
Location of Farm: Fort Bidwell, California

Years Farming this land: 6

Crop or Animal Specialties: Grassfed beef, perennial grasses (contract grazing)

Springs Ranch is 1,800 acres of aspen groves, natural springs and upland areas on the Warner Mountains, irrigated meadows that reach the Upper Alkali Lake in Surprise Valley and dryland pastures. It sits on the western edge of the Great Basin. The Springs Ranch is located on the Northern Lahontan Watershed and is owned by Steve and Pati Smith, who purchased it in the 1990s, and operated by Abbey, Spencer, Samuel and Maezy Smith. It is part of the Columbia Plateau Level III Ecoregion (according to The Nature Conservancy ecoregion classification). Its ecological diversity makes it an ideal location for demonstrating the application of Holistic Management to dryland pasture, rangeland, and irrigated pastures. The ranch is currently managed for beef cattle and is also home to herds of elk, deer, and other wildlife. The Jefferson Center for Holistic Management is based on the Springs Ranch. Several trainings and workshops are hosted at Springs Ranch as well as the ranch work study program.

Finding an Alternative to Commercial Cattle Ranching

I grew up on commercial cattle ranches in Northern California. It was a beautiful childhood

of summers at the river, moving cattle on horseback with my parents and brother, exploring the mountain valley fields with my brother while our mother herded sheep. I felt a tension between the beautiful life I knew on the ranch and the public perception of ranching. In the 1990s, cattle were sources of land degradation, especially public lands, and red meat was perceived to cause cancer. I couldn't make sense of it. How did I move forward with purpose and meaning? I didn't love industrial agriculture, but it was taught as the way forward as I grew up in the "get big or get out" era of American agriculture. When I met Allan Savory at Cal Poly, while I worked toward an animal science degree, I knew that Holistic Management was the way forward for me. I had to learn more about it. I traveled to South Africa after college to live on cattle farms. Later, my husband and I returned to his family's ranch (we both grew up on commercial cattle ranches) in Surprise Valley, California to raise our children, as it is deeply important to us to share our work and lifestyle with our children. We started the Jefferson Center for Holistic Management in 2014 to "empower communities through ecological regeneration."

The Slow Work of Unwinding From Toxic and Extractive Systems

I've learned an important lesson in our work. The way things grow together and intertwine can be healthy or toxic. With good planning and design

each whole within another whole is thriving—interrelated but also independent. Without good planning and design, without a sense of true mutualism in relationships (business or otherwise), growth is more like a tumor or cancer—a deep cost to one for the benefit of the other. Unwinding people from toxic and extractive systems (of business, of industry, of agriculture) is not simple. It takes a scalpel, not a hammer. It takes time, which requires patience and plain hard work. The point is this: even if people want to change practices to be regenerative, they are literally stuck in an extractive system and it takes intentional, on-going support and work to create and execute the plan to slowly, slowly leave that system and create a new way of doing business and living life.

Rebuilding and Reinvesting in a New System

In our region, we lack local supply chain infrastructure such as processing plants and slaughterhouses. This is just one example of the “get big or get out” era in agriculture’s impact on local communities and economies. The reality is: it all must be reinvested in and rebuilt.

Wherever this form of industrial agriculture is practiced in the world we find: depressed rural economies, dying communities, youth leaving for urban centers, and degraded land. There is so much opportunity to rebuild resilient, local systems. Regenerative agriculture holds so much promise for bringing life back to all involved.



WINNETT ACES, MONTANA



Farm/Ranch Name: Winnett ACES (Agricultural Community Enhancement and Sustainability)

Farmer/Rancher Name: Laura Nowlin, Land Coordinator

Location of Farm: Musselshell Plains of Montana (Petroleum, Musselshell, Fergus, Garfield Counties)

Crop or Animal Specialties: Mostly Angus cow/calf operators

Laura Nowlin is the Land Coordinator of Winnett ACES, which began as a group of Winnett area producers joining together to address the most important issues facing their community. The group began exploring proactive, positive solutions to address strengthening the existing community through education, outreach, conservation, and civic projects. ACES projects revolve around informing a wider audience about how beef is produced and how ranchers in central Montana steward their grasslands while also working to benefit the local community through workshops, access to business opportunities, and facilitating community building.

Leaving the Land Better Than You Found It

“Regenerative” should be understood to be part of the definition of agriculture already. My dad has said for as long as I can remember that, “We always try to leave the land better than we found it”—that’s a pretty good definition of regenerative

Cost to Transition Is High

The cost of changing practices and the apprehension about the unknown is one of the biggest barriers.

We recently ran numbers for the cost to

change from an annual cropping system to a grazing system. If the costs of this change are paid solely by the landowner, it would take approximately 20 years to start seeing a return on that investment. Costs are high and return is low in agriculture and changing management practices affect both people’s jobs and people’s lives, and so most are cautious about making changes.

Farmers and Ranchers as Rural Community Leaders

In our community, as I suspect is the case in most rural communities across America, the farmers and ranchers are the business leaders and community leaders, because our businesses are intertwined with the community and the community and ranches are interdependent. The person as a rancher is hard to distinguish from the person as a community leader.

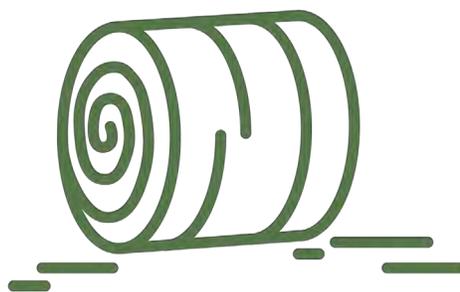


LAND ACCESS

The USDA estimates that 70% of U.S. farmland will change hands in the next 20 years, as many family operations do not have a next generation skilled in or willing to continue farming. For each American farmer younger than 25, five are over 75 years

The USDA estimates that 70% of U.S. farmland will change hands in the next 20 years

old. As land increases in value and current farmers consider retirement, they often find themselves selling their greatest asset—their farmland—to the highest bidder, rather than to a future generation of farmers. This means, where development pressure is high, more land is converted into non-farm uses, forever removing it from production agriculture. Even more common is farm consolidation or conversion of grasslands to cropland and, subsequently, the loss of small, diversified farms to industrial production systems such as GMO soy and corn.



The cost of farmland is high—so high that it is often impossible for new farmers and ranchers to get started in farming without a family connection. As we look to a new generation of producers who are open to the principles of regenerative agriculture, we need to address their ability to access land either through ownership or long-term leases. It is critical to ensure that land is conserved in ways that ensure equitable land access and financing for new, young, women, indigenous, and historically disadvantaged farmers. If we don't conserve farmland and rangeland from development, we will all lose.

Additionally, more than half of farmers are operating on rented land, and are not the decision-makers for how that land is stewarded long-term. With high lease payments and often one-to-three year leases, they have no incentive to take risks or invest in long term soil health improvements. The gap between producers and non-farming landowners is also one piece of the land access barrier.

Overall, land access issues — which should include issues of land transfer and conservation, equitable and just land ownership and reparations, land tenure, and viable land ownership models that can support new and BIPOC farmers on the landscape— are emerging as an extremely critical and time-sensitive focus area in an effort to ensure that we are not only protecting farmland, but also creating land ownership models that prioritize and ensure regenerative and equitable land stewardship in perpetuity.

KEY LEVERS AND OPPORTUNITIES

Non- Farming Landowner Engagement

Non-farming land owners, NFLOs, currently own a large percentage of the farmland in the US and, as a result, the operators are not the decision-makers on this land. Non-operating landowners control 41% of U.S. farmland, 62% of Midwest farmland and, in certain counties, non-operating landownership accounts for over 80% of county farmland acres.¹⁶

Changing the mindset of NFLOs and empowering them to make changes with their tenants and land managers is a complex and challenging process. Recent research by American Farmland Trust reveals that if farmers and landowners start talking and are provided with the right resources, NFLOs are willing to support the implementation of conservation practices on rented lands. Targeting NFLOs with educational materials

“Farmers tell me all the time, they would put cover crops on their owned acres, but not on rented acres because the landlord doesn’t want them to or doesn’t know any better.”

can improve their awareness of and willingness to support conservation and partnership with farmers to meet larger goals for their land and its legacy.¹⁶

Recognition of the need to better understand and work with NFLOs has been increasing in recent years, yet they remain an understudied stakeholder group. While engaging this group of key stakeholders in regenerative agricultural practices is critical to realizing transformation, currently there are very few organized and comprehensive projects to convene and engage NFLOs. We see this as a critical emerging opportunity for the sector.

Strategies for reaching NFLOs include: direct outreach and education, reaching them through financial advisors or real estate agents, networks of peers, and policy incentives.

CURRENT & EMERGING OPPORTUNITIES

The Nature Conservancy (TNC)

TNC has been working with Purdue to conduct a year long study with NFLOs. Their report represents a suite of work to better understand non-operating landowners and the barriers they and their farmers face in aligning management objectives, as well as potential opportunities to improve soil health outcomes on rented farmland. This work included a series of state-focused workshops with advisors to non-operating landowners, a demographic and motives survey, a conservation messaging and recruitment trial project, tax analysis, and a legal analysis of trust ownership. Some of the outcomes and opportunities identified include:

- TNC developed a workshop session called “Talking to Your Landowner” that could be expanded upon
- They also identified Tax reforms as a potential opportunity to reward and incentivize NFLOs to support soil health, which are outlined in their report
- NFLO-Specific Resources: A one-stop shop for conservation and leasing tools, including a user-friendly website, was identified as a top need in each of the advisor workshops. There remains a need for a neutral, professional, and informative NFLO-focused website and advertising campaign. Videos or case-studies of landowners and farmers discussing why soil health works for them could be a powerful set of communication assets for this purpose.

Land for Good (LFG)

LFG identifies NFLOs as a critical target audience and notes that within this category there are multiple groups with different motivations. LFG advises a different approach for each, including communities, corporations, investors, land trusts, and retirees. Women NFLOs are an especially valuable audience, as they are often more conservation minded than men, and they own more land.

- LFG works across New England to help farmers, landowners and communities navigate the complex challenges of land access, tenure and transfer.
- Landowners benefit from support, education, matchmaking with farmers, model leases and creative partnerships.
- LFG advances policies and innovative working models that increase farmland availability and foster equity and land stewardship.



Savanna Institute, The Alley Cropping Partnership Platform

The Savanna Institute works to lay the groundwork for widespread agroforestry in the Midwest US. They work in collaboration with farmers and scientists to develop perennial food and fodder crops within multifunctional polyculture systems grounded in ecology and inspired by the savanna biome. This pilot program is catalyzing widespread application of alley cropping, a robust set of regenerative practices well suited to the midwest ecosystems, by aligning partnerships of farm managers equipped for alley cropping with landowners and appropriate financing. Crucially, this pilot will also backstop management continuity to de-risk for landowners and investors the possibility of unexpected farmer exit. In six pilots to date, they have demonstrated proof of concept by facilitating alley cropping partnerships in Illinois and Wisconsin. Their focus now is to lay a foundation for scaling this strategy throughout the Midwest and build out their platform recruitment funnel and terms of engagement for NFLOs.

American Farmland Trust (AFT)

AFT also works with NFLOs and collects data about their interests through surveys. In 2019, they released fact sheets summarizing results from its Non-Operating Landowners, or NOLs, Survey that surveyed individually or partnership-owned lands, not institutions or trusts, for California. The results are promising, demonstrating that landowners care about their land and are keenly interested in stewarding their land well, keeping it in farming and altering lease terms to support conservation. AFT is building a resource bank, fact sheets and other resources on the Farmland Information Center for NFLOs and farmers who rent land.

Agrarian Trust

Agrarian Trust focuses on support, outreach, engagement, and direct Agrarian Commons work with NFLOs through their “Agrarian Legal” and “Create a Legacy” work. Currently 25% of the farmers working in the Agrarian Commons are NFLOs.

Farmland Protection

America’s irreplaceable farmland grows our food. It also supports a trillion dollar per year agriculture economy. Farmland is the foundation of our rural communities, providing jobs, recreational opportunities, and a deep connection to the land. Farmland nurtures our spirits and souls.

The United States is blessed with an agricultural landscape that is remarkably productive. Until the 1970s, the conversion of agricultural land to non-agricultural uses didn’t cause much concern at the national level. There was still plenty of land, and steady gains in crop yields made up for any loss of agricultural land. But in 1975, USDA raised the alarm about the adequacy of America’s agricultural land base to provide a continued supply of essential goods and services at a reasonable cost. As a result, USDA and the President’s Council on Environmental Quality agreed to sponsor an inter-agency study “of the availability of the nation’s agricultural lands, the extent, and causes of their conversion to other uses, and the ways in which these lands might be retained for agricultural purposes.”

This National Agricultural Lands Study concluded that the incremental, “piece-by-piece” conversion of agricultural land to non-agricultural uses posed very serious long-term risks and was a matter for national concern. These research findings, coupled with workshops held across the country, raised concerns that led



to the founding of AFT, American Farmland Trust, in 1980 and to the passage of the Farmland Protection Policy Act as a subtitle in the 1981 Farm Bill. At the same time, USDA's Natural Resources Conservation Service began to improve the data collected in its Natural Resources Inventory (NRI) to better track the conversion of farmland over time.

We continue to lose farmland at an alarming rate and we have lost millions of acres of farmland to development. A recent report from American Farmland Trust finds that the loss of farmland is much greater than was generally known. "Almost 31 million acres, double the amount previously documented, were lost to development from 1992 to 2012."¹⁷ On land that continues to be farmed, we are also losing ground—quite literally. We have lost billions of tons of topsoil to date and are losing 30 soccer fields of soil every minute, mostly due to intensive farming.⁵

CURRENT & EMERGING OPPORTUNITIES

American Farmland Trust (AFT)

American Farmland Trust is focused on saving farmland within the United States with a range of financing tools. They advance farmland protection through agricultural conservation easements, smart growth, and smart tax policies. Twenty-nine states have a farmland protection program that purchases easements. AFT had a direct hand in all of them, sometimes simply providing advice, sometimes driving the entire process, from crafting program details to helping secure funding. In a similar way, they have helped create over 70 regional or local programs.

Local Land Trusts (Regional Approach)

A growing number of land trusts are working with farmland. For those that do work with farmland, they can work cooperatively with landowners to protect farmland and achieve conservation goals, sometimes by purchasing farms outright, and sometimes by purchasing (or receiving donations) of easements that restrict some uses of the land, such as development. Land trusts also work to ensure that land previously acquired or placed under a conservation easement continues to be properly protected. Supporting regional land trusts that want to champion regenerative stewardship or working landscapes is a key strategy within this lever. Land trusts are also a critical audience in their role as non-farming landowners. Many land trusts hold large areas or hayfields or open land that could be grazed or used for active agriculture. Shifting how many land trusts view grazing would help increase land access for grazing and improve conservation outcomes in many ecosystems. Some examples include:

- **Vermont Land Trust** - Vermont-based land trust that saves the land that makes Vermont special, including farmland and forest.
- **Peninsula Open Space Trust** - Protecting and caring for open space in and around Silicon Valley, including protection of farmland.
- **The Sustainable Iowa Land Trust (SILT)** - SILT is an innovative statewide land trust specializing in protecting land for nature-friendly table food farming. 99% of Iowa's cropland is in feed, fuel, and hogs for export. Permanently limiting farmland to natural food farming lowers land costs and increases food security, job opportunities, and environmental and public health for generations to come.



SILT employs conservation easements and land donations to lower land values by nearly 40% and offer farmers affordable long-term land access with the ability to purchase buildings with no interest, no down payment.

- **Russell Farm and Forest Conservation Foundation** - New Hampshire-based nonprofit foundation that supported farmland protection, farm transfer and transition, and securing land tenure for sustainable farming until 2017 when the foundation sun-setted operations; aligned work is carried forward through Farmland Consulting.
- **Agrarian Trust** - National land trust that holds ownership of farms in local Agrarian Commons structure to center equity and control in community and protect and support health of soils and ecosystem, convey long term secure and equitable tenure, and ensure regenerative diversified food production agriculture and soil and ecosystem stewardship to bring health to the land, people, communities, and earth.
- **Prairie Land Conservancy** - Land trust serving Illinois working with landowners to help conserve their region's natural areas, open spaces, farmlands and forests. PLC is one of more than 1700 land trusts across the country committed to preserving land. They focus on helping landowners who wish to: Retain prime agricultural land, preserve natural landscapes and diversity, as well as conserve soils and groundwater, protect wildlife habitat, learn about the benefits of preserving land through estate planning.
- **The Northeast Farmers of Color Land Trust (NEFOC)** - Fiscally sponsored by Soul Fire Farm NEFOC is establishing a nonprofit land trust that will acquire land or easements for the purpose of conservation and permanent affordability/access for POC farmers. They serve the Northeast region of the US (New England/upstate NY). NEFOC is working towards a collective vision of advancing land and food sovereignty in the northeast region through permanent and secure land tenure for POC farmers and land stewards who will use the land in a sacred manner that honors their ancestors' dreams—for sustainable farming, human habitat, ceremony, native ecosystem restoration, and cultural preservation. The trust recognizes that the genocidal theft of land from indigenous people was the original harm perpetuated by this nation and has consultation protocols with Native communities regarding all lands it stewards. Its goal is to double the amount of land held by northeastern Indigenous and Black people over the next decade.

Family Agriculture Resource Management Services (FARMS)

FARMS is a legal nonprofit, committed to assisting Black farmers and landowners in retaining their land for the next generation. Their legal services consist of educational workshops, intake of the farmers and landowners legal matters, and connection to an attorney within their network. Over the past six years, they have been in operation we have partnered with attorneys from across the country to: save small farms from a foreclosure due to a reverse mortgage, provided estate planning services, support civil rights litigation, and more.



Connecting New and Underserved Farmers to Land

We are in the midst of 400 million acres of U.S. land changing hands as a generation of farmers and ranchers retires. Next generation and historically disadvantaged farmers, farmers of color, and indigenous farmers struggle with land access, affordability, and tenure. Only 2% of rural land in the US is owned by people of color.¹⁸ They are coming into farming often with limited resources, often with debt, and are attempting to start a business on land that has been priced far outside of their proposed business's profitability.

For farmers who are building the quality of their soil every year and interested in regenerative agriculture, insecure land tenure critically inhibits multi-year business planning. Many talented farmers with profitable operations do not qualify for a conventional loan and/or do not have enough capital saved to make a large down payment. The primary alternative is leased land, which is often short-term, insecure, and requires permission from landowners to erect basic farm infrastructure. Supporting equitable access to and ownership of land is critical for the future of our working landscapes.

“98% of land is owned and operated by white people. That wealth is built on the backs of indigenous and enslaved people. But we don't talk about that, we erase that.”
~activist of color

CURRENT & EMERGING OPPORTUNITIES

Cascade Ranch Farmer Incubator Program, Pie Ranch

The Cascade Regenerator will host cohorts of next-generation farmers to develop solvent, regenerative land-based businesses on 418 coastal acres. The Cascade Regenerator will offer access to subsidized land, equipment, infrastructure, and guidance to the next generation of farmers and ranchers. The program will offer the opportunity for multiple farming and ranching operations to grow their business to scale, with parcels ranging from 10 to 100 acres. In an effort to support scaling this approach, a team of multi-disciplinary scientists from Bay-Area research institutions will conduct a 6-year study to better understand how this model supports carbon mitigation, native flora and fauna habitat availability, and waterway health on the working landscape.

California Farmlink

California Farmlink works to create an inclusive farm and food economy with equitable access to opportunity for farmers and ranchers. They connect the next generation of sustainable farmers and ranchers with land and financing. Established in 1999, FarmLink supports beginning, limited-resource, immigrant and other underserved farmers. They work across the state, with particular focus on the Central Coast, Central Valley, and North Coast regions. Their partnerships with farm training programs, government agencies, impact investors, and other nonprofits help farmers access land and financing. California FarmLink was certified as a Community Development Financial Institution (CDFI) in 2013. It is one of the first agricultural CDFIs in the nation focused on sustainable and organic agriculture, and economic and environmental resilience.

This is a model that funders should look to replicate in other critical regions.



Poudre Valley Community Farms

Focused in Colorado, Poudre Valley Community Farms is building a community land cooperative model. By finding a way for community members to cooperatively purchase the land and then lease it to a new generation of farmers, they are creating new opportunities for today's young farmers and breaking the cycle of the "land rich, cash poor" farmer. This model not only facilitates farmland succession, but also promotes local food security and economic growth and is a model that could be easily replicated in other regional contexts.

Agrarian Trust

Agrarian Trust is working through their Agrarian Legal Support, FaithLands, OurLands Symposium, and Agrarian Commons Initiatives to support the next generation of farmers and ranchers. The Agrarian Commons model creates community-centered commons to hold farm, ranch, and agrarian assets to: (1) Support ecological restorative agriculture and community, (2) Convey long-term lease tenure and equity interest to farmers and ranchers, (3) Share in ecological stewardship investment; (4) Support farm, ranch, and agrarian viability and local agrarian economies. The Agrarian Commons permanently removes land and agrarian assets from commoditized markets and conveys long-term lease tenure to farmers, ranchers, and agrarians focused on agricultural viability, regenerative stewardship, and local agrarian community health.

Agrarian Trust launched the Agrarian Commons land holding model, incorporating 10 local Agrarian Commons across the US on May 1, 2020. Agrarian Trust has local boards, state specific legal counsel, local partners and stakeholders, and secure purchase agreements and lead funding commitments with 12 farms. The Agrarian Commons model is actively engaged in California, Maine, Minnesota, Montana, New Hampshire, Tennessee, Vermont, Virginia, Washington, and West Virginia. They are currently seeking \$12 million in capital to support land acquisition, investments in farm infrastructure, renewable energy, and training on soil health and regenerative practices for these pilot trusts. Financing is coming from a combination of grants and public funding, philanthropic donations (both land and cash), and investment capital from mission aligned investors and a crowd-funding campaign.

Black Farmer Fund

Black Farmer Fund is a new fund that is supporting producers of color gain access to land and providing the capital and technical support they need to build thriving farm businesses. (More details below under "Regenerative Financial Tools and Vehicles")

American Farmland Trust, Land Access Training Curriculum

Working with an external evaluator and curriculum designer, AFT assessed existing curricula and resources and developed a comprehensive curriculum to give beginning farmers and ranchers the practical knowledge and skills they need to gain access to land and secure land tenure. They have delivered the curriculum to a core group of agricultural educators and service providers who have piloted the



material with over 1000 beginners across the country. These trainers represent a nationwide network to support beginning farmers and ranchers as they sort through the financial, legal, and technical challenges of gaining access to land.

Land For Good

Land For Good is helping farmers transfer and gain secure access to land so they can start, grow and invest long-term in their operations and the land. Since 2004, Land For Good has been consulting, training, educating, and advocating on issues of farmland access and transfer, and land tenure and stewardship. Their field agents work on the ground in six New England states with and for farmland seekers, retiring farmers and farm families, non-farming landowners, and the professionals that serve them. Nationally, they organize and speak at convenings on these issues, consult to other projects and programs, and actively work on federal policy.

Land Stewardship Project, Farm Transitions Toolkit

The Land Stewardship Project's Farm Transitions Toolkit helps people get started farming and connects them to the resources and support that they will need. They have also developed the Seeking Farmers/Seeking Land Clearinghouse, allowing land seekers and those who have land available to post their information publicly and connect with interested parties and new farmers. Stakeholders noted that they are also working to fund the first ever give back of land, working with white landowners to support an equitable transition of land, in tandem with their soil health curriculum

Land Loss Prevention Project (LLPP)

Founded in 1982 by the North Carolina Association of Black Lawyers, the LLPP was originally formed to curtail epidemic losses of Black owned land in North Carolina. The organization's work has expanded to include estate planning and foreclosure prevention for black farming families as a tool to ensure that farmland can pass to a new generation of black farmers.

Indian Land Tenure Foundation (ILTF)

Recommended by Intertribal Agricultural Council as one of their key partners, the ILTF keeps "Indian Lands in Indian Hands" by focusing on estate recovery, land tenure, and legal issues connected to control of land by tribal people.

Minnow

A people of color-led land project focused on preserving farmland, realizing land justice, and building power for people of color in California. California has the largest agricultural economy in the US, fueled by a workforce of immigrants whose working and living conditions lead to a life expectancy one-third shorter than the average Californian. The price of farmland in California has skyrocketed beyond the reach of most farmers. For example, land values in the Sacramento Valley have risen 400% since 2005. And California is home to the largest population of Native people in the United States. Minnow exists to facilitate a just transition of farmland into community control, under indigenous governance, off the speculative market, and for farmers of color.



ANDERSON/POPE RANCH, MONTANA



Farm/Ranch Name: Anderson/Pope Ranch

Farmer/Rancher Name: Malou Anderson-Ramirez

Location of Farm: SW Montana

Years Farming this land: 62 years

Crop or Animal Specialties: Cattle and hay

I am part of the 3rd generation on our family ranch, which neighbors Yellowstone Park to the north. My grandparents bought the place in 1958. We've mainly raised cattle — but also sheep, horses, goats, and chickens through the years.

I was born into and raised in a conventional ranching operation, even though my grandparents and parents were more ecologically-minded in their thought process around land-use. We've ranched next to Yellowstone Park since the late 50's and have grown used to a very diverse and changing landscape. We believe in shared landscapes and co-existence with the wildlife and part of our work includes conserving and enhancing the biodiversity of this area and understanding the overall ecosystem we're a part of and being respectful to it. In the past decade or so, we've shifted into a deeper connection and relationship with land and place. We currently stay busy with a diverse livestock operation, retreats centered around immersion and connection to ourselves and the natural world, and a small guest operation.

Regenerative Agriculture is About Much More Than Just Carbon and Climate

I believe regenerative agriculture is the way to make the livestock industry and food systems be a cornerstone in the healing of large landscapes we've degraded and destroyed in the past. Regenerative agriculture is not just carbon sequestration and

positively influencing the climate crisis. It's also supporting, protecting, and co-existing with wildlife species and enhancing

biodiversity. It's protecting and conserving watersheds, soil, and land. It's understanding community is more than the people in a place — but the water, animals, and everything else on a landscape. It's understanding we ARE nature and nature is us and with that nature can be our greatest teacher. It's changing the narrative of agriculture from what has historically been an opportunistic, heavy-handed management and a TAKE mentality to a GIVE/TAKE relationship where we are a willing and observant participant in a larger, natural system. And the more we can learn from that system and understand the bigger picture and timeline, the more we all thrive together.

Changing Mindsets and Culture

I have found the paradigm shift into trying something new in a culture rich with ego and old heritage is the most challenging. In my area, the



Greater Yellowstone Ecosystem, the narrative has always been the rancher against the wild, with the rancher as the villain, with good reason in many cases. So even more so, the traditional rancher has a hard time stepping out of that reactive and defensive role and into one with more openness, curiosity, and capability of learning new (old) ways. Understanding systems thinking isn't complicated if we're able to step into that space.

Funders and Investors Partnering Directly With Producers

It's been extremely challenging to find the kind of support we need, at the farm level, to change and implement new practices on our landscapes. We need more direct support from those with the capital and the desire to see a new system take hold. I suggest having scholarships and grant opportunities for ranching communities to host regen ag, holistic range management, Ranching For Profit, etc. workshops in their areas. Also, grant money to help with new equipment, new non-invasive fencing and infrastructure, and opportunities for ranching communities to learn and experiment together and move forward together. Smaller items would be regen ag equipment grants like soil probes, soil testing equipment, organic inputs to boost soil health, and grants for labor to implement new practices (interns, part time and full time staff).



LAZY HORSESHOE RANCH, NEBRASKA



Farm/Ranch Name: Lazy Horseshoe Ranch

Farmer/Rancher Name: Gregory and Mary Jo Hoffman

Location of Farm: 51205 Highway 275 Clearwater, Nebraska 68726

Years Farming this land: 45+ years

Crop or Animal Specialties: Cow/calf, prairie hay, alfalfa, corn, popcorn, soybeans

Lazy Horseshoe was purchased by my grandparents in 1931 from an insurance company that had repossessed the property. In the beginning the land was “dust bowl” eroded. It was abused, treeless, and the hills were pocked by “blow-outs” and lined with rows of windblown dunes. Utilizing a labor force of the oldest of seven sons and two teams of horses, my grandfather and his “crew” began the immense task of rebuilding this piece of midwestern prairie. Almost 90 years later the land has been passed on through and remained in the Hoffman family. The ranch has remained a cow/calf operation throughout, but has gone through multiple man and climate made alterations. The third and fourth generation of Hoffman’s continue to ask the same questions as our forefathers: Given the current set of economic conditions and the available resources, what can we responsibly harvest without jeopardizing the balance and natural value of the land?

Returning to the Land

I was born and raised on the eastern edge of the Sandhills of Nebraska. The ebb and flow of this prairie river valley runs through my veins and has forever influenced what I believe and how I live. Not a day goes by that I do not reference a ranch memory, a life lesson, an event; something that puts most current trials into a manageable perspective. During the Farm Crisis of the 1980’s, our young family of five left the ranch and I took a job with American PopCorn Company in Sioux City, IA.

Even though we were only 110 miles away, we immersed ourselves into our new home and jobs and the ranch became something we “came from” and not what we did. Throughout this period, my parents continued the operation and kept the vision alive. Thirty-five years later, my wife and I are returning to Clearwater and Lazy Horseshoe Ranch. My Dad recently passed (he was still chasing cows at 96) and my Mom is in a local nursing home. Both of us are retired from our careers and decided to return to the Sandhills. Our hope and extended goal is to continue to share what the land has given to us.



A Legacy of Understanding

My father, Omer Hoffman, had always approached the land with humility and a profound respect for its resources. He understood that he had to “help the land heal itself.” That was his gift to me: A legacy of understanding and support for the land and the ecosystems that sustained the species of forage and wildlife that were intended to flourish here.

Transitioning to Regenerative Practices Requires a Leap of Faith

Transitioning or converting irrigated acres from a row-crop environment into a grass/forage system, including reducing reliance on commercial fertilizer and pesticides, is an enormous task. A significant time and income gap takes place during these kinds of conversions, requiring a huge leap of faith. Farming is very cost intensive, but it does provide income diversity and, in many cases, a baseline of income security in the form of cost shared crop insurance. Funding sources rely on those guarantees, making it challenging to go outside of the status quo cycle.

Agricultural Funders and Partners Building Trust and Sharing Risk

Long-term partnerships endure and prosper through risk reduction and trust. The reality of soil and land restoration, of regenerative and sustainable practices: They take time. As a business developer works to improve an organization’s market position, funders and other partners might consider a similar approach with farmers and ranchers, taking a longer-term perspective.



TRUSTED TECHNICAL ASSISTANCE

Farmers and ranchers are extraordinarily busy people, managing complex businesses in a risky, low-margin, and ever-changing business environment. This reality makes taking time to learn about and experiment with new management practices a slow and time-consuming process. Without technical assistance, many farmers do not have the resources, time, or energy to learn about, plan, implement, and monitor climate smart practices on their own, much less do the paperwork associated with applying for and tracking government incentive grants. This is especially true for small and mid-scale producers and historically disenfranchised farmers and ranchers who do not have ready access to paid consultants. Comprehensive and culturally-responsive technical assistance—including outreach, education, planning, project design, and application and implementation assistance—acts as the necessary bridge for farmers and ranchers to successfully transition towards regenerative and climate-smart practices.



With sufficient resources, farmers and ranchers can deliver powerful and unique climate solutions. One of the most critical resources for farmers to transition to regenerative organic agriculture is the support of knowledgeable, trusted, and reliable technical assistance providers. Technical assistance programs take many shapes, including peer-to-peer mentorship programs, farmer network workshops and trainings, on-farm learning days, farm advisors and consultants, and more. Farmers often learn best from other farmers in these programs, but extension services, Natural Resources Conservation Service (NRCS) agents, and Resource Conservation District (RCD) agents are also critically trusted sources, and, in some cases where cultural pride is a barrier, farmers and ranchers might be more likely to seek support from their NRCS or RCD agent than from a neighbor.

Extension services, NRCS agents, and Conservation Districts can be trusted sources for producers, but as one interviewee noted, “In California, they are on the cutting edge on regenerative ag. But in most parts of the country, ‘it’s the ‘good old boys.’” Information-sharing on regenerative practices, as well as associated financial management training, is particularly critical for young farmers, especially those who do not come from a farming background. As such, a key focus for funders should be to identify and facilitate continued education and capacity building support for the conservation districts, ag extension agents and other trusted community groups and messengers to expand best practices for soil carbon sequestration and emissions reductions in agriculture.

Multiple experts recommend a 3-part strategy related to the key levers presented below:

1. Education programs: hands-on, practical, multi-day; with teachers who have deep farm and ranch experience
2. Follow-up consultation and support for the producers, so they can work through challenges as they arise
3. Connecting producers to networks to provide peer support, as listed above under “networks and convenings”

KEY LEVERS AND OPPORTUNITIES

Peer to Peer Learning Programs

Farmer to farmer programs can help scale-up agricultural innovations because farmers learn best from other farmers who have already demonstrated success. Farmers and ranchers, while skeptical of outsiders, have been shown to learn and interact most effectively with other farmers and ranchers and, thus, peer to peer learning and mentorship is a key strategy.

CURRENT & EMERGING OPPORTUNITIES

A note about the opportunities below: many of these overlap with the list of current and emerging projects nested under “networks and convenings,” as much of this work is highly intersectional with that of continued peer to peer learning and mentorship programs

Black Urban Growers (BUGS)

BUGS is an organization of volunteers committed to building networks and community support for growers in both urban and rural settings. Through education and advocacy around food and farm issues, they nurture collective Black leadership to ensure they have a seat at the table. Since 2010, they have convened the Black Farmers & Urban Gardeners Conference, a national conference bringing together Black farmers, food justice advocates, educators, chefs and concerned members of Black communities from across the country to share best practices and build a stronger network of Black leadership in the movement for food justice and food sovereignty.

MOSES Farmer-to-Farmer Mentoring Program

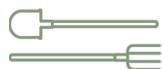
Moses offers yearly mentorship support to farmers, providing 1-to-1 guidance from an experienced organic farmer who can show farmers and producers: (1) Best practices for their type of farming operation; (2) How to get their farm ready for certification; (3) Tips to move their farm forward.

Northeast Organic Farming Association (NOFA) Chapters

In each of the Northeast states, a NOFA chapter connects farmers to their peers for shared learning and mutual support. While these chapters vary in their approaches and programming, several people we interviewed cited the value of NOFA's networks for providing locally-adapted information, hands-on support and on-the-ground examples of success.

The Southeastern African American Farmers' Organic Network (SAAFON)

SAAFON is the first regional network for Black farmers committed to using ecologically sustainable practices to manage their land and the natural systems on it in order to grow food and raise livestock that are healthy for people and the planet. The SAAFON network allows their members to connect with like-minded farmers, to build collective power in order to achieve our visions of land-based success, and to model alternative ways of living in the 21st century. Their Down-South AfroEcology



Training School (DATS) is designed to strengthen the agroecology movement within the United States through the engagement and education of Black farmers in the Southeast region who are either currently farming organically, seeking to transition to organic practices, or are seeking to gain access to farmland.

Dakota Rural Action Farmer Network

Dakota Rural Action has created a networked community of beginning and established farmers and ranchers through resource sharing opportunities and education. The Farmer Network hosts at least 6 farm tours or skills sessions each year and presents multiple Winter Workshops on farm-related topics such as production, financials/record-keeping, and enterprise profitability.

Practical Farmers of Iowa

Practical Farmers of Iowa works to equip farmers to build resilient farms and communities. They do this through an annual conference, webinars, local workshops and beginning farmer workshops. Their values include: welcoming everyone; farmers leading the exchange of experience and knowledge; curiosity, creativity, collaboration and community; resilient farms now and for future generations; and stewardship of land and resources.

A Greener World

A Greener World works to support independent farmers who are committed to sustainable livestock production. They provide peer-to-peer training, tools, and mentorship with farmers and ranchers nationally, including: consultation and training, peer-to-peer mentorship, farm tours and guidance, online tools and resources.

Workshops and Trainings

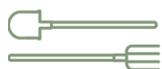
Technical assistance providers and organizations can act as catalysts for the broader transition to regenerative agriculture. As trusted members of their local communities, they facilitate the transfer of knowledge between producers; host field days and educational workshops and trainings to demonstrate innovative practices, research, and technologies; and problem-solve the unique challenges of individual farms. They also help producers utilize and piece together various funding sources, from farm bill programs to private conservation initiatives, which are necessary to scale up regenerative agriculture.

By partnering with and providing capacity for organizations that have long-term relationships with local communities and producers, we can rapidly amplify the transition towards regenerative agriculture in the United States.

CURRENT & EMERGING OPPORTUNITIES

Soil Health Academy

Through hands-on training from the world's leading experts, Soil Health Academy participants learn how to increase profitability, build resilience into the land, improve soil health, decrease input costs, and improve nutrient density of food and agricultural products through practical regenerative agricultural principles.



Western Sustainability Exchange (WSE)

WSE provides a comprehensive suite of support to ranchers including technical assistance, education on regenerative ranching practices, practical tools ranchers can use to assess the efficacy of various practices on individual operations, access to markets in the culinary and natural foods sectors, and carbon market offset payment programs as an incentive for ranchers to adopt the practices over the long run.

Rodale Institute

Rodale Institute is growing the organic movement through rigorous, solutions-based research, farmer training, and consumer education. They offer hands-on and classroom education and trainings in organic agriculture, webinars, one day workshops and direct farm consulting.

Savanna Institute

This Midwest institute provides training and workshops for farmers interested in incorporating agroforestry and perennial crops into their farm systems. They also host an annual Perennial Farm Gathering (PFG), bringing together agroforestry producers, researchers, specialists, and enthusiasts for two days of networking, knowledge-sharing, and festivities.

Soul Fire Farm

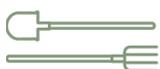
As mentioned earlier, through their BIPOC FIRE program (Black-Indigenous-People of Color Farming in Relationship with Earth) they annually train over 100 adults to take leadership roles as farmers and food justice organizers in their communities and 300+ youth to heal their relationship with earth and imagine new futures. Their graduates receive ongoing mentorship to access resources, land, and training and are invited to join their speakers collective so they can amplify their voice in the food system.

Savory Institute Hub Network

The Savory Institute equips land managers with innovative tools and curricula and conducts research on the ecological, social, and financial outcomes associated with Holistic Management. The Savory Global Network is a distributed nodal network of regional learning Hubs, each independently owned and independently operated, that equip farmers, ranchers, and pastoralist communities with the tools and knowledge to regenerate grasslands in a localized context.

Farm Beginnings

Farm Beginnings is a yearlong training program that offers farm business-planning sessions, a series of on-farm field day workshops, and one-on-one mentoring from area farmers. The program focuses on business planning, and is embedded in a network of farmers and supported by a community of stakeholders that include bankers, business people, extension agents, investors, philanthropists and more. All organizations that offer Farm Beginnings belong to the Farm Beginnings Collaborative (FBC). It is a national alliance that is growing and now includes 13 organizations with programs serving beginning farmers in 14 states.



Land Stewardship Project, Bridge to Soil Health Program

The Bridge to Soil Health Program promotes farmer-to-farmer education of soil health practices with over 750 farmers in SE Minnesota. In this program, farmers learn from one another how to rebuild the health, vitality and profitability of their soil through educational events, peer learning groups and on-farm field days. It is also critical to the program's success to have farmers engaged in agricultural policy reform.

Hudson Valley Farmer Training Collaborative (HVFTC)

Farmers in the Hudson Valley are launching a project to build a Hudson Valley Farmer Training Collaborative ("HVFTC" or the "Collaborative") so that the organizations who train farmers in the Hudson Valley can: (1) Better coordinate to leverage strengths and strategize collaboratively, (2) More effectively understand the outcomes of current efforts to train new and beginning farmers; (3) Work towards collective impact that exceeds the sum of the parts. This farmer training collaborative model can serve as a template for other regions.

Agriculture and Land-Based Training Association (ALBA)

ALBA's mission is to create economic opportunity for limited-resource and aspiring organic farmers through land-based education in the heart of the Salinas Valley. Their 100-acre training facility is a place of learning and advancement for hard-working, low-income farm workers and aspiring farmers seeking a better life.

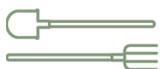
Scholarships for farmers and ranchers to attend trainings and network events

Many farmers and ranchers do not have either the time or the capital needed to attend these trainings, gatherings, and courses. We see this as a critical area where funders could step up to support farmers and ranchers directly and accelerate their adoption of these practices. It is important to note that this need was mentioned by almost every single farmer and rancher we spoke to in our interview process.

RCD, Ag Extension, NRCS Capacity Building

Farmers often learn best from other farmers in these programs, but extension services, NRCS agents and RCDs can often be the most trusted sources for farmers. These entities are intended to provide farmers with support, resources, information, troubleshooting advice, etc. Yet, in many areas, they often don't have the tools, knowledge, capacity, or training to support farmers in the adoption of regionally-appropriate regenerative ag practices. As a result, farmers and ranchers who look to these agents for guidance and support are often not getting the adequate support and technical assistance they need to transition their practices. Supporting the capacity and education of these key technical assistance stakeholders, alongside farmer networks and peer-to-peer training opportunities, will be critical in scaling up the training and support networks necessary for farmers to transition.

There are over 3,000 official conservation districts (RCDs) in the United States that provide technical assistance and tools to help farmers and landowners manage their land and water. RCDs have the potential



to foster local partnerships to develop and implement carbon farming plans and regenerative practices in their districts, but haven't yet had the broad funding, capacity, and technical support to do so. Despite this lack of capacity, several districts have recently been attempting to adopt soil health policies, including the Eastern Region of the National Association of Conservation Districts. Other districts, such as the California association, for example, expressed an interest in developing a soil health policy platform, but haven't had the funding to do so and districts in Oregon and Washington, despite having more funding, expressed a lack of necessary technical assistance for their agents. In New York, particularly in the Hudson, they also have the core operational funding needed to support regenerative agriculture, but they, along with other RCDs that are ready, expressed the need to plug into a national support system with fellow RCD and TA providers. What is clear from this analysis, is that it is critical that we work to strengthen the core capacity and network support of RCDs across the country in order to scale adoption of practices at the field level.

The NRCS is a division of the U.S Department of Agriculture (USDA) that also provides farmers and other land managers with direct technical assistance through local area offices, as well as providing individual farmers and ranchers access to many federal grants. Several agents noted that for something with such enormous potential and with direct relationships with so many producers on the ground, there is a significant opportunity to engage and educate every single NRCS agent on soil health and the regenerative and climate-smart agriculture that will work for their constituents and producers in a regional context.

We see this work, of training, educating, and building the capacity of these key stakeholders, as having a potentially huge impact on transitioning practices at the farm level across the US, while simultaneously presenting a significant opportunity for funders, as there are not many groups or comprehensive projects in place to directly support these key stakeholders.

CURRENT & EMERGING OPPORTUNITIES

The New England Small Farm Institute (NESFI)

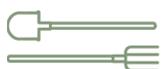
The New England Small Farm Institute has built a shared farm equipment bank in New England to support their producers establish shared equipment co-ops with no-till drills, penetrometers, roller-crimper, combine for grains, seed cleaner, portable fencing, and more. Since access to equipment and capital to purchase equipment are serious limiting factors for many small farmers and new farmers, this is a model that could be developed and deployed within RCDs across the country with philanthropic and investment support.

Ecdysis Foundation

Ecdysis Foundation, led by former USDA scientist Jonathan Lundgren, is focused on building out regenerative ag hubs in key ecosystems across the US—including the northern plains, inner mountain west, CA, and the Midwest. Within these hubs, they are performing critical regional focused research and experimentation on practices and tools and translating this research into on farm implementation, as well as disseminating this data and providing training to RCDs, NRCS agents, and key community level NGOs.

Carbon Cycle Institute

The Carbon Cycle Institute and its partners are working together to pave the way for



broad adoption of carbon farming practices. They have been working with RCDs and landowners, completing the research necessary to show that carbon farming works and advocating for supportive policy with county, regional, state and federal agency partners. They have interest from a wide geographic area within CA as identified by more than 20 RCDs who have been active in developing and implementing carbon farming activities in their districts and establishing other regional partnerships for carbon farming. They have been working to build capacity of the RCDs to launch Carbon Farm Planning efforts across the state. To support this growing statewide effort, the California Association of RCDs (CARCD), based in Sacramento, serves as a formal networking hub for carbon farming, providing technical training, securing federal, state and local resources, and serving as an administrative foundation across the RCDs. Member RCDs and the CARCD are the Carbon Cycle Institute's lead partners for on-farm planning, implementation, and maintenance of carbon farming at the local (county) level.

Organic Agronomy Training Service (OATS)

OATS is a collaboratively managed, science-based train-the-trainer program for agricultural professionals working with organic or transitioning producers in the United States. The group seeks to grow domestic organic production by strengthening the educational support network of agronomists, certified crop advisors, extension agents, and technical services providers serving certified organic grain producers. They offer in-person trainings, vetted resources and replicable educational packages.

Soil Health Academy, Scholarships

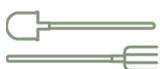
The Soil Health academy offers scholarships for TA providers, including extension, RCD and NRCS agents to attend their trainings on regenerative agriculture.

Berkeley Food Institute

The Institute is building a Cooperative Extension Specialist position within the UC extension system, who will work to educate their extension colleagues state-wide on regenerative and climate-smart practices and barriers to transition, as well as learn from their colleagues on what is going on in their particular district. The Cooperative Extension Specialist will work to develop effective ways to overcome challenges and meet the needs of producers, who have diverse scales and resource capacities in the use of sustainable practices (including but not limited to new market opportunities, soil health, organic and agroecological practices, integrated pest management, crop diversification, and fair labor practices), and disseminate findings on policy and economic solutions that benefit farmers, farm-workers, communities, and society more broadly. If this pilot is effective, similar programs could extend out and be piloted within other states/regions.

Farm Business Planning

The process of walking the land with a producer to listen and learn about the history of their operation, their unique journey, and their vision for farming or ranching is crucial for the success of all technical assistance providers. This kind of direct producer engagement builds the trust and camaraderie necessary



to exchange ideas and innovate collaboratively. By taking a whole-farm assessment of current practices and identifying resource concerns, (i.e. what's holding them back from regenerative farming?), technical assistance providers can help farmers and ranchers to co-create a carbon farm plan (CFP), which is a business plan that lays out an array of regenerative farming practices in space and time.

Good plans should lay out management practices, timelines, implementation strategies, expected needs and outcomes in terms of carbon, soil health and money and then match the plan to sources of funding to solve the capital barriers to implementation, de-risking and easing the transition to using regenerative practices of agriculture.

CURRENT & EMERGING OPPORTUNITIES

MOSES Fearless Farm Finances

MOSES publishes this one-of-a-kind resource for farmers that is packed with instructions, tips and tools for setting up and managing a farm's financial system. It includes real-life examples from successful farmers and sample data to show how forms and records should look. The latest edition, published in 2017, contains new detailed information and worksheet templates for those using paper-based systems, a new chapter on farm transition, an updated chapter on farm business structures, new from-the-farmer profiles and updated resources.

Carbon Cycle Institute Carbon Farming Network

Through the Carbon Farming Network, CCI's work on state policy and building the capacity of TA providers is buoyed by working directly with farmers and ranchers on on-farm planning and implementation. The Network is now working in 37 counties across California and with over 120 producers, with whom they have developed and implemented over 100 farm plans.

Mad Agriculture

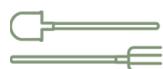
MAD Agriculture is a Colorado based organization that is working to help farmers and ranchers thrive ecologically and economically through detailed Carbon Farm Planning services, coupled with access to appropriate capital, and ongoing technical assistance. They are in the midst of launching the "Perennial Fund", a new investment vehicle for supporting producers in transition, as detailed in the financial section of this report.

Fibershed Carbon Farm Plans and Carbon Farm Fund

Fibershed works with producers of sustainable fibers to create carbon farm plans that capture the baseline conditions at each farm, assess farm system-level carbon sequestration enhancement potential, and assist farmers in implementing carbon farming practices, resulting in receiving a "Climate Beneficial" Trade label. The Carbon Farm Fund then provides seed capital to assist producers as they implement their carbon farm plan, incentivizing producers to join their network and move towards verification and other certifications.

The Carrot Project

Founded in 2004 by Dorothy Suput, this Northeast nonprofit addresses gaps in farm business training and access to credit for small farms. The Carrot Project offers 1:1



business training, workshops, and seminars, as well as loan programs serving farms in the Northeast states. The Carrot Project is leading the development of a strategic agenda, outlined in “The Blueprint: Building a Business Assistance Network for Farm and Food Businesses,” for the development of a regional network of organizations, programs and services that support the long-term economic viability of farm and food businesses.

Kitchen Table Advisors

Kitchen Table Advisors works at the intersection of economic opportunity, ecological land stewardship, racial and gender equity, and sustainable food and agriculture. Through their business and financial advising, they help farmers build the foundation for a successful future. After 7+ years in operation, they have completed two phases of their work:

1. A pilot project focused on in-depth, bilingual 1-on-1 business advising that has helped 10 farms and ranches move towards their goals of stability and thriving livelihoods, including a 60% average increase in net income, and
2. A growth phase in which they have grown to serve 60+ active farm clients and alumni; supported several farmers in earning a real living wage of \$45-80K per year and purchasing land; and moved to a regional hub model to deepen their impact and share power and leadership on their team.

For the next 5 years, they are focused on continuing to scale their farmer economic viability work at the individual farmer level with 1-on-1 advising and connecting farmers to resources and investing in market-based and policy level solutions that support farmers and ranchers in having more power, control and influence.

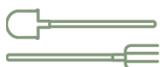
GC Resolve

GC Resolve was founded to educate and mobilize the general public, build community, and resolve key issues that impact the day-to-day lives of Nebraskans. GC Resolve is currently assisting farmers, tribes, and communities to meet their regenerative goals and consulting with them on developing regenerative food systems in their communities.

New and Next Generation Farmer Training Programs

With the average age of farmers in the United States being over 60, it has become imperative that a new generation of farmers step up to breathe new life into farms and landscapes that run the risk of being developed, gentrified, or sacrificed to the seemingly unstoppable blight of poison-ridden, heavily mechanized, single-crop-producing, sterilized land. To choose to farm today is a heroic task with few rewards, and yet somehow, within the pressure cooker of all of these forces, a new generation of land stewards is emerging.

Beginning farmer education for adult and young audiences in the United States can generally be traced back to the advent of the 1862 and 1890 Morrill Land-Grant Acts. But, for the first time, the Food, Conservation, and Energy Act of 2008 (Pub .L. No. 110-234, Section 7410) appropriated \$75 million for FY 2009 to FY 2012 to develop and offer education, training, outreach and mentoring programs



to enhance the sustainability of the next generation of farmers. In the coming years, experts advocated for opportunities to not only continue to support this program, but also bolster its efforts and funding mechanisms to help get new farmers onto the land. The Agriculture Improvement Act of 2018 (aka the 2018 Farm Bill) reauthorized the Beginning Farmer and Rancher Development Program, which continues to provide mandatory funds that supports education, mentoring, and technical assistance initiatives for beginning farmers and ranchers.

CURRENT & EMERGING OPPORTUNITIES

Stone Barns Center For Food and Agriculture, Growing Farmers Initiative

The Growing Farmers Initiative offers workshops for farmers throughout the year. Whether they're just starting out, or are an established producer looking to sharpen certain skills, these workshops introduces farmers to new methods, connects them with agricultural expertise from all over the country, and helps them troubleshoot with an ever-growing network of program alumni.

Quivira Coalition's New Agrarian Program (NAP)

The New Agrarian Program partners with skilled ranchers and farmers to offer annual apprenticeships in regenerative agriculture. Apprentices learn from expert practitioners in full-immersion professional settings. This program specifically targets first-career professionals with a sincere commitment to life at the intersection of conservation and regenerative agriculture. They also seek mentors who are dedicated stewards of the land; practice intentional, regenerative methods of food or fiber production; provide excellent animal care; and are skilled and enthusiastic teachers.

Farm Beginnings Collaborative (FBC)

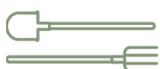
FBC is a national alliance of organizations providing the Farm Beginnings yearlong training program to beginning farmers in 14 states. The program offers farm business-planning sessions, a series of on-farm field day workshops, and one-on-one mentoring from area farmers. It is embedded in a network of farmers and supported by a community of stakeholders that include bankers, business people, extension agents, investors, philanthropists, and more. Creating this social infrastructure is intentional and a precursor to launching new programs, as it bolsters both farmer-success and program-success. Farm Beginnings is farmer-led, community based, and focused on sustainable agriculture since its inception in 1996 by the Land Stewardship Project

National Incubator Farm Training Initiative (NIFTI)

NIFTI provides comprehensive one-on-one technical assistance, educational resources, and professional development opportunities for incubator farm projects around the nation. They offer a series of courses aimed at helping new and prospective farm business owners launch and succeed in their business.

School of Adaptive Agriculture

The School of Adaptive Agriculture is providing the knowledge and skills to create the food and farming culture of tomorrow. Through their Residential Training Program, workshops, publications, and conferences, SAA aims to teach the crafts, skills, science, art, and business of food and fiber production.



National Young Farmers Coalition

The National Young Farmers Coalition is a national advocacy network of young farmers fighting for the future of agriculture. Since its inception in 2010, Young Farmers has built a network of more than 140,000 young farmers and their supporters working together for change. They tackle the most critical structural and economic barriers that prevent motivated young people from starting and continuing to farm, with the goal of helping 25,000 young people enter into viable farming careers by 2022. To achieve this goal, they work across three strategic areas: effecting structural change, building coalitions, and developing and offering business services to young farmers.

Soul Fire Farm Youth Program

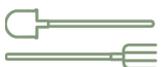
As part of Soul Fire Farms core programs, the Soul Fire Farm Youth Program is committed to dismantling the oppressive structures that misguide our food system. Part of this work involves reconnecting youth to their innate belonging to land and restoring each person's rightful place of empowerment in the food system. They offer one-day educational workshops for youth and inter-generational groups.

Vilicus Training Institute (VTI)

VTI's purpose is to inspire significant increases in the scope and scale of organic and biodynamic land management across the Northern Great Plains. They focus on cultivating new farmers and, at the same time, the supply chain circumstances that enable their long term prosperous stability. VTI is located at Vilicus Farms, a first generation, organic, dryland crop farm in Northern Hill County, Montana growing a diverse array of organic heirloom and specialty grain, pulse, oilseed, and broadleaf crops under five-and seven-year rotations with integrated cover cropping. In eleven seasons, Vilicus Farms grew from 1,280 acres to a 9,600-acre nationally recognized farm by using USDA's beginning farmer programs, employing extensive conservation practices, and fostering unique risk sharing relationships with food companies and land investment firms. Current projects include mapping the mechanisms that foster risk/reward sharing and transparency in supply chains for organic crops, scaling up biodynamic grain production through farmer-to-farmer convenings, and documenting examples of incubating new agrarians into at-scale operations.

Training Youth & Next Generation Farmers Through FFA and 4H

Future Farmers of America (FFA) and 4H are two organizations in the US that have a strong focus on training and developing our next generation of farmers, ranchers, and agricultural professionals. FFA is the premier youth organization preparing members for leadership and careers in the science, business and technology of agriculture. 4H is delivered by Cooperative Extension—a community of more than 100 public universities across the nation that provides experiences where young people learn by doing. The 4H ag programs engage and excite young people in agricultural science topics such as veterinary science, biotechnology, raising and training animals, and forestry. Neither of these programs have a focus, in their programming, on regenerative agriculture, soil health, and/or alternative climate-smart practices. Through many of our interviews, the need to provide soil health and regenerative agriculture curriculum to these two groups was echoed time and time again. We do not currently know of any projects or organizations that are focused on this effort and, as such, we see this is a critical opportunity.



ANTELOPE SPRINGS RANCH, MONTANA



Farm/Ranch Name: Antelope Springs Ranch

Farmer/Rancher Name: Trevor and Amber Smith

Location of Farm: Cohagen, Montana

Years Farming this land: 7 years

Crop or Animal Specialties: year round mother cows, seasonal yearling cattle, sheep

monitor antelope, as they have been declining regionally.

Trevor and I met while working at the beautiful Home Ranch in Clark, CO. Trevor felt lucky to find a woman who wanted to live 35+ miles from town, and I was awestruck that I had found a man who loved horses and wildlife as much as I do. We worked for Trevor's family for seven years, then moved to Montana to first manage and then lease Antelope Springs Ranch. We lease ASR and custom graze livestock for other families, while building our own herd of cattle and raising our two children on the land. We are proud to be running a positive cash-flow business, which no one says can be done unless the land is given to you.

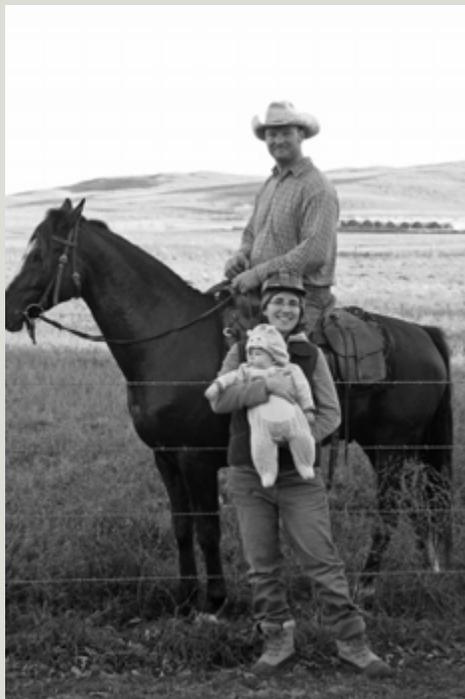
The ranch comprises 53,000 acres of native rangeland, including about 1500 acres of crested wheat pasture which was historically farmed. We have been using holistic management to regenerate this ranch and have stopped all farming production. We work with TNC to survey and monitor our grassland songbirds and at least 4 sage grouse leks and we recently partnered with FWP to

Our motto is, Financial Sustainability, Ecological Regeneration, and Social Diversity.

Land Value As a Barrier

There are numerous articles on the advancing age of American farmers, twice as many over 65 than there are under 45. There also appears to be a declining number of young people who want to return to the ranch on which they grew up; we've

seen estimates that up to 60% of ranches could change hands before 2030. Young producers aren't coming back nearly as quickly as older producers are retiring. Part of the problem, in addition to the slim margins, is that land values are completely out of relationship with the agricultural value of the ranch. For instance, if my husband and I were going to buy Antelope Springs Ranch and pay for it with cattle production, we could pay \$70/acre. The current land value of the ranch sits around \$380/acre. That's not sustainable.



Investing In Women

We are partial to the idea of building a diverse community by EMPOWERING and supporting women on the land. When you invest in women, you are making the most high-leverage investment in a rural community. Her work impacts her children, her family and her neighbors. The Women in Ranching (WiR) program, as an example, instills a sense of permission and confidence in women, in an agricultural world that has been built by and for men. When we talk about systems, regeneration and inclusion, women are natural leaders and the WiR is 100+ women and growing! The facilitators challenge women to listen deeply, to trust their own voice and to be bold in making room for change. By investing in women, we are building leaders and activating them as changemakers on their ranches and rural communities, fostering creative and collaborative energy around regenerative land management.

A Vision for the Future

My children will be 12 and 14 in another 5 years. I would like them to step into their highschool years, with equal belief in their value and their worth in rural leadership and business. I want to see Women in Ranching stable and flourishing, empowering, connecting, training and giving voice to a new group of land stewards. I want to see women in the sale barns buying bulls. I want to see native ranching women included in stories of good land management and that their native practices and beliefs be included in the story of what we are calling regenerative. I want to see young people not waiting for the death of their parents in order to make one decision on the family ranch. I want to see 30, 40 and 50 year old ranchers thriving and supporting the inclusive and equitable education of young women and men.

“I want my children to know that they BELONG to the land, whether it is through purchasing decisions they make or managing livestock in a system that honors the Northern Cheyenne idea that, ‘I belong to you, you belong to me, and we belong to the land.’”



Photo: Women in Ranching Gathering

FOX & HEN FARM, KENTUCKY



We incorporated our farm when we were growing an incredible amount of plants in a subdivision in Stanton, KY. We were two avid gardeners who had a dream. 5 months later, our current landlord offered to allow us to rent 3 acres, a barn and a small home to officially start our business. In August of 2018, we began building infrastructure for pasture raised chickens, as well as a small lean-to greenhouse for all our container nursery plants, and eventually vegetable starts. In 2019 we raised and sold eggs, specialty crop vegetables, herbs and some valued-added items direct-to-consumer via direct drop off and the Winchester Clark County Farmer’s Market. In January 2020, we bought our own small wooded plot to begin an agroforestry site, where we hope to raise mushrooms, bees and other non-timber agroforestry products via an agroecological model of production.

Ensuring Everyone Has Access to Healthy Fresh Food

Not many things bring me greater joy than talking about food systems. Since moving to Kentucky in 2014, I have had the privilege to work with several organizations in their efforts to create food access for limited resource Kentuckians. Not just any food, but fresh, local food. Supporting the health of individuals and families, while supporting our Kentucky farmers, is foundational for healthy, thriving communities. In my current position

Farm/Ranch Name: Fox & Hen Farm
Farmer/Rancher Name: Jann Knappage
Location of Farm: Winchester, Kentucky
Crop or Animal Specialties: Vegetable & herb production, laying hens, value added

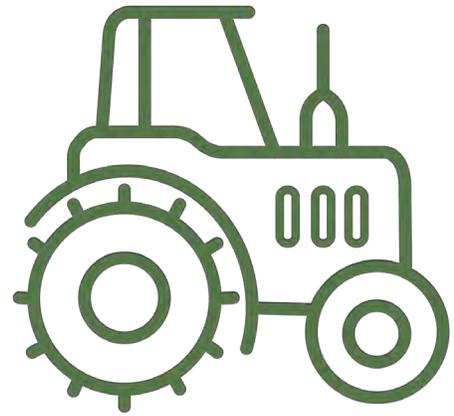
with the University of Kentucky Cooperative Extension Service, I focus on working with the SNAP and SNAP eligible audience on local food system projects. We chose this lifestyle because we desire to walk gently on this earth and have a strong need to work in tandem with Mother Nature, while ensuring that all people have access to fresh and healthy food, not just some of us.

“To me, regenerative agriculture means working with the land to maintain and support natural ecosystems. It means creating systems that heal the land, water and air. It means being forethoughtful in all you do to ensure you are working in tandem with the earth, as opposed to forcing man-made systems into your farm that do not fit the particular parcel you are stewarding. Regenerative agriculture is thinking years out and acting on those hopes and projections now.”

Remembering Our Agrarian Roots

I believe we can and must build a new system, rooted in our past and the land. I would love to see more farmers take time to slow down and think about the health of the land vs. what it can be used for to produce the most amount of money possible. I would love to see our consumers value food raised in a sustainable, earth friendly way. I would love to see humans, as a whole, ground and connect and act from a centered headspace. I truly believe this would drive more farmers and land stewards towards a regenerative mindset. Lastly, I would love to see more people head back to the land and grow something, anything! Remembering their agrarian roots.

FINANCIAL CAPITAL AND INCENTIVES



Money is the most important factor for decision-making in agriculture. Most producers operate on thin margins and are risk-averse. One of the single biggest barriers to farmers actually adopting regenerative techniques is the added costs and risks in changing any given practice. As mentioned earlier in this report, according to the USDA Economic Research Service, the average farm income was \$1.3 million in debt in 2017 and, since 2013, farmers' net income has fallen by 50%. The median farm income in 2019 was -\$1,383, a slight increase from -\$1,735 in 2018.

These incomes are expected to decline to -\$1,840 in 2020. In recent years, roughly half of farm households have had negative farm income each year. As a result, many of these households rely on off-farm income to make ends meet. Regenerative agricultural practices often lead to reduced farm revenues for an initial transition period. Couple this loss of revenue with the already tight financial position of most farmers, and the risk becomes too great for a farmer or rancher to realistically change their practices without access to capital that will de-risk their transition.

As mentioned earlier in the report, the NRCS is the main entity through which individual farmers and ranchers currently gain access to financial capital to support their individual farm level conservation work. The NRCS has several financial tools and federal grant programs to work with growers in conserving natural resources. Of the working lands programs, two stand out: (1) Environmental Quality Incentives Program (EQIP) and (2) Conservation Stewardship Program (CSP). These programs provide growers with the financial incentives and technical assistance to implement conservation practices and to improve systems through infrastructure upgrades.

CSP provides payments to agricultural producers for conservation practices that reduce soil erosion, improve soil fertility, conserve energy, enhance wildlife and pollinator habitat, and improve water quality. What is unique about CSP is that it rewards existing conservation practices. The CSP program now rewards existing conservation practices, while other USDA conservation programs, including EQIP, only fund the addition of new conservation activities. Farmers that have been doing good conservation on their working land for years, but haven't qualified for other programs, now can be rewarded for their dedicated land stewardship. Not only do farmers receive a higher payment for existing conservation, but CSP assists with the expensive maintenance of these activities.

Such programs are sought after by producers in sufficient numbers to be characterized as highly competitive, but are functionally untenable for most farmers, especially small family farms, to financially justify investing in new practices, as growers, on average, end up co-investing in each enhancement at around 50%. Another concern about the NRCS programs is that they are often not fine-tuned to a farmer's particular situation. Payments for conservation practices generally do not change depending on the farmer's location or surroundings, even though the public and environmental benefits of conservation and regenerative agriculture vary widely across different locations and ecosystems.

While we must work to ensure the continued support and refining of these programs, through the farm bill, to better support soil health and regeneration of our land and rural communities, there remains an enormous opportunity for funders, investors, lenders and the private sector to step up and invest in our farmers and ranchers in order to successfully transition broad acreage in the US.

Carbon farm plans and regenerative transition plans are often difficult to implement because producers need additional capital beyond these government funds to help finance the operational, equipment and/or infrastructure needs that are associated with the adoption of new crops and practices. Traditional lending institutions lack the appetite to finance the early stages of a regenerative and organic agriculture, as the financial returns of regenerative farming are currently not well known. Yet, to realize the climate mitigation potential associated with the implementation of regenerative agricultural practices and the restoration of our landscapes, “more than \$700 billion in estimated net capital expenditure over the next 30 years will be needed.”¹³

To mitigate climate change and restore our landscapes, it will take \$700 billion in estimated net capital expenditure over the next 30 years.

In July 2019, the Croatan and Delta Institutes, with the support of a USDA Conservation Innovation Grant, published a report analyzing the growing interest in regenerative food system investment. The report, *Soil Wealth: Investing in Regenerative Agriculture Across Asset Classes*, quantifies the US landscape of investment in sustainable and regenerative agriculture. Soil Wealth identifies \$321.1 billion in managed assets that explicitly integrate sustainable food criteria in their investment strategies, and a smaller subset of investments - \$47.5 billion - specifically related to regenerative agriculture. As part of their analysis, “67 distinct financial mechanisms, instruments, and approaches emerged as ripe for application to regenerative agricultural finance, yet few could be considered maturely established.”¹³ Instead, farmers find themselves repeatedly facing numerous barriers when attempting to use existing financial mechanisms to shift their practices to more regenerative solutions, and many are forced to turn to entrepreneurial self-financing techniques.

A new type of capital is needed.

In order to move the field forward at the farm and landscape level, it is critical to develop new loan tools and amplify the access to “regenerative” capital from ag lenders and investors, and partner these financial tools with adequate training and farmer learning networks to implement regenerative organic practices. Fortunately, many new capital tools and models to do this are being piloted, which provide the right kinds of patient capital, training, and market opportunities for farmers during transition and for early adopters as they scale their businesses. These types of programs, that couple new financial vehicles with trusted technical support, have proven to be highly successful in catalyzing more wide-scale adoption of regenerative organic agriculture practices and acreage.

Funders and investors interested in sustainable and regenerative agriculture are uniquely positioned to help catalyze the financial drivers that will advance regenerative agriculture and take it to scale. For example, philanthropy can provide early catalytic capital to new regenerative focused loan funds, as well as play a direct role in supporting farmers who need access to low-interest or no-interest capital for purchase of equipment, seeds, organic inputs, or other up-front costs they will incur during a transition period. Philanthropy can also help by funding the establishment of ecosystem service payment schemes that value the ecosystem values and public benefits that our farmers and ranchers provide us all, beyond simply valuing crop yield.



KEY LEVERS AND OPPORTUNITIES

Regenerative Financial Tools and Vehicles

Innovation in regenerative agriculture is cash limited. Producers are saddled with debt and insurance obligations that reinforce a broken system. We need new lines of capital to subvert these systems, offering farmers the freedom and support to break out of the industrial reality. We need to repurpose money and aim to reinvent our investment strategies to serve all people and ecosystems, as opposed to placing profit above communities and the earth. We need capital to flow back to the land, enabling our farmers and ranchers to steward the soil while producing healthy food. Money produced by the extraction of natural and human resources denigrates society and creates injustice and inequity.

Asked about top barriers, one Midwest farm advocate highlighted these financial challenges,

“Capitalizing for a new enterprise is an enormous challenge. For example, if you’re going to be moving into small grains, you’re going to need a new combine, or at least a new head, more storage, etc. So, a lot of farmers feel trapped in the current production model because trying to invest in anything new is so hard. It’s hard enough to just maintain what you have.”

Another east coast farmer echoed this barrier, noting, “Finance is the key—farmers who want to transform their operations can’t get the loans they need to do this.” Asked to share more about this barrier, farmers we interviewed explained, “By 4 to 7 years in, most farmers have had costs above profits, so they are selling off parcels or equipment and bleeding out equity just to keep paying the bills. So, they can’t go beyond it and there comes a point when they can’t collateralize a new loan and scale what they are trying to do.”

As these reflections highlight, we must re-imagine our current financial tools to create new vehicles that provide access to more patient capital, including transition loans, operating loans, guarantee loans, bridge loans, non-extractive equity and debt, and royalty financing. A recent report by the Global Canopy Programme listed several emerging financial instruments that can mitigate risks and incentivize sustainability as well. These include “grants and subsidies, equity investments, green bonds, partial credit guarantees by non-governmental organizations or banks to compensate for small farmers lack of collateral. Off-take agreements, in which buyers commit to purchase future production, also helps reduce risk.”¹⁹ Although these tools are not new, they can be combined into innovative financial mechanisms that incentivize regenerative agriculture. These tools should aim to support and facilitate the adoption of and transition to regenerative agriculture and, perhaps most importantly, be developed in direct partnership with farmers and ranchers. Funders and investors should also prioritize farmers of color, women farmers, and indigenous farmers, who haven’t had equitable access to the capital they deserve and need to support their communities and work.

Root Capital: A Model For Non-Extractive Lending to Farmers

Root Capital invests in the growth of agricultural enterprises that support smallholder farmers globally. They seek out enterprises whose credit needs are too big for micro-finance and too small or risky for commercial banks. Root Capital provides loans ranging from about \$200,000 to \$2 million specially tailored to harvest and sales cycles. To help businesses grow over the long-term, they mix that financing with highly-customized training to strengthen the financial management, governance, and agronomic capacity of each individual farmer and agricultural



enterprise. Like the mainstream financial sector, Root Capital manages financial risk and return. But they also integrate social and environmental impact into the standard risk-return framework in a way that is both quantitative and holistic. They have found a way to integrate people and the natural environment into the formulas they use to make financial decisions, providing a blueprint for other financial institutions to do the same in their publication "Efficient Impact Frontier."

CURRENT & EMERGING OPPORTUNITIES

rePlant Capital

RePlant Capital is a new financial services firm using innovative finance to fuel the regenerative revolution. Their first product is an integrated capital fund called the Soil Fund. rePlant provides farmers with low cost loans to assist in their conversion to regenerative and organic practices. rePlant is partnering with the world's largest food and beverage companies, like Danone, and AB InBev, to work with their vast supply chains to rapidly scale organic, and regenerative practices. Additionally, rePlant partners with expert technical assistance providers to assist farmers by helping inform them on regenerative practices, farm planning/management, data capture and to measure outcomes. Led by veteran impact investors, rePlant Capital is in the process of raising the first \$50M Soil Fund to make both debt and equity investments in disruptive farmers and organizations leading the regenerative revolution.

Maine Harvest Federal Credit Union

Maine Harvest Federal Credit Union is the only fully-regulated financial institution focused on growing a healthy, local food system through government-guaranteed deposits. Their mission is to provide financing for Maine's small farms and food producers with deposits from people and institutions that share their values. As a specialized credit union, they offer only business loans, regular share savings accounts, and regular CDs. Although focused solely on New England, the Maine Harvest Credit Union could become an important experiment to watch to determine if it could be replicated in other places.

Croatan Institute, OARS

The Organic Agriculture Revitalization Strategy (OARS) is an initiative that seeks to take advantage of growing consumer and investor interest in organic food and agriculture—now nearly a \$50 billion mainstream market—and use it as a strategy for revitalizing rural communities and supporting regional economic development. Developed by Croatan Institute and Earthwise Organics with initial support from Organic Valley's Farmers Advocating for Organics program and a growing group of partners, OARS aims to identify business and investment opportunities in regional value chains and to mobilize capital to help build community health and wealth.

Perennial Fund (MAD Agriculture)

The Perennial Fund (Mad Ag) enables farmers to transition to regenerative, organic agriculture using creative debt structures paired with fully integrated technical



assistance, business planning and access to markets. They provide operating capital to help farmers forge the “three-year gap to organic”, when they experience decreased yield at conventional prices. The Perennial Fund offers farmers a ten-year note: (i) beginning with three years of transitional operating capital where farmers pay what they can, (ii) once organic certification is reached, a revenue sharing structure begins, with a target of being paid 150% of the loan value within five years, (iii) each loan provides up to two deferral years to buffer against weather and market variability. With every farmer, Mad Ag co-creates a robust organic transition and farm plan and their business planning assistance pulls together a combination of holistic management and Regrarians design principles to identify both bottom and top line opportunities for cost saving and new market outlets for food, fiber and livestock, including creating new supply sheds and partnerships among farmers, supply shed intermediaries (i.e. processors, distributors, retailers) and consumer-facing brands. Half of the Perennial Fund farmers will be using the new Regenerative Organic Certification. Social, financial and ecological outcomes of regenerative organic agriculture are being monitored in partnership with Dr. Jon Lundgren and the Ecdysis Foundation. Mad Ag is taking powerful first-principles and place-based approaches to catalyze a regenerative revolution in agriculture.

Black Farmer Fund

The mission of Black Farmer Fund is to create a thriving, resilient, and equitable food system by investing in black food systems entrepreneurs and communities in New York State. The fund will offer low interest rate loans and will invest across the black food system, including purchasing land, scaling up and improving businesses, supporting food aggregators and value-added processors. They have set up a three tier system for their Fund, with the goal of buying land for black farmers and helping these farmers set up and scale their businesses. The first tier is available to philanthropic investors. The second tier is available to accredited investors. These two tiers of investors will be expected to take on more risk in the model and will have less decision-making power. The final tier will be for unaccredited investors and community members, who can contribute smaller amounts. In keeping with a reparations framework, decision-making power will reside primarily with community members and a community-based investment committee. The pilot fund will be based in New York State, but the eventual goal is to extend to a national program and help other organizations pilot this model.

Lakewind Organic Field Fund (LOFF)

The purpose of Lakewinds Organic Field Fund (LOFF) is to support local farmers and farming associations by making direct grants to further the goals of organic or transitional farms and the organizations that support them. Their website features information on previously funded projects, including: improvement to packing sheds and other facilities, purchase of equipment and tools, financial support for the process of organic transition, purchases that increase farm productivity or efficiency, projects that improve soil health, and other projects that benefit the farm. LOFF is open to all farmers and farming associations, but preference is given to farmers and farming organizations located in Minnesota, northern Iowa, and western Wisconsin.



Croatan Institute, Rural Regenerative Organic Agricultural Districts

The Croatan Institute, with support from an NRCS Conservation Innovation Grant, is accelerating the adoption of regenerative agriculture practices in US farm communities through the development of innovative financing mechanisms for regenerative farms coupled with technical assistance to learn, implement, and troubleshoot regenerative practices. They are doing this by developing a new place-based model for regenerative agricultural financing and community development, rooted in special purpose rural districts. The project proposes to develop this Rural Organic Regenerative Agriculture District (ROADS) concept in four different targeted geographies across the country in order to assess a variety of potential configurations for its deployment. Ultimately, their objective is to develop a replicable model, with an Implementation Roadmap, that can be used by regions around the country that have a readiness for making regenerative agriculture a magnet for rural place-based investment and rural economic development. As part of the district concept, the model will include partnering with key technical assistance providers, including local farmers networks and on farm learning projects, in each pilot region to support farmers during the transition.

Intertribal Agricultural Council Community Development Financial Institution, Akiptan (Lakota for “bringing together or sharing”):

This recently launched CDFI uses remaining funds from the longstanding *Keepseagle v. Vilsack* case, which was based on discrimination against Native American farmers and ranchers in the U.S. Department of Agriculture (USDA) farm and ranch loan program. The IAC's CDFI focuses on making investments, not loans, in order to support wealth building for Indian producers. According to IAC Executive Director Zach Ducheneaux, to date the fund has deployed \$1.8 million-\$1M in investment strategy, \$800K in fair and flexible loans, has deployed \$2.5 million, with a 100% repayment rate. The Akitpan fund is actively seeking additional flexible capital to increase its investment capacity and represents an opportunity to build up an equitable financing vehicle supporting regenerative and traditional agriculture.

Black Land and Power Fund, National Black Food and Justice Alliance

Built on the legacy of the Federation of Southern Cooperatives/Land Assistance Fund, which supports land retention for Southern Black farmers, the Black Land and Power Fund is a democratically governed finance vehicle that invests in cooperatives, farmland, legal assistance, and food hubs. Through grants, loans, and technical assistance, it works to strengthen Black food and farming businesses.

CA BIPOC Farmers Fund and Initiative- An Emerging Partnership

In December 2019, CA Farmers of Color convened, including Mai Nguyen, farmer, Minnow and National Young Farmers Coalition; Anthony Chang & David Mancera, Kitchen Table Advisors; A-dae Romero-Briones, First Nations Development Institute; Leslie Lindo, Candide and formerly Common Future, and other farmers of color and indigenous farmers to lay the foundation for a long-term future network of Soul Fire Farm-type farms in California that are practicing ecological land stewardship,



centering and holding space for communities of color and self-determination, running farm businesses and doing education, community-building and social justice work. The “impact” of resourcing farmers of color directly would be a) the collective community building and education around justice, self-determination and food sovereignty of this group of farmer of color leaders; b) the long-term health of the land and people stewarding the land; c) the beginnings of building a collective or network of farmer of color leaders prioritizing community-building, education and justice. They are currently working towards building out the opportunity to fund and resource these communities of farmers directly and looking for support in this work.

Unlocking Capital Flow Directly into Farming and Ranching Communities

We are seeing a huge gap in financing mechanisms that can unlock capital at the ground level and facilitate community level decision making about where money moves and how. As one potential solution, there is a need for revolving loan funds to unlock capital flow into the hands of our farming and ranching communities—like Root Capital is for international work. We need to start getting funds directly in the hands of farmers and ranchers ready and willing to begin the transition. When designed and implemented in ways that align incentives and shared values, mechanisms such as partial loan guarantees, risk-sharing facilities, reserves for first-loss capital, and technical assistance funds can mitigate risk and expand impact. These types of blended financing structures, particularly guarantee loan funds backed by philanthropic and impact funders, if further scaled, can also help lower barriers to entry for other lenders and funders to mobilize capital from a range of sources. Such funds should also include frameworks to ensure that those on the ground have a majority of the decision making power, including review committees that include farmers and people of color and other participatory models.

Steward: The World’s First CrowdFarming Platform

Steward provides small-to medium-scale sustainable farms an online platform that allows them to find capital and grow and run their businesses. Steward’s main business is to provide a crowdfunding platform to provide capital to small farmers who would find it almost impossible to access from conventional sources. Among Steward’s first sixteen investees include an Amish dairy farmer, an Oregonian CBD producer, and two urban farms in Detroit, Michigan. Individual investors commit capital, with a minimum investment of only \$100, to the Steward Farm Trust, which pools the capital and underwrites loans to the farmers while issuing investors a dividend-paying stock. The Steward Farm Trust acts as a principal investor, conducting initial due diligence and ongoing servicing and oversight, but also acts as an agent on behalf of the crowdfunding principals. They have recently launched a micro-loans program for regenerative farmers and are seeking funding for their current equity round.



Farmland Asset Financing

Farmland is expensive and is only getting more expensive. Farm real estate prices have doubled in the last decade. For farmers who are using regenerative agriculture or conservation practices, insecure land tenure critically inhibits multi-year business planning. Many new and expanding farmers, even those with profitable operations, do not qualify for a conventional loan and/or do not have enough capital saved to make a large down payment. The primary alternative is leased land, which is often short-term, insecure and requires permission from landowners to erect basic farm infrastructure. In 2016, as reported by the USDA, 38% of all farmland and over half of cropland was rented. Renting leaves farmers vulnerable to their landlord’s decision-making and restricts their ability to truly build regenerative systems, as these systems take time to pay off. Without a chance to reap profits, tenant farmers face a disincentive to invest in long-term regenerative strategies.

As noted in the *Soil Wealth* report, the emerging asset classes that are most ripe for rapid development are farmland, cash and fixed income, with “farmland naturally providing the most direct way to enable regenerative agriculture in the field.” Farmland investments are by far the largest asset class in the regenerative financing ecosystem, representing almost half of assets under management.

As an example of valuing regeneration and ecosystem values through farmland investment, Farmland LP, a sustainable farmland investment company, acquires undervalued farmland and adds value through implementing sustainable management plans that include organic certification, infrastructure, and increasing crop diversity. Their stated goal is to “demonstrate that large-scale sustainable agriculture is more profitable than the dominant model of commercial agriculture in the U.S. today.” They have begun using ecosystem service value as an additional measure of impact and return with their investors, based on The Ecosystem Valuation Toolkit (EVT) developed by Earth Economics. In their 2018 impact report, they used this model to generate a quantitative assessment of the ecosystem service and biophysical impacts of their sustainable farmland investments, focusing on the ecosystem service impact areas and corresponding metrics in the table below. According to the report, “some \$85 million worth of farmland in its first fund — Vital Farmland LP — generated a financial return of 67%, but also \$21.4 million in ecosystem service value, which accrues to the surrounding communities and environment. Under conventional management practices, the same farms would have caused a negative \$8.5 million in ecosystem harm since inception. This is a model and framework that can be applied by others investing in farmers and farmland assets to inherently change the way we are valuing farmland.”²⁰

Impact Area	Impact Metric	Underlying Biophysical Metric
Social	Air Quality	Particulates, NOx
	Aesthetics	Housing prices
	Disaster Risk Reduction	Damages from flooding
	Food	For human and animal consumption
Biodiversity	Biological Control	Predators or noxious weeds
	Habitat	Areas used as habitat by wild animals
	Pollination & Seed Dispersal	Increased plant productivity
Climate & Energy	Climate Stability	Soil carbon (C), CO ₂ , N ₂ O
	Soil Formation	Soil organic matter carbon, soil quantity
Water	Water Capture, Conveyance & Supply	Water used by humans and the environment
	Water Quality	Excess nutrients or particulates in water
Soils	Soil Retention	Soil erosion
	Soil Quality	Soil nutrients

Original Source: *Valuing the Ecosystem Service Benefits from Regenerative Agriculture Practices, Farmland LP 2017*



The groups listed below, focusing on farmland asset financing, are facilitating farmland transitions, crafting long-term leases that allow businesses to expand securely, as well as providing defined pathways to ownership. They are striving to deliver superior risk-adjusted returns to their investors using sustainable land management practices that align the interests of investors, the environment, farm managers, consumers, the communities in which they operate, and future generations.

Land investment partnerships may look like:

- Relocating an existing farm to a larger property, or to a farm with more secure land tenure
- Expanding a successful operation by acquiring nearby land
- Transferring a farm to non-family or family successors
- Conserving when land trusts look to partner with a like-minded organization, or keep already conserved land in active agricultural production
- Transforming a farm with infrastructure updates for the next generation's efficiency
- Reorganizing, or refinancing a farm in the event of a change in the partnership or business

New Island Capital: A Model For Other Asset Managers

New Island's Sustainable Agriculture program recommends investments in emerging practices and solutions that improve environmental performance while benefitting mid-sized farmers and rural communities. They pursue debt and equity investments in sustainable agricultural technologies and inputs, farmland, aquaculture, organics, local food production and farm energy solutions.

CURRENT & EMERGING OPPORTUNITIES

Dirt Capital Partners

Dirt Capital facilitates farmland transitions, crafting long-term leases that allow businesses to expand securely, and providing defined pathways to ownership. They work with sustainable farmers who have successful, existing operations, established markets, and the opportunity to grow and expand their business through long-term, secure land access. By 2018, Dirt Capital closed on five new projects, investing \$4.4 million in 689 acres of land and farm buildings, bringing their total to twenty farm investments in 5 years. These projects include partnerships with several farmers and land trusts to conserve and regenerate agricultural properties across New York and New England. They also closed two easement sales in NJ and ME, and partnered on three conservation investments with anticipated future easements sales in VT, MA, and NY. Overall, this includes 1,194 farmland acres impacted, on five properties in five states. Conservation partners included: Hunterdon County, NJ and NJ SADC, Maine Farmland Trust, Massachusetts Department of Agricultural Resources, Scenic Hudson, the Vermont Land Trust, and the City of South Burlington.



Iroquois Valley Farmland REIT

Iroquois Valley Farmland REIT, a Public Benefit Corporation and Certified B-Corporation, has a ten-year history of deploying private investment capital to secure land for independent organic farmers. Investment opportunities include REIT Equity Shares which offer direct ownership of a diversified portfolio of organic farmland, and Soil Restoration Notes, a fixed income product that has an additional financial benefit to

REITs, or real estate investment trusts, are companies that own or finance income-producing real estate across a range of property sectors.

organic farmers transitioning the soil. Currently, both investment opportunities are available to accredited investors only, but the Company launched a new Equity Offering in January, 2020 that allows any investor to purchase stock, REIT Equity Shares, with a minimum investment amount of \$10,000.

Farmland LP

A sustainable farmland investment company, Farmland LP buys commodity farmland in the U.S. in regions that are proximate to markets with strong demand for locally grown, organic food; have a strong, existing farming community; and have favorable climate projections. They work to add value by securing organic certification, investing in infrastructure, and increasing crop diversity. They bought their first farm in 2010 in Corvallis, Oregon. Today, they manage over 12,500 acres of farmland in Northern California and Oregon's Willamette Valley. Through their expertise in agriculture, soil biology, real estate, and farm management, they have forged a new model for how farmland is owned and managed that can be modeled in other regions. Farmland LP is currently offering a Vital Farmland REIT investment opportunity for funders and investors to support the scaling of their model.

Northeast Farm Access, LLC

They bring together farmers, social investors, and local allies, especially conservation land trusts, to revive and transform sustainable agriculture, yielding not just abundant clean, local food, but also a new generation of successful organic farmers. Their innovative projects create long-term access to farmland and food while also growing farmer and investor equity. With investor support, they buy land, transition it to organic, and lease it long-term and affordably to experienced farmers. They use a community-based development approach to work with investors, experienced farmers and local allies to make sure an investment in agriculture yields results that are good for the investor, the farmer, and the land, based on a set of social-investing criteria.

Winnett ACES Grassbank Project: Farmers and Ranchers at the Forefront of Piloting New Models

To help young ranchers establish themselves, and to give current ranchers a bit more security, a group of central Montanans have been developing a grassbank pilot managed by Winnett ACES, Agriculture Community Enhancement and Sustainability. A grassbank is a piece of land where pasture is leased to multiple ranchers for a reduced rate. These ranchers earn reduced grazing fees on shared land by implementing conservation practices on their own private land. By



managing for both conservation and community, a grassbank benefits wildlife and natural resources while also increasing economic opportunities in ranching communities. Unlike preserves that set aside land to conserve wildlife, the grassbank model works to conserve a much larger landscape than a single property on its own—it works effectively on a scale that is both ecologically and socially relevant. Because the model is based on keeping working lands in agriculture, The Winnett ACES team behind this program thinks that a grassbank will achieve both conservation and community resilience. A successful grassbank, which is serving as a model, already exists in southern Phillips County, to the north of Winnett. The Nature Conservancy owns and operates the Matador Ranch, which currently leases to 18 different “grassbankers” – those who run their cattle on the land. This approach gives several producers the opportunity for more grass, which stabilizes these operations, and in turn, stabilizes the local community.

Ag Lender Partnership

Bank lending remains one of the most vital forms of financing that farmers and ranchers can typically access. Lending practices currently support the status quo and bankers can be reluctant to support alternative systems such as those used by some regenerative producers. Alternative lending structures could support these producers. We will not be able to fix a broken food system with a broken financial system. If we are able to demonstrate that healthy and productive farmland is more valuable than degraded farmland, there is a big opportunity to change our entire ag lending and banking system. Ag lending structures that value regenerative and conservation practices as less risky than conventional ag practices would provide the right kinds of capital to farmers and producers to encourage and support regenerative agriculture practices.

As laid out in the *Soil Wealth* report, "when analyzed more broadly across the rural and agriculture banking sector, including government sponsored enterprises such as the Federal Farm Credit System and Farmer Mac, rural agricultural bank and credit union deposits could theoretically be leveraged into a combined pool of some \$370 billion in assets. This is a major pool of untapped capital that is financing agribusiness as usual." Based on data from Project Drawdown, they estimated in their report "that for every \$1 billion in operating loans that could be targeted to farms implementing regenerative practices, 25 million tons of additional CO²e could be sequestered each year. By increasing loan levels further and strategically targeting lenders operating in agricultural regions with higher potential for soil carbon sequestration, the climate mitigation impacts could be even greater."¹³ With the farm-loan portfolios of the nation's top 30 banks declining 17.5% since 2015, supporting bankers and lenders to innovate and develop new investment and financial tools that can adequately support farmers and ranchers of all sizes will be necessary.

We see a big opportunity for funders and investors to ramp up their engagement in projects and strategies that can help unleash financing for regenerative agriculture by partnering directly with banks, CDFIs, and credit agencies. We are beginning to see this work happen across the US. In 2019, Rabo AgriFinance announced a new loan product that aims to make it more financially viable for farmers to seek organic certification on all or part of their crop operations. With guidance from Pipeline Foods and Dr. David LeZaks (Croatan Institute), Rabo AgriFinance and Compeer Financial have developed a financial framework that gives farmers the flexibility to receive the capital needed for upfront costs associated with changing production practices. Farmers can schedule repayments when they receive the additional revenue from selling certified organic goods.

A philanthropic loan guarantee fund is another potential opportunity for funders to help banks loan for the adoption of more conservation and regenerative practices. The USDA Farm Services Agency, as an example,



currently offers a loan guarantee for the installation of conservation practices on farms, though the program is poorly structured and never used, offering an opportunity for funders to pilot and assess the viability of new loan guarantee models.

Building CDFIs that Support Localized Regenerative Agriculture Systems

The prospect of growing jobs and food security through more local and regional food systems has recently drawn the attention of a national corps of proactive nonprofit lenders, known as Community Development Financial Institutions (CDFIs).

For the last decade, “healthy food” has been a targeted financing area for many CDFIs, as part of the Healthy Food Financing Initiative, a public-private partnership among USDA Rural Development, the Department of Health and Human Services, and the US Treasury Department. The Initiative has awarded more than \$220 million in federal grants to CDFIs and other community development corporations in the past 10 years. This funding is targeted for projects that aim to increase access to fresh, nutritious food in low-income rural and urban communities, and it often helps to leverage five times as much additional capital, much of it from private investors such as foundations, hospitals, and faith-based institutions.

In recent years, however, very few CDFI banks or credit unions have been awarded financial assistance through the program. Furthermore, even for those that were supported, explicit references to regenerative agriculture among CDFI loan funds are rarely found, and few community loan funds provide a structured investment product that gives an investor full exposure to the food and agriculture segments of their lending portfolios. Farmers, ranchers, and community leaders, with support from funders, should build relationships with their local CDFIs and educate them about their ability to help locally with forming sustainable, healthy food supply chains, connecting farms to regional food hubs, and developing new retail opportunities. Finding local partners and building their regional food system expertise is critical for CDFIs to shape the finance products and technical assistance programs that can best serve farmers and farm business borrowers.

Examples of successful CDFI models that are supporting their local food and ag systems, with the potential to be replicated in other regions, include:

Coastal Enterprises, Inc. Maine (CEI Maine)

CEI Maine started investing in agriculture in 1978. CEI has played a strong role in the family farm sector in the state, providing more than \$10 million in financing and equity investments to over 140 agricultural and food-related enterprises, and leveraging another \$43 million in additional public and private capital. CEI Maine has recently broadened its focus to provide comprehensive support for building the local food system infrastructure.

The Reinvestment Fund (TRF)

TRF in Philadelphia developed the Fresh Food Finance Initiative (FFFI) in 2004. The fund started with a \$30 million investment from the state, which TRF leveraged with private resources to create a comprehensive, multifaceted \$120 million financing pool for grocery stores and supermarkets. Their financing supports enterprises that



contribute to a balanced and dynamic food system. With over \$300 million invested in food projects to date, they are financing projects ranging from production and retail to food banks and child nutrition. Financing can be used to build or expand facilities, increase healthy food options, bridge capital gaps and purchase new equipment.

The Natural Capital Investment Fund

NCI Fund lends and provides business advisory services to businesses and non-profits located in underserved rural and urban communities. Based in West Virginia, with lending operations extending across Appalachia and the Southeast, they have a local foods and value-added agriculture theme within their portfolio, having financed important value-chain enterprises supporting organic farms.

Intertribal Agricultural Council's Akiptan Fund, as listed earlier in this section, is another excellent model

CURRENT & EMERGING OPPORTUNITIES

Land Core SOIL Program

Land Core is creating the first scalable, outcomes-verified land lease platform, Standardized Outcomes Integrated Lease (SOIL), bringing together landowners, producers, third-party verifiers, and financial partners, to radically advance soil health adoption in America. This platform will serve as a vehicle to reverse the catastrophic trend of massive erosion that is destroying our farms and watersheds, help quantify potential carbon capture, and reliably generate consistent outcomes data (using trusted, standardized testing protocols) on the actual ecological and risk-mitigation impacts being made on every farm or ranch in the lease platform. Over time, this platform can serve as a replicable model of risk assessment with outcomes data that will pave the way for meaningful crop insurance reform, as well as a shift in agricultural lending practices.

Meridian Institute, Conservation and Regenerative Agriculture Banking Framework Tool

Meridian Institute is working on a tool that will make it efficient for any ag lender to consider soil health in their risk ratings and contribute to a shift in lending practices that favors farmers who use conservation and regenerative practices. The AGree Coalition, housed at Meridian, is working to make the case for ag lending for regenerative agriculture and preferential lending to regenerative practitioners. Additional support will help the coalition better socialize the need for the tool with farmers, bankers, and investors; inform the tool development; provide input on the tool; and set AGree up for a successful 2021 pilot with farmers and producers. Ultimately, recognizing the risk reduction benefits of conservation and regenerative practices through economic incentives such as lending terms will encourage greater adoption by farmers and support a more resilient and sustainable agricultural system.



The Carrot Project

The Carrot Project is a nonprofit organization that pairs technical assistance with financing and business management services to increase the number of successful small farm and agriculture businesses. They have forged relationships with numerous financial intermediaries to develop place-based local food lending initiatives across the region, from New York to Maine. Among them, the Greater Berkshire Agriculture Fund is the only one that is working with a community bank, Salisbury Bank & Trust Company, to finance flexible 5% loans up to \$75,000 for farmers and entrepreneurs in a four-county, multi-state geography in the Hudson Valley of New York, northwest Connecticut, and western Massachusetts. The fund explicitly targets small and mid-sized farms and food system enterprises using sustainable or organic practices or products.

Payments for Ecosystem Services

There is growing interest in compensating farmers and ranchers for producing environmental benefits, beyond food and fiber yield, from working agricultural lands, including implementing market-like programs that would pay them directly and policy measures that place a value on the public good benefits they provide. Crop yield is currently the only measure of production and success, yet, in order to promote regenerative agriculture, we need to diversify markets and revenue streams for farmers, such as ecosystem services, carbon markets, and wildlife habitat. However, few examples exist of programs that pay directly for quantified services. Since markets for GHG emission reductions have been established, their combined value has increased to more than \$100 billion in just a few years. However, agriculture has been largely excluded from both formal and informal carbon markets or other mechanisms to pay farmers for ecosystem services.

As described by Farmland LP,

“Understanding and accounting for the value of natural capital assets and the ecosystem services they provide can reveal the economic benefits of investment in natural capital. Natural systems have only recently begun to be viewed as economic assets that provide economically valuable goods and services. Yet when these valuable goods and services are lost, people are more susceptible to disasters such as flooding, fires, and disease and they face costly expenditures to replace lost services, like water quality. When the ecosystem services nature previously provided for free are damaged or lost, they must be replaced by costly, taxpayer-funded built structures. It’s time that the valuation of natural capital assets and ecosystem services became a part of investment planning.”²⁰

Although denominated in dollars, ecosystem service values don’t appear in any financial statements, nor are they valued or compensated for in financial markets. They are, in essence, a tangible but hidden benefit that



regenerative farming practices provide to the surrounding environment and community. Some ecosystem goods, like food and water, are already valued and sold in markets. Many ecosystem services, however, are not amenable to markets and have not traditionally been valued, even though they provide vast economic value. Flood protection and climate stability are prime examples of ecosystem services that provide vast value and yet go largely unvalued within traditional accounting. To illustrate, when the flood protection services of a watershed are lost, economic damages from floods can include job losses, infrastructure repairs, reconstruction and restoration costs, property damages, and deaths.

Conversely, when investments are made to protect and support these services, local economies are more stable and less prone to the sudden need for burdensome expenditures on disaster mitigation. For example, during Superstorm Sandy, New York City's Catskills Watershed provided naturally filtered, clean, gravity-fed water with virtually no interruption in service. Previous efforts to protect and restore the watershed played a role in minimizing disruption. In contrast, New Jersey's damaged pumps, filtration plants, and contaminated intakes left much of New Jersey without potable water for weeks after the storm and with a \$2.6 billion tab for water infrastructure repair. In addition to the economic value associated with these avoided costs, natural capital such as healthy watersheds provide a myriad of other services, including water supply, carbon sequestration, water filtration, biodiversity, and more. All ecosystem services provide additive economic value locally, regionally, and globally.

Today, economic methods are available to value natural capital and many non-market ecosystem services. When valued in dollars, these services can be incorporated into a number of economic tools, including benefit-cost analysis, accounting, environmental impact statements, asset management plans, conservation prioritization, and return on investment calculations. Inclusion of these values ultimately strengthens decision-making. When natural capital assets and ecosystem services are not considered in economic analysis, they are effectively valued at zero, which can lead to inefficient capital investments, higher incurred costs, and poor asset management.

Consistent ecosystem service outcome measurements remains a stumbling block to the broad-scale investment in regenerative agriculture. These outcomes are important to nearly every stakeholder in the supply chain: investors seek proof of the efficacy of capital deployed, farmers want to understand the most efficient production practices, companies want to quantify carbon sequestered as an offset, policy makers need evidence of enhanced resiliency. Of the different outcomes to measure, quantifying soil carbon sequestration at scale is one of the most salient challenges. Soil is foundational to agricultural health, a key resource to sequester carbon, and paramount to ensuring food security. Scientists and entrepreneurs are actively working to solve this problem; a few promising initiatives include infra-red soil measurement tools like **Quick Carbon and COMET-Farm** greenhouse gas accounting. An industry-wide coalition, the **Ecosystem Services Market Consortium (ESMC)**, seeks to launch a national agricultural ecosystem service marketplace by 2022. The coalition is working to create consistent measurement protocols for on-farm greenhouse gas emissions, water quality, and water quantity. While entrepreneurs and the ESMC are focused on ecosystem service measurement and market creation, big questions remain about how to measure more subjective components of regenerative agriculture, like community well-being.



Measuring Ecosystem Benefits

As regenerative agriculture has become a more and more important component of the global carbon conversation, a new set of tools and resources has emerged to quantify the potential ecosystem benefits of our farmland, with a current focus mostly on the role of soils in carbon sequestration. Some of these tools include:

- **COMET-Farm:** An assessment tool produced by NRCS, USDA, and Colorado State University that allows farmers and ranchers to estimate their entire operation's "carbon footprint" under different management scenarios. A particular benefit of COMET-Farm is that it leverages spatially specific data on soil type and climate patterns to provide spatially differentiated predictions. COMET-Farm provides us with field-specific estimates of, for example, annual changes in carbon stored in the soil and nitrous oxide emissions from nutrient applications.
- **Revised Universal Soil Loss Equation (RUSLE):** RUSLE was developed by USDA and the University of Tennessee, which estimates soil loss due to erosion.
- **OpenTEAM:** As further described in the Research and Science section of this report, OpenTEAM offers field-level carbon measurement, digital management records, remote sensing, predictive analytics, and input and economic management decision support in a connected platform that reduces the need for farmer data entry while improving access to a wide array of tools.

These tools and others can be further developed and applied by investors, funders, and policy makers to generate quantitative assessments of the ecosystem services and biophysical impacts provided by our farms and farmers and, subsequently, adequately compensate them for these benefits.

The key components of a successful project in this area are the capacity to measure and monitor carbon stocks, or emissions reduction or other ecosystem services accurately and at a low cost; the capability to aggregate farmers so that pools of outcomes in tradable amounts are formed; and the existence of financial mechanisms that efficiently connect the demand and supply for carbon offsets and other ecosystem services. The long term sustainability of a project, however, might depend not only on farmers receiving payments for the environmental services provided, but also on its capability of improving their welfare, the welfare of their rural communities, and public health.

We must continue to work at state, local, and national levels to tie together policies and corresponding funding mechanisms that value and reward our farmers and ranchers for building soil health, water quality, restoring ecosystem health, and developing stable rural economies.

Tying Agricultural Practices to Local and State Clean Water Policies and Funding

Around the country, we are beginning to see local and state governments make the connection between clean water and what takes place on our working landscapes, ultimately connecting funding for clean water to more sustainable farm practices. In New York, for example, the New York City Department of Environmental Protection is providing financial support for farmers in the Catskills to farm in ways that



protect the city's water quality. They have realized that if farmers did not protect the Delaware and Catskill water sheds, the City would have to make an estimated capital investment of \$8-10 billion in water filtration plants and spend an additional \$100 million annually to operate them. Phosphate is a particular problem, and the city would also have to deal with sediment running off the farms into the water supply system. For farmers, payments for eco-services compensate and empower private landowners to be surface-water stewards of New York City's drinking water. Whole farm management plans are agreed upon with farmers, incorporating best management practices that both support sustainable farming and protect water quality. The key to the business model: farmers benefit by getting financial support from the City of New York, and the city avoids having to go through a costly filtration system to physically remove impurities or contaminants in a series of filters.

Another example is the Silver Creek Pilot Project in Wisconsin. Around Green Bay, small streams carry excess nutrients from farm fields into the bay and eventually into Lake Michigan. As a result, the area is suffering from too much phosphorus in the water, which contributes to cyanobacteria, more commonly known as blue-green algae, which produce poisons that sicken people and kill key species. The state of Wisconsin told the Metropolitan Sewerage District, known as NEW Water, that it must cut back drastically on the phosphorus in the effluent it discharges into the bay. A 2012 state plan required industries in the watershed to cut their phosphorus by about half. That plan also calculated that farms in the watershed contributed almost half of the nearly 275 tons (250 metric tons) of phosphorus entering the bay each year. Normally it would have prompted a US\$100 million-dollar investment in added filtering. And that investment would have done little to solve the overall problem, removing less than 1% of the total phosphorus in the system. The new requirement pushed the district to do some creative thinking, developing an "adaptive management plan" with the state. Now, instead of building a new treatment plant, the district is helping farmers reduce their share of the pollution by supporting the implementation of practices such cover crops, low-till or no-till practices, converting sloping or eroded landscapes from row crops to rotational grazing, and planting buffer strips of grasses and perennials along streams and beyond. Funding is coming from the Environmental Protection Agency's Great Lakes Restoration Initiative.

CURRENT & EMERGING OPPORTUNITIES

Hudson Carbon

Hudson Carbon is a research institute that studies the carbon storage potential of soil managed with regenerative agricultural practices. The work of Hudson Carbon and their partners at the Woods Hole Marine Biological Laboratory, lay important groundwork for the establishment of a soil carbon protocol that could be used by regenerative farmers to sell carbon credits, and reap monetary benefits for their role as carbon farmers and ranchers.



Florida Ranchlands Environmental Services Projects

The FRESP is a place based example of payment for ecosystem services. The team designed and field tested elements of a Payment for Environmental Services (PES) program, an innovative approach that uses market-like concepts to increase the provision of environmental services in partnership with ranchers. The PES program was designed to achieve two important goals. First, PES can encourage ranchers to retain water and remove nutrients from public water bodies as a complement to public investment in regional water quality and storage projects. Second, the payments made for water retention and nutrient removal can contribute to ranch financial sustainability. As another source of income for ranchers, PES payments can help keep ranchers ranching so ranchlands will not be converted to more intensive uses that could have adverse impacts on watershed hydrology, water quality and wildlife.

Carbon Yield

Carbon Yield helps farmers get paid to restore their soil and institute a healthy, profitable growing system. They navigate the carbon market on farmers' behalf by cataloguing, registering, and verifying their carbon credits. They negotiate carbon offset purchase agreements with institutional buyers and share the profits with their farming partners.

Regen Network

Currently focused on the development of Ecological State Protocols (ESP), an automated algorithmic process that determines a specific ecological change of state. An ESP can be as simple as verifying an increase in vegetation using satellite data, or as complex as quantifying carbon sequestration in the soil. They are developing an early set of ESP's that include: (1) Afforestation/Reforestation in partnership with the Rainforest Foundation; (2) Grasslands Health with Savory Institute; (3) Mangrove Habitat with Generation Blue and EarthPulse. In 2020, they began offering their first sale of "CarbonPlus Grassland Credits" for holistic grazers. These credits will represent verified carbon sequestration and a suite of other co-benefits and sell for around \$10 - \$14 per ton sequestered.

Nori

Nori's goal is to create a new way for anyone in the world to pay to remove excess carbon dioxide from the atmosphere. Their carbon removal marketplace is currently focused on regenerative agriculture projects that store carbon in the soil and uses a blockchain-based platform to create a market in which companies that wish to offset their own carbon emissions can pay farmers directly for carbon sequestered. Co-founder Christophe Jospe says Nori won't charge farmers listing fees, and that farmers will get 100% of the value of the carbon removal credit. And the company will not artificially constrict the carbon removal credit marketplace, as is common in other voluntary and compulsory carbon-offset markets. Nori's co-founders hope that this liquidity will attract investors looking for a financial opportunity who might not have otherwise participated in a carbon removal marketplace, and thus raise the value of carbon removal credits overall.



Ecosystem Services Market Consortium (ESMC)

The goal of the Ecosystem Services Market Consortium (ESMC) is to launch a fully functioning national scale ecosystem services market conceived and designed to sell both carbon and water quality and quantity credits for the agriculture sector by 2022. They are working in partnership with leading US and international NGO's, companies, and experts from across the agricultural supply chain and value chain. The Ecosystem Services Market (ESM) program will enable farmers and ranchers to voluntarily adjust crop and livestock production systems in ways that increase soil carbon sequestration and retention, reduce greenhouse gas emissions, improve water quality, conserve water use, and benefit many additional ecosystem service outcomes. ESMC quantifies changes to ecosystem services annually and over time in a science-based, standards-based, verified and certified program. The quantified changes in ecosystem services are monetized and sold as ecosystem services credits. The farmers and ranchers who create the ecosystem services are paid for those credits in a national ecosystem services market in which buyers purchase credits to reduce their environmental and supply chain impacts.



BREAD & BUTTER FARM, VERMONT



Farm/Ranch Name: Bread & Butter Farm, LLC

Farmer/Rancher Name: Corie Pierce

Location of Farm: South Burlington, Vermont

Years Farming this land: 10.5

Crop or Animal Specialties: Beef Cattle, Pigs, Organic veggies, on farm café, educational programs, community events

engaged and connected to the farm, to the land, and develop a genuine sense of place.

Corie Pierce started working on a veggie farm where she grew up in South NH and immediately fell in love with farming. It took a while to figure out how to start a farm when you don't come from a farm, but in 2009 her dream became reality when she learned of the Vermont Land Trust and how they help new farmers access land through conservation easements. From there, the vision for a highly diverse, multi-household, collaborative farm has been growing and evolving.

Today, Bread & Butter Farm focuses on regenerative farming by working with ruminants and other herds to build soil and to heal the land, as well as growing organic vegetables with low till and soil building practices. Two other unique businesses call Bread & Butter Farm home:

1. Music for Sprouts, a music and movement program for young children and their families
2. Blank Page Café, a true Farm to Belly café

These three businesses synergistically work together to help create interactive and enjoyable on-farm experiences for patrons. Additionally, Bread & Butter Farm operates summer farm camp and school year immersive Village School programs so that kiddos have the opportunity to become deeply

Fostering A Healthy Ecosystem and Community

First, we see ourselves as part of our broader ecosystem, not separate from it, so we start by asking, “what does our ecosystem need to be as healthy as possible?” For us this has meant to rebuild soil and increase biodiversity. With anything that we introduce to this ecosystem (cattle, pigs, any plants we choose to plant, chickens, humans, structures, etc.), we ask how we can improve the soil, water, air, and home for all who live here. Practically speaking this has meant managing grandmother-centric herds where we keep families intact and move the herds across the landscape as they would if they were wild herds. This means growing “beyond organic” by limiting tillage and building organic matter as we grow. And this also means partnering with our neighbors and inviting our community to come take part in events and programs that we offer.

Economic Incentives and Land Access as Barriers

As we look to the future of food and agriculture in the US, we would love to see that truly regeneratively raised and grown food is valued

by more people, that more people collectively understand the differences between poorly managed and amazingly managed grasslands, woodlands, and forest lands, and that farmers are able to sell their food at a price that is able to pay them a living salary so farmers can stay on their land. I hope to see that farmers are positively and economically incentivized to manage their land, plants and animals in a regenerative manner and that we use accurate and logical measures to assess the quality of work farmers/ranchers are doing.

We also hope that accessing land becomes less of a barrier for many farmers. We are looking into community-held commons models of land ownership, such as the Agrarian Trust model, as a land holding model that we are really excited about to take debt service for land out of the equation for farmers. This is a super exciting model to explore and could help break the barrier of always putting farmers into serious debt just around land ownership.



BRISA DE AÑO RANCH, CALIFORNIA



Farm/Ranch Name: Brisa de Año Ranch

Farmer/Rancher Name: Cole Mazariegos-Anastassiou, Verónica Mazariegos-Anastassiou, Cristóbal Cruz Hernández

Location of Farm: Pescadero, California

Years Farming this land: 3

Crop or Animal Specialties: Diverse range of fruits, vegetables, and flowers. Over 50 different crops total. Best known for tomatoes, winter squash, dry beans, and peppers.

where we could farm long term. With that land, we hope that we can continue to further establish ourselves as a source for amazing food for many local families, businesses, and our communities.

Cristóbal immigrated to Pescadero from Oaxaca nearly thirty years ago and worked on several brussels sprout and artichoke farms over the years before becoming a farm manager at Pie Ranch. Verónica came into farming while first working with rice farmers in west Africa, and started working at Pie Ranch in 2016. Cole grew up interested in farming with farmers on both sides of his family; he started working at Pie Ranch in 2015.

Feeding the Community

In January 2018, the three of us started Brisa de Año Ranch when a local bakery reached out to request that we grow a few thousand pounds of winter squash for their pumpkin pies. From there, we have continued to expand to provide many other crops to dozens of other local businesses, to sell at farmers' markets, and to offer a CSA to local families.

We have a deep relationship with the land that we grow on. We lease our land and have leased several plots of land over the years, yet each plot of land we have grown to know intimately. Our dream is to eventually purchase our own farmland in the Pescadero area



Consumers Must Vote With Their Dollars

Our agricultural system was built for reasons other than supplying people with access to healthy, nutrient dense food and operating with an intention towards sustainability. As such, the public has grown accustomed to a food system that is not made in the image of sustainable, regenerative, climate-smart ag practices. Transitioning to those practices is not, in our experience, a particularly difficult transition. But it is difficult to get the general public to be willing to invest in – i.e. vote with their dollar – farms that use these practices. As such, the greatest barrier to a greater transition towards these systems is the financial backing of the general public.

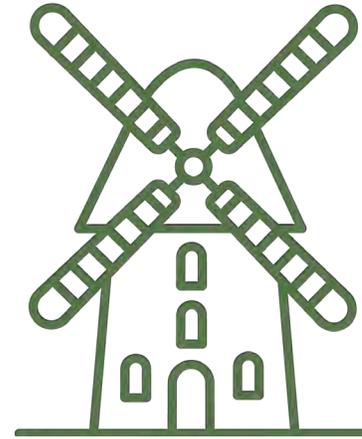
The most valuable thing that anyone can do – be they individuals, families, restaurants, groceries, distribution companies, etc. – is to consistently purchase from small, local, sustainable farms. With that comes a recognition of the realities of seasonality and that prices need to be fair for producers to stay in business. The producer can not be last, we must start putting them first.

REGENERATIVE SUPPLY CHAINS

Global food and apparel companies are a key market and source of funding for farmers and ranchers making the transition to regenerative ag practices. How food and fiber are sourced, packaged, and ultimately distributed are critical factors for the health of our soils, rural communities, and climate.

In interviews with farmers, ranchers, and advocates across the country, one of the most deep-seated barriers that emerged was the entrenched nature of the current agricultural supply chain and its economic constraints.

Farmers face uncertain downstream demand and an unwillingness to pay more for regeneratively produced products. As one researcher explained it, “The biggest single issue is the systemic infrastructure we’ve built in most of the country around large-scale agriculture that tends to favor commodity systems and large-scale monoculture. More and more folks find themselves trapped in a ‘treadmill of production’ growing more and more of a very few crops for a very massive and undifferentiated global market, that doesn’t care much for or pay much for different production systems.”



Producers and advocates quickly connected these price and financing barriers to the marketplace and cited the current lack of demand “pull” for regenerative ag practices on the part of larger companies. One Iowa farm advocate candidly stated, “We engage with tons of companies at this stage, and I want to tell them ‘if you just changed up procurement, we could fix a lot of these problems, as opposed to putting a bunch of money into nonprofits to do some good work, but structurally, stuff’s got to change at the procurement level.’” She added, “This really drives me crazy with the regen ag groups and brands that want to say they are doing the right thing—don’t just take a picture of the farmer and put it on your label, without investing in changes. Cover crops are tough, especially the first couple years, so why would you not co-invest in this with your producers?”

Other nonprofit leaders we interviewed reinforced the current market barriers.

“We can continue to support 1,000 farmers a year with subsidized training on these practices, even 10,000, which is amazing, but that is not going to turn the tide on the issues we’re dealing with across the board—ecologically, climate-wise, socially. Fundamentally, the market changes and support have to be a primary focus. It’s imperative that brands, markets, buyers commit to purchasing from people that are willing to make the transition and cost-share in that transition.”

Global and regional food and fiber supply chains offer many opportunities for leveraging positive changes in agricultural systems. Several global food companies are already structuring bonus payments to their farm suppliers for use of practices that build soil and sequester carbon, and many universities, school systems, hospitals, corporations, and local governments are using the power of their food purchasing dollars to shift production processes to promote regenerative practices. There are currently two major trends when it comes to supply chains. One is focused on shifting global food and fiber chains and agricultural practices in a positive direction and the other on building local and regional food and fiber systems—detaching in part from the global markets.

As described in Betsy Taylor’s 2019 report, *Healthy Soils to Cool the Planet*, “Globally, the action has been

with major companies and their farm and consumer partners. General Mills is advancing regenerative agriculture through its natural and organic brands, including Annie's, which has a strong push for organic, regenerative practices. It has produced a regenerative agriculture scorecard to help guide the work.

Danone includes soil carbon sequestration in the company's Climate Neutrality Commitment. Large food companies are looking at everything from warehousing and transportation to actual production practices as a way to reduce emissions and promote carbon drawdown through farming. On July 12, 2018, Danone, Mars, Unilever and Nestle formed the Sustainable Food Policy Alliance. These four withdrew from the Grocery Manufacturers Association in the United States and are developing financial incentives for farmers to enhance nutrition, reduce emissions, and transition to low-carbon alternatives in the entire food system."¹²

While efforts to shift the global supply chain for the better shouldn't be overlooked and brands and funders must work together on solutions, investing in local and regional food and fiber systems where producers, processors, retailers, consumers, funders, and technical experts are already connected and working cooperatively can transform the system from the ground up.

Bridget Cooke, executive director and cofounder of Adelante Mujeres, an organization that helps low-income Latina women in Oregon develop food businesses to support their families, commented: "Gaps in local and regional food systems infrastructure become particularly apparent when it comes to smaller producers. Small farmers can sell their produce at farmers' markets and through other direct-to consumer outlets, but at a certain point, many small farmers want to access larger markets in order to grow their businesses. Yet when they try to break into those larger markets, they can't compete against larger producers who benefit from better economies of scale. Large distribution companies are set up to work with large farms; their requirements are cost-prohibitive for small producers and do not take into account the higher level of risk on small farms. Full participation in the food system is particularly challenging for the smaller-scale Latino farmers we support, who face added language and cultural barriers. All of these gaps, however, illustrate that there is opportunity for the local food systems infrastructure to better serve small producers in ways that allow them to be viable and thrive." ²⁵

Without adequate local and regional infrastructure, producers find themselves taking responsibility for multiple links or entire supply chains in order to move their products into the market, from production, processing, and packaging, to market development, sales, and distribution. Many regenerative producers are also bringing multiple products to market in order to maximize revenue streams and/or to meet environmental objectives, further increasing the complexity and number of processing partners they must manage. They work to negotiate pricing in partnership with their buyers and hope to capture more of the retail value of their products by managing the intermediate steps in the supply chain. Unfortunately, the potential for added value capture is often at risk due to inadequate processing and/or distribution channels. We heard from many aspiring regenerative producers that these challenges are frequent, owing to the number of partners, the compartmentalization of processing steps and associated legal liability, and the complexity of the global supply ecosystems.



To illustrate these dynamics, consider the ecosystem developed by Carman Ranch for its primary product, grassfed beef, as described in Ecotrust's 2015 report *Oregon Food Infrastructure Gap Analysis*: Cory Carman, who owns and operates Carman Ranch, a 100 percent grassfed beef ranch in Wallowa, OR, took on complete responsibility for processing and distributing her own products in 2013. Since first entering the wholesale marketplace in 2010, she had relied on Fulton Provisions, a division of Sysco, for post-slaughter further processing, packaging, inventory management, and distribution, but she had struggled to respond effectively to her Portland chef customers' desires, given her relatively small size in the wholesale beef supply chain. Carman Ranch's market-ready cows destined for wholesale channels now travel from Wallowa to Dayton, Oregon, approximately 350 miles on the hoof, for slaughter at Dayton Natural Meats. Boxed sub-primal beef cuts that don't require further processing are transferred to a cold storage warehouse managed by B-Line Sustainable Urban Delivery in the Central Eastside Industrial District of Portland, with auxiliary storage as needed at J&D Refrigerated Services in Clackamas. Cuts requiring further processing (mostly trim packaged in thousand-pound totes) are transferred from Dayton directly to Fulton Provisions, in northeast Portland east of Interstate-205, for grinding into bulk hamburger and hamburger patties according to her restaurant and foodservice customer specifications (usually for either one-third pound or one-quarter pound patties). A portion of fresh cuts is also transferred from B-Line to Ponderosa Provisions, in Aloha, for vacuum sealing and labeling for retail sale. These cuts are primarily sold via the ranch's customer buying club and two large farmers' markets (Portland and Hillsdale). In addition, custom value-added processing for sausage, pastrami, and other specialty products, as well as retail processing of the ranch's pastured pork, is done at Century Oak Packing, a meat co-packer located in Mount Angel. Finally, urban distribution to wholesale clients is done by commercial scale cargo bicycles in downtown Portland by B-Line, and to foodservice clients in a ranch-owned van by Carman's operations staff.

As we look back at the systematic disinvestment in local and regional supply chain infrastructure over the past few decades, funders and investors must lead the way to fund a re-investment in this infrastructure, partnering with key supply chain partners, buyers, retailers, and brands along the way.



KEY LEVERS AND OPPORTUNITIES

Regenerative Processing and Distribution

Food aggregation, processing, and distribution infrastructure is not readily or affordably accessible by a majority of small and midscale, differentiated farmers, ranchers, and artisans, and this lack of access is inhibiting the growth and development of a robust regional food economy. The disinvestment in local infrastructure, in favor of a centralized, global supply chain, has been extremely detrimental to farmers and consumers.

“Infrastructure” can be defined as both the physical components of food aggregation, processing, and distribution (e.g., warehouses, equipment, trucks), as well as the network of relationships (e.g., producers, processors, butchers, brokers, distributors, chefs), required to move food from the farm or ranch to the point of consumption.



Original Source: Oregon Food Infrastructure Gap Analysis, Ecotrust 2015

It can be helpful to think of infrastructure as “first mile” or “last mile” in order to focus on the set of activities that occur conceptually (and sometimes physically) closer to the initial producer (post-harvest handling, cooling and processing, seed cleaning and sorting, animal slaughter) separately from those more buyer-oriented (value-added processing, packaging and labeling, last-mile logistics and distribution). Most components of infrastructure are unique to the product category in which they operate. The beef category requires facilities for slaughter, cut and wrap, aging, and perhaps smoking, grinding, blast-freezing, or vacuum packing. Vegetables on the other hand require washing, cooling, slicing, freezing, or canning. Grains and seeds must be sorted, cleaned, hulled, milled, etc., and so on for each category. All have unique regulatory and food safety requirements as well.

In commodity markets, producers are most often supplying inputs into a well-orchestrated supply chain optimized for efficiency. They are price takers, and usually responsible for only one significant link in the supply chain. However, because of the fundamental differences in their market strategies, small and regenerative producers face significant infrastructure challenges relative to commodity players. Last-mile warehousing and logistics, as well as processing facilities and other hard-asset infrastructure, seems to be a particular overarching pain point, especially for rural regenerative producers. Oftentimes, when these producers are not able to move all of their product into a market that compensates them adequately for producing a “regenerative” product, they are having to sell the remaining yields into commodity markets, losing that added value and all of the added work behind creating that kind of product. As one California rancher memorably noted, “If we don’t find a way to make regenerative ag more profitable than the status



quo, people won't stop the status quo, and we won't be able to move the needle.”

Overall, regenerative production and values based supply chains look like an emerging market: highly fragmented, lacking consistent data and information, and dependent on personal relationships. Ultimately, this lack of adequate access to appropriate supply chains is inhibiting the growth and development of a robust regenerative food economy. Clearly needed are models that fill gaps in scale-appropriate aggregation, processing and distribution infrastructure, whether by working with established industry players to create access for smaller producers, or by developing new infrastructure specifically suited to support a distributed, regional-scale system.

The issues are many and varied, so the coordination of a suite of blended capital solutions, a combination of both philanthropic and investment capital, will be necessary in order for a regenerative transition to be fully realized. It will require investors, philanthropists, banks, and brands all coming together to support a systematic reinvestment in a system and infrastructure that works for all people and the planet and with a more decentralized approach.

COVID-19 Shining the Light on the Need to Invest in Regenerative and Local Supply Chain Infrastructure

As articulated in the recent Civil Eats Article, "As COVID-19 Disrupts the Industrial Meat System, Independent Processors Have a Moment to Shine," across the country we are awakening to the face that independent, local processing and supply chain infrastructure has never been more important. Shutdowns and slowdowns of meatpacking plants in the consolidated, industrial system have led to meat shortages at grocery stores and the euthanization and disposal of millions of animals. Meanwhile, small and mid-size slaughterhouses, packers, and butchers are staying open. In many cases, they're ramping up production.

Small-scale and pasture-based farmers and the processors have long touted the superior resilience of this alternative system, which they see as returning value to regional economies and respecting animals, workers, and the environment. But they have struggled to compete with the largest meatpackers, who have consolidated animals into concentrated animal feeding operations (CAFOs) and processing into large plants that utilize fast line speeds and cheap labor, resulting in meat that is significantly cheaper at the grocery store. As a result, meat from independent producers often costs two to five times as much as its conventional counterpart.

It's time for small producers to shine and for a significant reinvestment into local manufacturing and processing infrastructure in order to keep our supply chains secure and resilient.

Some additional models (to those listed below) around the country, of small, local processors who are providing critical infrastructure to support a more sustainable livestock supply chain include:

- Primal Supply Meats, Philadelphia
- Ranch Foods Direct, Colorado
- Cypress Valley Meat Company, Arkansas
- Rettland Farm, Pennsylvania



CURRENT & EMERGING OPPORTUNITIES

It should be noted that, while many of the organizations and businesses listed here might not be suitable for philanthropic grant capital, they serve as models to follow, scale, and replicate across regions and different supply chains. This replication and scaling of models, will require a blended financing approach, including public financing, and the rapid prototyping and development of fund structures that are able to deploy multiple kinds of capital into the sector. Examples of similar funds include the **Impact Assets DAF** that can provide loans, recoverable grants, and direct investments and **RSF's Field of Interest Fund** that is providing grant capital as well as piloting non-grant capital investments.

Pipeline Foods

Pipeline Foods is bringing transparent, sustainable supply chain solutions to connect the dots for their farming partners and end users of organic grains and ingredients. They are the first supply chain solutions company focused on non-GMO, organic, and regeneratively grown food and feed and they specialize in a wide range of services throughout the supply chain, making them the first company positioned to support both farmers and food companies in a more holistic, transparent way. Focused primarily on grains, they have heavily invested in the infrastructure necessary to support the commercialization of these crops, including grain elevators and other infrastructure for processing and sorting, as well as providing critical financial and technical assistance to their networks of farmers/ranchers in 35+ states.

In 2019, they successfully developed a transition loan product in partnership with Rabobank designed to financially support farmers transitioning to organic certification on either all or part of their farming operations. Pipeline is able to secure the loans with long-term offtake agreements with their farmers, while also mitigating the near term cash flow challenges that farmers deal with in a transition period. While this loan product is geared towards organic producers, they could scale this same type of product for the regenerative transition as it becomes more defined in the marketplace.

Funders and investors looking to help develop sustainable supply chains for regenerative agriculture should look to partner with or help scale the work that Pipeline Foods is doing, developing similar models for other products and supply chains.

Timeless Natural Foods

Timeless is an excellent model for a successful local and regional processing and distribution company that is supporting producers across their region. They are America's only gourmet line of certified organic Lentils, Peas, Chickpeas, and Ancient Grains, serving the natural food and specialty food distributors, manufacturers and grocers. Timeless was created in 1987 by four organic farmers to market the product from their own farms. They now contract and source organic grains from dozens of organic family farmers throughout Montana and the surrounding region and



provide the processing and distribution support to move these products to market. With the help of Stranie Ventures, LLC, a Montana-based green investment fund, they upgraded their processing facilities with the purchase of a seed processing facility in the small town of Ulm, Montana. This move greatly expanded their production capacities and capabilities, supporting the expansion of new markets and sustainable farming practices for family farmers throughout Montana and the region. The facilities also allowed them to informally and formally partner with other compatible Montana sustainable agriculture businesses. For example, Timeless is proud to be the home for Eighth Wonder—an heirloom rice business created to support a cooperative of more than 200 indigenous farmers who farm the incredibly beautiful, and environmentally-sensitive, terraces in the Philippines.

Common Market

The Common Market is a nonprofit regional food distributor that seeks to connect communities with food from sustainable farms. Through this, they aim to enhance food security, farm viability, community, and ecological health. They are currently operating in the Mid-Atlantic, Georgia, and Texas. The Common Market is looking to expand to other U.S. regions to build a nation of vibrant regional food systems. Since 2008, The Common Market aggregated and distributed over \$22 million of local foods from over 200 sustainable family farms and producers. Their model is enhancing the infrastructure for aggregation and distribution of regional products from many producers, as well as the building out of farm infrastructure to scale up sustainable and regenerative agriculture, while ensuring fair pricing for farmers. This is a model that funders and investors can look to scale and serve regions in every state.

Walden Local Meat

Walden Local Meat is a regional vertically integrated supply chain model that funders and investors should look to scale, as well as replicate in other regions, supporting producers all the way from the farm to a consumer's plate. They partner with small, sustainable farmers in New England and New York to produce 100% grass-fed beef and pasture-raised chicken, pork, and lamb. Walden's primary business is a direct to consumer meat share, in which members receive monthly deliveries of a mix of cuts that they select, along with a smaller wholesale business serving food service companies, restaurants and a handful of groceries in the region. Unlike many vendors, they only buy whole animals, assuming the burden of marketing, inventory management, and, of course, selling not only steaks and ribs but also lesser-known parts. Partner farms are audited by Walden on a quarterly basis, going through a rigorous audit process to confirm that standards are being followed, inspecting barns, for example, to ensure no herbicides, pesticides, hormones, or antibiotics are present. Their goal is to feed families on a month-in, month-out basis and to build a partnership with the farmers, "where they're paid more for what our customers value." All shares are delivered to homes from small farms within New York and New England States. In 2019, they moved 1,750,000 lbs of sustainably raised meat from area farms and paid \$2,150,000 more to their partner farmers than they would have made selling their products in commodity



markets; across all proteins this represents a 154% premium to commodity pricing. Each package is delivered with the name of the farmer and town where the animal was raised, and they also endeavor to profile their farmers in their materials and share stories of mutual interest. Enabled by their members, they donate 1% of the volume in their member program as part of their 1% for the Hungry program, totalling over 27,000 meals in 2019. These donations go to local charities who provide meals for the underserved.

Cream Co. Meats

Cream Co.'s mission is to revolutionize a highly commoditized industry by creating new opportunities for people to enjoy animal proteins responsibly. Founded in 2016 and operating out of a 15,000-square-foot USDA custom fabrication facility in East Oakland, they are the only 100% "natural-or-better" whole-animal-processing, cold storage, and distribution facility in the metropolitan Bay Area. Cream Co. sources from small, family-owned ranches and holistic producers from across the West Coast. They believe in a radically transparent and decentralized regional sourcing model that partners with their farmers from the grass to the table. All of their ranching partners undergo rigorous annual third-party auditing and carry multiple certifications that speak to their individual practices. These include: Organic, Non-GMO, Grass-fed & finished, Humane Certified, and Certified Regenerative. Cream Co. has just launched a new direct to consumer retail market, in response to the recent wholesale challenges presented by COVID-19, selling Bunker Boxes online, containing a variety of meat options such as whole chicken, ground beef and pork, steak, bacon, chops, charcuterie, and more.

Other Half Processing

Most people are familiar with organic milk, grassfed beef, and free-range eggs. But you don't hear as much about grassfed leather products that come from the "other half" of the animal and is part of the same supply chains. Other Half Processing was founded to change this. Other Half Processing produces identity-preserved, high value byproducts from grassfed, organic, and other more sustainably raised animals and are registered as a Specific Benefit Corporation (SBC) to ensure that production of these valuable materials and ingredients directly support the farmers, ranchers, and Native American communities raising the animals in ways that benefit us all. They are currently partnered with major companies like Timberland to develop and support a grassfed leather supply chain in the US.

Regenerative Agriculture Alliance

The Regenerative Agriculture Alliance (RAA) is an ecosystem of people and organizations committed to Regenerative Agriculture, particularly through an indigenous and traditional lens. The RAA's top priority is the building of support infrastructure to scale regenerative agriculture nationally and internationally, initially focusing on building the supply chain for regenerative poultry because of its compatibility with almost every ecological blueprint on earth and its cultural, social, and economic alignment with the over 500 million small farmers that produce upwards of 70% of the total food in the world today. Other sectors of priority will serve to build the alliance into an ecosystem representative of key areas that have



native identities such as: Organic grains and feed, native-raised regenerative bison, pastured pork, grassfed and finished beef and dairy. Within poultry, RAA plans to lead the deployment of producer pools across the country and the world to collectively deliver the foundation of a regenerative egg and broiler supply chain and establish a verifiable regenerative poultry feed supply chain with a focus on small grains and as part of a fully integrated system. Alongside regenerative poultry systems in the US, they will lead the deployment of a Midwest-based hazelnut industry as part of the understory of agroforestry-based regenerative poultry and alley-cropped grain production, and as a high value substitute for soybean-based protein in the regenerative poultry feed supply.

A Greener World

A Greener World works directly with major buyers, retailers, and brands to not only educate them about regenerative production systems, but provide the critical support and expertise they need to shift their procurement practices towards a regenerative supply chain. They support supply chain influencer training and education for the industry's leading voices and decision makers to increase the market share of regenerative products, as well as facilitating direct market connections for their network of producers. They are also leading the way on several certifications across the space, detailed in the "Certifications" section below.

Thrive Market

Thrive Market is an American e-commerce membership-based retailer offering natural and organic food products. Thrive Market stocks a range of products created using regenerative farming practices and is working throughout its supply chain to both partner directly with farmers and provide them long term contracts and support and with brand partners to help them meet sustainability commitments within their own supply chains.

The Climate Collaborative

The collaborative is a network of manufacturers, retailers, distributors, brokers, suppliers, and other concerned businesses from the natural foods industry working collaboratively to take bold action to reverse climate change. They have worked with 282 companies to secure commitments to sourcing agricultural products from farms that use carbon farming practices. Companies commit to working with the farmers in their supply chain to find ways to decrease their carbon and GHG emissions through things like: Increasing their use of renewable energy and energy efficiency, improving the efficiency of their crop inputs (fertilizers and pesticides), and increasing their soil organic matter and above-ground biomass (a.k.a. plants). They have also partnered with the Sustainable Food Lab to launch and facilitate an ongoing interactive action group on carbon farming, called the Rooted Community. It's open to all companies that have made the agriculture commitment. The group meets monthly, and content addresses a range of topics relevant to carbon farming, including: Measurement to quantify regenerative agriculture, resilience in small-holder supply chains, and collaborations in specific crops/regions.



Savory Institute Land to Market Program

Land to Market is the world's first verified regenerative sourcing solution for meat, dairy, wool & leather. The program connects conscientious brands, retailers, and consumers directly to supply derived from land that is verified to be regenerating.

Savory "Hubs" around the world use Savory's Ecological Outcome Verification (EOV) tool to assess the ecological function and health of a piece of land. Brands and retailers then access the Verified Regenerative Roster for meat, dairy, wool and leather along with associated EOV data and storytelling assets.

Food System 6 (FS6)

FS6 is a non-profit based in the San Francisco Bay Area whose mission is to support impact driven entrepreneurs as they transform how we grow, produce, and distribute food. FS6 runs a one-year accelerator program for food and agriculture entrepreneurs. The accelerator program is built to offer tactical business support and critical communication skills for entrepreneurs innovating across the food and agriculture landscape, while building a relationship with the FS6 team and community of mentors. Upon graduation from the one-year program, FS6 entrepreneurs are offered the opportunity to receive two years of additional support, which will provide custom mentorship to meet the various needs of each CEO. Through the accelerator, FS6 is focusing their long-term vision on three key overlapping areas where they see significant opportunities for collaborative and exponential impact:

1. **Regeneration:** supporting circular and regenerative solutions across the food and agriculture landscape
2. **Manufacturing:** revitalizing and re-envisioning the crucial processing and manufacturing infrastructure that keeps our food chain running, for a more sustainable, humane-scale food and fiber future
3. **Technology:** Developing right-sized, open-source, and equitable technology solutions for regional farms of all sizes.

Funders and investors interested in supporting the rebuilding of a regenerative food and agricultural system and revitalizing critical supply chain infrastructure should seek to connect with FS6 and their cohorts of food systems entrepreneurs.



Mobile Slaughter Units

Re-integrating animals to many landscapes improves soil health and fosters ecological restoration, but for it to be possible for farmers and ranchers, there is an immediate need across every state and region to develop and invest in more infrastructure, specifically animal processing facilities. Most commonly, slaughtering under state or federal inspection entails hauling animals (e.g., beef cattle, bison, hogs, lambs, etc.) to a licensed slaughterhouse or processing facility, where a state or federal inspector is onsite for all of the animals that will be slaughtered. For many regenerative and holistic grazers however, field-harvesting and processing animals on the ranch in the pasture where they're living and grazing can be a more desirable option. With field-harvesting, there is no stress for the animal and no stress in the meat. As such, it is the most ethical and humane way to slaughter, and the meat is healthier and more delicious because of the lack of stress, cortisol, and adrenaline. Additionally, mobile units can offer more processing capacity for ranchers across an entire region. We are beginning to see the development of mobile slaughter units and processing projects across the country:

- **Wild Idea Buffalo Co.:** They offer a stress-free, mobile slaughter plant in South Dakota. Dan O'Brien and his wife, Jill, who run Wild Idea, have their own bison herd, but also buy animals in North Dakota, South Dakota, and Wyoming, as long as they meet their criteria – no confinement and nothing but grass and hay for food.
- **Island Grown Farmers Co-op:** They operate a mobile slaughter unit in the state of Washington that visits their member farms at their request. The mobile slaughter unit, with now several years in service, was the first such facility in North America. The USDA inspector accompanies the unit and the butcher(s) to the farm. After butchering the carcasses are transported in a cooler to their processing plant integral to the mobile slaughter unit, to their Bow processing plant where proper aging takes place, in the case of beef a minimum of two weeks. After the aging is complete, their professionally trained plant staff cuts, wraps, and labels the meat in compliance with the farmer's/customer's requirements. The meat is then stored in their cold storage warehouse awaiting pickup by the owner.
- **North Bridger Bison:** Founded in 2018, North Bridger Bison is a family-owned, family-operated bison ranch located 30 miles northeast of Bozeman, Montana, in the Shields Valley. Their ranch's mission and operating principles are deeply rooted in regenerative agriculture and holistic management, raising grass-fed bison on the ranch, and humanely field-slaughtering their bison on the ranch. In order to field slaughter multiple animals from their farms, and others, under state inspection, they are raising additional capital to develop a mobile slaughter unit to serve their needs in the region. If successful, this will become the first and only licensed mobile slaughter trailer in Montana.



Local and Regional Food Systems

As discussed with many of the producers we interviewed across product lines, regionally focused co-ops, collaborations, and alliances of many kinds hold potential for smaller scale and regenerative producers and entrepreneurs to create leverage in domestic (and international) marketplaces. Because of the need for differentiation, regional brands can sometimes be a challenge to implement, however shared use of regional processing facilities, storage capacity, distribution trucks, and other infrastructure can reduce costs for all. Co-marketing of complementary products can also help build sales and market share for like-minded producers and processors.

In reference to the increasing interest in regional co-op models that were expressed throughout our interview process, Lauren from MOSES noted, “A lot of farmers are looking at the structures of our current ag system and are frustrated and demoralized by monopoly structures and corporate structures that are making it difficult to be a different type of grower.” We are starting to see farmers and community-led groups bring back more co-op models at regional levels, such as food hubs and grassfed beef producers looking for cooperative processing and packaging. We feel there is a significant opportunity to support farmers to self organize and identify their own needs regionally and address them in a regional manner through co-ops and other regionally-focused food hubs and food systems, which lends itself well to regenerative agriculture. It’s a model that allows farmers to tell their own stories and get that message out to consumers, which has not been possible through traditional marketing channels. It also allows the distance between farmer and consumer to shrink, bringing consumers closer to the food on their plates.

There has never been a more significant moment to systematically re-invest in local and regional food and fiber systems and infrastructure in places where producers, consumers, investors, and technical experts are already connected and working cooperatively to build new systems and reward agroecological practices from the ground up. The current state of the world is also highlighting the essential role local farmers play in our food supply chain. With the COVID-19 pandemic, the cracks in the system have only grown and become more apparent, revealing how much we need our local farmers and ranchers to sustain us both now and in the future. This work is vital when communities navigate the unprecedented challenges we are experiencing today.

As Anthony Chang, director of Kitchen Table Advisors, notes, “We need investment in the kind of regional food and farm infrastructure that has been under-resourced for a long time, infrastructure owned and controlled by farmers and especially communities of color. Basic nuts and bolts like cold storage, processing facilities, vehicles for distribution. Unfortunately these aren’t the sexy, high-return investments VCs typically seek. The challenge is that these projects usually require a shift in how we think of ‘return on investment,’ prioritizing people and planet over profit. And historically this just hasn’t been the norm.”

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Cascadia Foodshed Financing Project, A Model for Regional Funders, Investing in Regional Foodshed Infrastructure

Cascadia Foodshed Financing Project is a collaboration of foundation and individual impact investors seeking to use market-based strategies and blended capital strategies to grow the Pacific Northwest's regional food economy. CFFP targets five impact areas: Health, Social Equity, Family Wage Job Creation and Preservation, Rural Community Resilience, and Ability to Influence Policy. The Project seeks to combine different forms of capital—grants, equity, loans, credit enhancements—to invest in food-related social enterprises in five Pacific Northwest regions, and to develop infrastructure for collective impact efforts. This is an excellent place-based model of regional funders collaborating to re-invest in their local foodshed.

CURRENT & EMERGING OPPORTUNITIES

CoFED (Cooperative Food Empowerment Directive)

CoFED is a QTPOC-led organization that partners with young folks of color from poor and working-class backgrounds to meet their communities' needs through food and land co-ops. They are building the leadership of young people of color to practice cooperative values, economics, and strategies for collective liberation. Since 2011, they have developed 12 new cooperative projects, trained over 600 emerging cooperative leaders, and cultivated a community of nearly 4,000 supporters across the U.S. and Canada.

Mandela Partners

Mandela Partners a hyper-local food system non-profit, based in Oakland California, that partners with residents, family farmers, and community businesses to distribute food and create community wealth. Through community engagement, education, business cultivation, and financing, Mandela Partners supports and resources the development and growth of locally-owned economies and sustainable food systems. Working with a network of local growers, focused on people of color and underserved communities, they aggregate and distribute produce across the Bay Area to pop-up community stands and local retailers, including small grocers, restaurants, caterers, and value-add producers.

Cairnspring Mills

Carinspring Mills represents a revolution in local and regionalized milling that funders and investors can help take root nationally. Using high-quality grain sourced directly from sustainable farms that are committed to soil health in the Northwest, Cairnspring makes fresh European-style flours with amazing taste and baking performance. Their grain is minimally processed, leaving the nutritious, flavor-packed bran and germ in the flour, where it belongs. Cairnspring, which opened in 2017, pays farmers fair prices for wheat – about \$2 more a bushel than the commodity market. As their founder notes, "A mill is one of the best ways to rebuild the local food system and help communities become more prosperous, healthy and resilient."



Northern Plains Resource Council

Northern Plains Resource Council has been working for decades to protect Montana farmers and ranchers and build local food systems infrastructure. They have developed campaigns and initiatives that restore local and national sovereignty over farm and food policy and ensure economic viability and resilience in local communities through wage protections, environmental protections, human rights protections. They have worked to strengthen local food systems for the northern plains, including launching the Montana Local Food Challenge, a month-long event challenges folks to eat more food from Montana farms, ranches, and gardens, and to support local businesses that carry Montana-raised foods.

Food Solutions New England (FSNE)

Food Solutions New England is a regional food systems learning-action network dedicated to advancing a sustainable New England food system. The FSNE network is organized around four interrelated activities: A New England Food Vision, a bold vision that calls for the region to build the capacity to produce at least 50% of food in an environmentally and socially sustainable manner, that promotes health and is accessible by all New Englanders by 2060; New England state food planning initiatives; annual New England food summits and topical workshops; and related analysis and communication. The FSNE network distinguishes itself from other regional food system efforts by actively cultivating thought leadership around a guiding vision and values in the regional food system and network leadership by connecting and aligning the region's nonprofit, philanthropic, private, and public sector actors focused on the food system. They produced the publication "A New England Food Vision," a collaborative report that considers the future of the region, and led Six New England Food Summits, one in each New England state, 2011-2016, which brought together delegates from across New England to strengthen collaboration for regional food system sustainability.

Good Meat Project

Good Meat Project is a free community Switchboard whose mission is to build pathways to responsible meat production and consumption. They are committed to building pathways for consumers, farmers, chefs, butchers, and other food professionals to bring good, clean, fair meat to the table in their own communities. Through education, research, and advocacy, the GMP promotes food sovereignty, builds good meat coalitions, empowers change makers, and inspires healthy food systems. They are also engaging all members of their Good Meat Project Switchboard to virtually signing on to their Good Meat Manifesto.

Listed here are examples of co-op, CSA, and food hub models that are working to support and build robust local and regional food systems in their regions.

Illinois Stewardship Alliance Band of Farmers Project

The Band of Farmers Project is a CSA association, a project coordinated and sponsored by Illinois Stewardship Alliance, that enables farmers to tap into and distribute to a larger segment of Chicago's population.



Corbin Hill Food Project, New York

Corbin Hill Food Project is a food hub that actively manages the aggregation and distribution of farm fresh produce, from local and regional farmers, with the purpose of strengthening farmers' capacity and access to consumers. Corbin Hill goes a step further than many other food hubs, by ensuring the fresh produce that is aggregated from local farmers in New York goes to communities that need it the most. They have a long term vision that entails a community owning its food system through sovereignty, community control, and the shifting of power through decision making within a community's food system.

FairShare CSA Coalition, Madison Wisconsin

FairShare CSA Coalition is supporting and connecting farmers and consumers through CSAs in Wisconsin. They also provide educational workshops for farmers in their networks and provide financial assistance for low-income households in purchasing CSA shares through their Partner Shares Program.

The Food Conservancy, Arkansas

The Food Conservancy is a food hub that aggregates and distributes locally grown produce to meet the demand of wholesale and retail markets, supporting local farmers and ensuring that Northwest Arkansas residents have access to healthy food. The Food Conservancy is also responding in real time to the coronavirus pandemic and piloting an effort that connects farmers with consumers as demand from farmers markets, schools, and restaurants decreases. The program minimizes food waste and ensures farmers are still able to sell their produce.

275 Food Project, Memphis Tennessee

The 275 Food Project sources fresh foods from farms within 275 miles of Memphis, closing the aggregation, processing, and distribution gaps where they exist and better connecting farmers to markets, businesses to capital, and supply to demand. Their goal is to build an equitable local food economy in Memphis that shifts 20% of food spending to local farmers and producers. In order to achieve that goal, they have built a series of partnerships and developed programming designed to increase farmers' yields, build greater demand for local foods on the part of restaurants, groceries, large public and private institutions and, individual consumers, while positioning food entrepreneurs for greater success. They are estimating that this shift to local will mean \$1.5 billion in economic impact for Memphis.

Yellowstone Valley Food Hub, Eastern Montana

After years of research, community outreach, and fundraising, Northern Plains successfully launched the Yellowstone Valley Food Hub in 2018. The Food Hub is a co-operative of producers with a wide range of skills who share a passion for local agriculture, linking Montana farmers and ranchers to consumers and institutions in south-central Montana to provide healthy, sustainably produced foods. This creates new markets for independent, family-scale food producers while making wholesome foods more accessible to area residents.



Good Foods COOP, Lexington, Kentucky

Good Foods Co-op, founded in 1972 and located in Lexington, is central Kentucky's only locally owned and operated cooperative grocery—supported by 8,000+ owners. They focus on local, natural, organic, non-GMO products and wholesome foods while supporting over 250 Kentucky farmers and producers.

Tahoe Food Hub, Truckee, California

Tahoe Food Hub is a non-profit organization based in Truckee, CA. They were founded in 2013 to be a hub for local, sustainably-grown food in the Tahoe region. Their Farm to Market program has a network of more than 50 farms and ranches within 150 miles of North Lake Tahoe. It is a fair-trade marketplace that makes it easy for restaurants, small grocers, resorts, schools, and the public to access local food producers. Their farm to school program teaches the next generation the importance of local food and sustainable agriculture. It connects students with where their food comes by using experiential learning at their education farm, Mountain Roots. And their "Feed Your Neighbor" program partners with local hunger and relief agencies to connect local people and local farms to donate produce to those in need, ensuring equal access to the good food they source.

Rock Steady Farm & Flowers, New York

A women- and queer-owned cooperative, Rock Steady Farm & Flowers uses sustainable agricultural practices and community partnerships to advocate for diverse communities in the food system. In addition to serving florists and restaurants around New York, Rock Steady Farm & Flowers provides food to food pantries, social justice nonprofits, and a local social justice resource center. The organization partners with LGBTQ resource centers to show support for the underrepresented queer community and a local organization providing job training and support for youth in New York.

Capay Valley Farm Shop, Northern California

Capay Valley Farm Shop (Farm Shop) connects more than 40 small family run farms and ranches to regional markets. Farm Shop was formed in 2007 as a for-profit, social venture with a mission to strengthen ties between rural farms and urban communities. They do this by aggregating quality agricultural products from a community of family farms and ranches and delivering it to Bay Area businesses. They provide valuable services to our farmer partners by extending the reach of their sales and marketing so they can focus on what they do best. Over time, Farm Shop has become an important pillar of the Yolo County farm community providing access to larger Northern California markets.

Local food hubs, like those above, could use both investment and grant dollars to support their infrastructure, equipment, and transportation needs in order to scale their operations and meet the needs of their communities.



MAJOR FOOD COMPANIES AT THE FRONTLINES OF THE TRANSITION, SHARING RISK WITH FARMERS AND RANCHERS

Brands have increasingly stepped up to share the risk of transitioning to and implementing regenerative practices with farmers and ranchers in their supply chain. As Will Harris noted in our interview, “The difficulty for any farmer trying to step out of the industrial model is the risks they take. A company like General Mills is in the position to mitigate some of the risks by guaranteeing a market for their product.”

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Danone, General Mills, Kellogg, Nestlé, Mars, Unilever, Barry Callebaut and a dozens of other major CPG companies are beginning to establish programs, pilots and commitments to shift their procurement practices towards regenerative producers. Those that can truly partner with their producers along the journey, ensuring they have the right capital, technical assistance, and market guarantees, will lead the market as they pave the path towards a more regenerative market and system. At the recent United Nations Climate Action Summit in New York City, several of these brands announced the One Planet Business for Biodiversity (OP2B) coalition to advance regenerative agriculture, rebuild biodiversity, and eliminate deforestation. And Land O’Lakes, the dairy and animal feed behemoth, is also touting its soil conservation efforts, including a new initiative to help bolster sustainability on 1.5 million acres of U.S.-grown corn.

Funders and brands have a unique opportunity in the coming years to partner together on reinvesting in local, regional, and regenerative supply chains. Funders can invest, both grant dollars and other investment capital, into loan funds in partnership with brands to deploy to the producers in their supply chains, de-risking additional capital investment from both the brands and other investors. Funders can also partner with brands to invest into the infrastructure development that is needed for the appropriate aggregation, processing, and distribution of regenerative products.

Brands Who Are Putting Their Words to Action

Kashi: Leading with Certified Transitional

In 2016, the company announced a first-of-its-kind, collaborative effort to increase organic farmland by recognizing “organics in training” and supporting farmers transitioning fields from conventional to organic practices. The effort was grounded in a new protocol called Certified Transitional, partnering with Quality Assurance International (QAI) to create a “Certified Transitional” standard. Just like the USDA Organic or Non-GMO Project Verified labels, the “Certified Transitional” badge symbolizes goods produced at the highest standards during a farmer’s transition to organic farming while paying them fair wages. Kashi purchased the first-ever crop of Certified Transitional ingredients – hard red winter wheat – for use in Dark Cocoa



Karma Shredded Wheat Biscuits, a Kashi cereal created to showcase transitional ingredients. They have now expanded the product line to their Chewy Nut Butter Bars. By contracting the transitional wheat, almonds, and other crops at a price above the conventional market rate, Kashi was one of the first brands to pave the way for creating a marketplace that recognizes the investment farmers make while transitioning to organic practices and for other brands to step up to the challenge.

Danone North America: Partnering With Their Producers to Fund the Transition

In November 2017, Danone announced its intention to sharpen its focus on regenerative agriculture, focusing on three pillars: protecting soil, empowering a new generation of farmers, and promoting animal welfare. Since 2017, Danone has stepped out as a leader in this work, working with a number of partners to help improve global understanding of how agricultural practices can help nourish and protect soil health. In November 2017, Danone joined forces with the 4 per 1000 initiative, launched by the French government during the COP21 to catalyze collaboration on soil health and soil carbon sequestration among different stakeholders. Subsequently, in March 2018, Danone North America launched its own soil health initiative, including an initial commitment to contribute up to \$6 million USD towards research on soil health working with over 700 family farms. In 2018 and 2019, Danone teamed up with researchers from the Carbon Sequestration Center at Ohio State University and Cornell University to identify ways to regenerate soils and increase carbon content. They have also partnered with EcoPractices, working with EFC/Ag Solver as a service provider, to work with program partners/producers to measure, analyze, and share data on ecosystem services on the farm level, like soil carbon, water retention etc. Another way they are working to empower farmers is by helping them access training, equipment, and financing. Through projects supported by the Danone Ecosystem Fund and the Livelihoods Funds, Danone has provided financial and technical support to over 100,000 farmers worldwide.

In 2020, Danone announced a partnership with RePlant Capital to invest up to \$20 million to support Danone North America's farmer partners with expenses related to converting to regenerative or organic farming practices. Mariano Lozano, CEO of Danone North America, said: "As a company that is passionate about climate activism, we are pleased to be partnering with RePlant to support our farmers and bring new, innovative financial solutions to address climate change. Providing these loans mitigates the financial stress that transitioning to regenerative and organic farming practices places on our farmers and allows them to focus their energy on driving sustainable agriculture on their farms." The first of these loans has been provided to Kansas-based McCarty Family Farms, a partner of Danone North America for almost ten years and co-owner of MVP dairy. The McCarty family will use the loan to install moisture probes on cropland surrounding their dairy, where water access issues are of concern, to reduce the amount of water used on crops that provide forage for the dairy cows.

Additionally, Danone's Horizon Organic product line announced a goal of becoming



Carbon Positive by 2025. As part of this commitment, they are committing to a farmer investment fund of \$1.5 million per year from 2021-2030, for \$15 million in total investments. This funding will be used as a mix of grants and loans to be determined on an annual basis, with the goal of reducing GHG emissions from dairies using combinations of solar, wind, lagoon covers and manure management, cropland improvements, and dairy retrofits to help with animal health and productivity.

Applegate: Highlighting Regenerative Meat As Part of the Solution

In 2019, Applegate Farms, LLC., the nation's leading natural and organic meat company, announced The New Food Collective, a new premium brand that uses pasture-raised meats and small-batch production methods to create culinary-inspired products. The launch will feature a line of fresh sausages that is the first pork to be certified by the American Grassfed Association (AGA). The AGA standard mandates that hogs have maximum access to the outdoors, allowing them to forage and roam in woods and pasture, and that during the grazing season, they gather most of their food outside. It also requires farmers to develop a pasture-management plan to support biological diversity, natural resources, and soil fertility.

The New Food Collective brand sources its meat from small farms in Georgia, Kentucky, and Missouri that use regenerative agricultural practices. Applegate is also working with the Savory Institute to assess farm practices and create proof-of-impact metrics that can be shared with the public. Applegate's president had this to share about their commitment to regenerative agriculture:

"At Applegate, we want to change the meat we eat, and this launch propels that mission forward. We're making a big bet on regenerative agriculture as one of the paths to show the world that raising animals and eating meat doesn't have to be the problem. Animals can and do play a vital role in a healthy food system."

General Mills: Tying Regenerative Agriculture to Water Quality Initiatives

General Mills, the packaged food giant, is escalating the buzz around the idea that capturing carbon in the soil could reverse climate change. The company took the lead when it announced that it would apply regenerative agriculture to 1 million acres by 2030—about a quarter of the land from which it sources ingredients in North America

In 2020, General Mills also announced the launch of a regenerative agriculture pilot with farmers in Kansas' Cheney Reservoir watershed, which provides water to more than 400,000 Wichita residents. The company targeted this watershed in conjunction with the Kansas Department of Health and Environment to improve water quality as part of the statewide Watershed Restoration and Protection Strategy. The three-year pilot comprises 24 wheat growers in and around the 650,000-acre watershed, where more than 99% of the land is used for agricultural purposes.



“This pilot is an important step in our commitment to advance regenerative practices on 1 million acres of farmland by 2030, but more so supports our belief that these practices can have long-term positive impact on farmer profitability, soil health, water quality, and biodiversity”

~Mary Jane Melendez, Chief Sustainability and Social Impact Officer at General Mills

General Mills is also supporting the rapid advancement in adoption of regenerative agriculture practices across their supply chain and is partnering with suppliers like Paterson Grain and Archer Daniels Midland across key ingredient categories and regions. In March 2019, the company launched a Regenerative Oat Pilot consisting of 45 farmers across North Dakota, Saskatchewan, and Manitoba representing more than 50,000 acres of farmland and will measure the environmental and economic outcomes over the duration of the three-year program. To provide another pathway for experimentation, an additional 18 growers in Kansas will receive support to enroll in the Soil Health Partnership Associate Program to study outcomes of reduced or no tillage and cover cropping.

Several brands under the General Mills umbrella are already working directly with farmers that use regenerative practices. Annie’s, for instance, introduced two limited-edition products last year—a version of boxed mac and cheese, and bunny-shaped cookies—made from wheat and oats grown regeneratively on farms in Montana. And EPIC Provisions, a smaller brand that uses natural, high-quality meats and produce, sources from livestock producers who raise animals on regenerative farms. Last year, EPIC’s Sweet & Spicy Sriracha Beef Bites became the first packaged product to earn the Ecological Outcome Verification seal.

To provide additional support to their producers, an open-source self-assessment app is now available to anyone interested in implementing regenerative practices, and soil health academies and individualized coaching for farmers are in the works, as is the conversion of thousands of conventional acres into organic production.

Patagonia Provisions: Building a Regenerative Food Brand from the Outset

From breakfast cereal to smoked salmon, the outdoor gear retailer is on a quest to redesign the global food production system. In 2012, outdoor apparel giant Patagonia entered the food business. It launched an offshoot company called Patagonia Provisions that sells a range of healthy, ethically sourced, and shelf-stable products, including wild salmon, bison jerky, ancient cereal grains, soups, chilis, snack bars, and more. The goal of Patagonia’s founder Yvon Chouinard is for Provisions to be someday as big as the apparel side of the company. The first product introduced in 2013 was wild salmon (a personal favorite of Chouinard’s), so Patagonia Provisions brought in all the experts on wild salmon to analyze the best way to support the fish populations, aid their growth, and educate consumers about why eating sustainably managed wild salmon populations is better than farmed Atlantic salmon. They have since developed many other provisions product lines, including ancient grains, such as buckwheat and kernza, in an effort to



treat the soil more kindly. These can be grown as cover crops that replenish the soil, rather than deplete it in the ways conventional agriculture does. Kernza is a perennial grain that produces for five years, reducing the need to till the soil and with a 10-foot root system that retains water. Finding uses for these grains, whether in breakfast cereals or in the award-winning pale ale that Provisions has developed with Hopworks Brewery, will encourage farmers to plant them and move away from less resilient mono-crops.

Timberland: Looking Beyond Food to Build a Regenerative Leather Supply Chain

As mentioned above, Timberland has partnered with Other Half Processing to build a responsible leather supply chain sourced from ranches that employ regenerative practices. During the pilot, Timberland will source traceable hides from regeneratively-grazed cattle in the US for select footwear and accessory collections set to release in autumn 2020. This partnership will build upon Timberland's longstanding commitment to make products responsibly and help influence change. In 2005, Timberland co-founded the Leather Working Group to minimise the negative impacts associated with leather tanning for not just its own production, but the industry as a whole. Other Half Processing CEO and co-founder Jim Kleinschmit remarked, "We're thrilled by this partnership with Timberland. As a major global footwear brand, their commitment sends a strong message to the wider fashion industry as well as to regenerative farmers and ranchers. It's time people across the industry get serious about addressing the impact of leather production, which includes where the hides come from and how the cattle are raised. We look forward to partnering with Timberland and other companies to grow leather supply chains from regenerative systems, to the benefit of the producers, animals and the environment."



Institutional Procurement

There is a significant class of operations feeding hundreds of thousands of meals per day to Americans: institutions. Broadly defined to include schools and preschools, hospitals, assisted living facilities, correctional institutions, colleges and universities, corporate cafeterias, and special event venues, “institutions” are feeding a substantial proportion of our general population, including a great many working families, low-income residents, and vulnerable populations (e.g., children, hospital patients, and the incarcerated).

While many institutions operate their own foodservice (known as “self-operators” and particularly prevalent in the hospital arena), food is often hired out to foodservice contractors. The three largest foodservice management companies, Aramark, Sodexo, and Compass Group, control over 77.5% of the business of operating cafeterias and restaurants at schools, corporate offices, hospitals, prisons, stadiums, and other establishments. The North American foodservice market reaches over \$50 billion annually, and these three corporations alone account for about three-quarters of that revenue. These entities are usually partnered or integrated with food distributors (e.g., Sysco, Food Services of America, US Foods) and/or with related food purchasing entities (e.g., Foodbuy). These partnerships are optimized for price, volume, consistency, and food safety compliance, and thus tightly integrated with commodity markets. A system of incentives, often referred to as “volume allowances,” motivate foodservice procurement staff to make most, if not all, purchasing with preferred vendors. The details of the relationships between foodservice companies and “Big Food” are secret not only to the people who end up eating the food, but often from institutions serving the food, like universities.

Cafeteria contractors like Aramark negotiate large contracts with suppliers to secure discounts, including cash-back rebates from food manufacturers. Companies like Tyson, Kellogg’s, and Pepsi may offer Aramark and others anywhere from 5% to 50% cash back on sales (though one investigative reporter said a typical rebate is around 14%).²³ These rebates can get larger for increasing purchases of a product over time. Foodservice management companies increasingly rely on these rebates as a source of income, according to a report by the Johns Hopkins Center for a Livable Future. To maximize rebates, food service corporations require that their many locations buy most of their food from vendors who have negotiated contracts, most of which include rebates. A report by Farm to Institution New England found that food service management companies typically mandate that their institutional customers purchase 80% of their food “on-contract.”²⁴

The immense purchasing power of these companies means that they can shape the way our food, fisheries, and agriculture systems function. Currently, the majority of this spending ends up in the pockets of corporations like Tyson and Cargill that exploit workers and food producers, rely on excessive pesticides and fertilizers that devastate the environment, and manufacture unhealthy food. This system fundamentally limits individual institutions’ ability to work with local farmers and small businesses, who cannot supply company wide contracts or offer steep discounts in the form of kickbacks.

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Phillip Barker, a farmer in Oxford, North Carolina and founder of Operation Spring Plant, which organizes Black farmers, says small farms like his have been cut out from larger institutional markets. Barker personally struggled when he tried to sell vegetables to Aramark in the 1980s. "Big companies keep small growers from selling anything in those schools. We are locked out, and corporate farms are locked in," Barker says.

This Business Model Must Change

Institutions may pose a unique opportunity to act as anchors for regional food economies. Because of the magnitude of their purchasing, even relatively small preferences for local or regional regenerative producers and processors by the foodservice operations of institutions would have a significant ripple effect across the entire domestic food system, as well as delivering significant climate and environmental impacts.

Funders, alongside policy makers and government funders, must ramp up their support of efforts that help institutional food service directors leverage their procurement dollars to build strong regional food systems, thus creating both local economic opportunity and equalized access to nutrient-dense foods. Funding and policy measures can also be targeted to focus primarily on supporting public institutions that are serving significant proportions of vulnerable populations, while other institutions, such as corporate cafes and private event venues, are important secondary targets.

For foundations, practitioners, and policymakers interested in improving public health outcomes and food access, institutions represent a significant opportunity for further research and investment if we hope to transition our food system to one that puts people and the planet first.

Building Regional and Regenerative Food Management Companies

Increasingly, smaller regional food management companies are garnering attention and business from major corporate partners and other institutional procurement contracts. One such company is **Fare Resources, located in the Bay Area**. Fare Resources is a new kind of food management company focused on transforming the way people eat at companies, schools, and institutions. They are focused on local and organic food from producers and farmers, with over 90% of their sourcing coming from organic farms. To date, they are managing the food programs for clients such as AirBnB, Clif Bar, Twitch, Everlane, Quip and others. We have seen an enormous market opportunity across the sector in all regions to develop and scale regional food management companies like Fare Resources and an increasing demand for the community-centered and thoughtful approach they offer.

CURRENT & EMERGING OPPORTUNITIES

The Center for Good Food Purchasing

The Center for Good For Good Purchasing uses the power of procurement to create a transparent and equitable food system that prioritizes the health and well-being of people, animals, and the environment. They do this through the nationally-networked adoption and implementation of the Good Food Purchasing Program by major institutions. The program is centered around a metric-based, flexible framework that encourages large institutions to direct their buying power



towards five core values: local economies, environmental sustainability, valued workforce, animal welfare, and nutrition. The Good Food Purchasing Program is the first procurement model to support these food system values in equal measure, successfully leveraging procurement dollars from large public institutions to secure nutritious, climate-friendly food.

HEAL Food Alliance

HEAL serves as a platform to build collective power that advocates for a fair food system. Led by member organizations, HEAL amplifies the experiences of frontline communities who are affected by the current system. To achieve a vision of transformative change, the organization's programs focus on three areas: growing community power, developing political leadership, and exposing harmful policies and power structures. Among these programs, HEAL launched a School of Political Leadership to connect activists, farmers, educators, and organizers to build solidarity in community resistance to policies favoring large-scale agriculture. Additionally, HEAL's Good Food Purchasing Program encourages transparency in the public food procurement process, providing governments a framework for choosing healthy foods produced sustainably and ethically. They have grown to represent 2 million stakeholders in the food system and have won James Beard Leadership Awards.

Real Meals Campaign

In 2019, a newly formed coalition—the Community Coalition for Real Meals—came together to campaign for a new model for institutional procurement and food service management. A grassroots, intergenerational alliance of nine organizations representing farmers, fishers, ranchers, environmental activists, and college students, the Coalition has launched a new campaign urging Aramark, Sodexo, and Compass Group to reorient their business model away from “Big Food” and toward “Real Food”—food that supports producers, equity, and the environment. This coalition, alongside 45 public health, social justice, and environmental organizations, is imploring Aramark, Compass Group, and Sodexo to leverage their purchasing power to become a force for good within the food system. In order to realize these goals, the Community Coalition for Real Meals is calling on the three foodservice companies to:

- Buy at least 25% of their food from sources that are ecologically sustainable, fair, local and community-based, and humane
- Reduce their carbon emissions and factory-farmed animal product purchases by 25 percent
- Increase racial justice and equity in their supply chains by increasing purchasing from and investing in infrastructure to support disenfranchised producers

Ecotrust (A Place Based Model)

Ecotrust partnered with Healthcare Without Harm, the Oregon Department of Agriculture, Oregon Tilth, and Multnomah County to develop a coordinated series of interventions all aimed at helping institutional foodservice directors overcome barriers to local sourcing. Their long-term ambition, together with those and additional partners, is to develop a network of regional foodservice directors that can function like an institutional-scale CSA (community supported agriculture).



Additionally, on behalf of the Oregon Farm to School and School Garden Network (OFSSGN), a group of 1200 farm to school stakeholders in Oregon, Ecotrust launched oregonfarmtoschool.org. This site is a living guide to the most current information on farm to school outcomes in the state. Since 2011, the OFSSGN and their partners have successfully advocated for over \$25 million in state funding for grants to Oregon schools to purchase Oregon foods and to provide farm and garden-based education, and they have convened regular Oregon Farm to School and School Garden Conferences, which draw nearly 400 participants from across the state.

University of Kentucky: Working to negotiate local food into their Aramark contract

In 2014, the University of Kentucky (UK) signed a 15-year contract with Aramark, a multinational service provider, to take over campus dining services. Aramark brought a surge of growth to the university, providing capital to build and renovate dining halls, add classrooms, offices and programming, along with other benefits. During contract negotiations, there was a lively and public debate about priorities, when citizens, students, and faculty expressed concerns about including university support of agriculture and agricultural education. When negotiations were completed, Aramark had committed \$245 million worth of construction, renovation, and commissions to UK. In addition, Aramark committed to buying \$2 million worth of “local food” and local food-business products, pledging a 5% increase each year. Financial penalties were built into the contract should Aramark fall short. In the last two decades, much work has been done by many people in Kentucky to increase availability of local food to chefs, schools, and consumers. Until 2014, institutions had not been involved in local buying. The University of Kentucky, within their contract negotiations with Aramark, have worked to change that. Despite some initial road bumps, by 2017, they worked to ensure that contract language specified a dollar amount spent on product “with some portion traceable to a Kentucky farm.” That number was \$652,997. There were also requirements for spending on food-related Kentucky businesses, owned by Kentuckians and located in Kentucky, with a target of \$1,648,193.

School Food: Organizations and Initiatives Focused on Shifting Procurement

Getting local food into a public school system’s meal program seems like a no-brainer. The practice would boost local economies and support smaller-scale farms. It would reduce the environmental impacts related to wide-range distribution. Perhaps most importantly, offering locally and regeneratively sourced lunches would provide the potential for connecting students to agriculture and providing nutrition education, paving the way for future shifts to our food system. Yet, getting local and regenerative food into school districts has proven remarkably challenging for a myriad of reasons, the largest being cost. Logistical challenges such as coordination with farms, staffing lunchrooms, and processing raw ingredients have all made implementation difficult. But despite the hurdles, providing schools with locally procured food remains a high priority for many districts, and there are a growing



number of organizations and movements that are aiming to make local sourcing the norm. Some of the leading organizations in this space include:

- Chef Ann Foundation
- National Farm to School Network
- Edible Schoolyard
- Food Corps
- Center for Ecoliteracy
- Urban School Food Alliance

ACCESS TO SEEDS

The genetic diversity of food crops and their wild relatives is the very foundation of food and farming. During the past century, there has been a dramatic erosion in the diversity of food crops available to farmers, gardeners, and eaters, with an estimated 75% of agricultural crop varieties lost. The loss of seeds and genetic diversity is a significant threat to the future food supply, with work urgently needed to conserve and use a diversity of crops, and to ensure that seeds and their genetic material remain in the public trust. The top four firms account for 43% of the global public and proprietary seed market: Monsanto, Dupont/Pioneer, Syngenta and Bayer. Farmers in the U.S. report increasing difficulty accessing non-genetically engineered seeds, for example, as the number of multinational corporations that control seed companies shrinks to a handful, and they determine what seeds are saved, developed, and sold. Resources are needed to develop varieties of organic, traditional, native, and cover crop seeds that taste better, are more nutrient dense, and are bred for healthy soil focused systems. Funders, like Ceres Trust, have been supporting organizations that protect crop biodiversity and ensure public access to seeds. We need other funders and policy makers to do the same. Below are organizations and companies focused on preserving and developing seeds, as well as ensuring crop biodiversity.

Applied Ecological Services

Applied Ecological Services has developed a Native Seed and Plant Nursery, Taylor Creek Restoration Nurseries. With close to four decades of experience in growing native plants, Taylor Creek Restoration Nurseries is a leader in native plant propagation. Taylor Creek's production facilities in southern Wisconsin and eastern Kansas supply the entire Midwest and beyond. They offer the highest-quality native, local-genotype seed and plants as well as the expertise to use and care for them. Their range of services, customized to project needs, includes: native seed and plants, specific genotypic provision, propagation of locally sourced seed and plants, contract growing and procurement, experimental propagation, and nursery consulting.

Culinary Breeding Network

The Culinary Breeding Network's mission is to build communities of plant breeders, seed growers, farmers, produce buyers, chefs, and other stakeholders to improve quality in vegetables, fruits, and grains. Culinary Breeding Network events aim to break down the wall between eaters and breeders by offering unique opportunities to see and taste new and in-development vegetable and grain cultivars, share



opinions, and be an active participant in the breeding process. By helping plant eaters, plant buyers, and plant breeders get to know one another, they're working towards a future of delicious, beautiful, resilient, and diverse crops.

Organic Seed Alliance

Organic Seed Alliance advances ethical seed solutions to meet food and farming needs in a changing world. Each year they educate thousands of farmers and other agricultural community members, conduct professional organic plant breeding and seed production research, and advocate for national policies that strengthen organic seed systems. Their most recent State of Organic Seed report (2016) is part of an ongoing project to monitor the status of organic seed nationally and provides a roadmap for increasing the diversity, quality, and integrity of organic seed available to US farmers.

The Natwani Coalition, Heirloom Seed Initiative

Since 2004, the Natwani Coalition has been working to reclaim traditional farming practices. They promote the tribes' traditional way of life as a way to empower and improve upon the overall health and well-being of the Hopi and Tewa people. The Natwani Coalition programs include youth education, food symposiums, grant-writing, and the Heirloom Seed Initiative—which reinforces the value of preserving the Hopi seed, one that has sustained generations of Hopi people with its dense nutritional value and tolerance to droughts and arid environments. The coalition's work to connect culture, sovereignty, and food has been recognized by multiple food publications.

Indigenous Seed Keepers Network (ISKN)

The Mission of ISKN is to nourish and assist the growing Seed Sovereignty Movement across Turtle Island (North America). They accomplish this mission by providing educational resources, mentorship training, outreach and advocacy support on seed policy issues, and organizing national and regional events and convenings to connect many communities who are engaging in this vital work. They aim to create a collaborative framework and declaration for ethical seed stewardship and indigenous seed guidelines for tribal communities to guide them as they protect their seeds from patenting and bio-piracy. They support the creation of solutions-oriented programs for adaptive resilient seed systems within tribal communities.



CRANE DANCE RANCH AND HEALTHY MEADOWS, MONTANA



Ivan's great grandparents ran a beef and grain operation on this land, originally Crow Indian Territory, beginning in the early 1940s, after having ranched further north in Montana, and only one generation removed from the first family homesteaders.

Ivan spent summers on the ranch growing up, and returned to live full time on his great grandparents' ranch after his grandmother gifted him her portion of the ranch while she was still alive to see it kept in the family and not sold. With that gift came the responsibility of dealing with a degraded landscape dominated by non-native species and an extended family that was selling off their portions of the ranch. Ivan's grandmother instilled in him a commitment to the land even if it was degraded and losing economically.

Ivan and Chia chose to try and turn the problems into the solution. In 2010, they started rotationally grazing their land with goats as an alternative to spraying with herbicides. This started off small with nine goats, and expanded to several hundred goats that they used for their grazing service to help

Farm/Ranch Name: Crane Dance Ranch and Healthy Meadows LLC

Farmer/Rancher Name: Ivan and Chia Thrane

Location of Farm: Red Lodge, Montana

Years Farming this land: 12 years with current generation

Crop or Animal Specialties: Goats

other landowners in the county address their weed challenges and help people relate to their land in ways other than just using chemicals.

Turning the Focus Back on Local

The way in which the land and our food is viewed is a major barrier to building a new regenerative agriculture system. There's a dominant belief system in this country that conventional land management is not what has led to declining land and animal health, but, rather, that outside factors such as invasive weeds, disease, out of state land investors, etc. have created the problems and that the newest herbicide, antibiotic, technology, or machine can fix the problem. We have developed a food system that is based on convenience, cheap prices, and an education system that teaches the focus to be on somewhere else. Somewhere else, someone will grow the food we need to eat. Somewhere else, our trash will go and be taken care of. Somewhere else, our children will be educated. We believe the transition starts with embracing HERE, and finding ways to reclaim pride in being innovative with what our local land and community can create.

“In the future, we would like to see the re-localization of our food system, one in which people make the choice to buy the bulk of their food locally or regionally; in which producers are able to make a livelihood selling nourishing food to their community that is grown in a way to strengthen the land, as well as a sense of community.”

VILICUS FARMS, MONTANA



In eleven seasons of soil building, Vilicus Farms grew from 1,280 acres to a 9,600 acre nationally recognized farm by using USDA's beginning farmer programs, employing extensive conservation practices, and fostering unique risk sharing relationships with food companies and land investment firms. Vilicus Farms is also bringing a new generation of land stewards to the Northern Plains. Since 2013, they have offered the only structured organic grain farming apprenticeship in the US with the vision of incubating new organic agricultural enterprises. Two new agrarian enterprises are currently under incubation at Vilicus Farms: a grazing operation integrated into the cropping system and a seed cleaning operation to retain value on the farm.

Anna Jones-Crabtree and Doug Crabtree have given themselves to the dream of what's possible for a more sustainable, ecological based agriculture.

New Farmers, Starting From Scratch

The vision for Vilicus Farms started when Doug, whose family's grain farm in Ohio had been lost in the farm crisis of the 1980's, began looking for a viable way to return to farming. Determined to participate in an organic agriculture revolution, Doug and Anna jumped into the role of beginning farmers at the age of 40. Before they

Farm/Ranch Name: Vilicus Farms

Farmer/Rancher Name: Anna Jones-Crabtree & Doug Crabtree

Location of Farm: North Central Montana - On the Canadian Border

Crop or Animal Specialties: We have been organic from day one and have a diverse array of organic heirloom and specialty grain, pulse, oilseed and broadleaf crops under five and seven-year rotations with integrated cover cropping.

had even made an offer on land in Havre, Montana, they purchased their first tractor, "Maddie", with part of Anna's retirement fund. "Maddie," broke ground in the spring of 2009, and using the USDA's Beginning Farmer loan resources for land, equipment purchase, and operating capital, Vilicus Farms was born.

While both working full-time—Anna as the Lead of Sustainable Operations in the National Forest Service, and Doug as the Organic Certification Program Manager at the Montana State Department of Agriculture—they did their farming on the weekends. Much of the farm's first seasons were spent commuting 10 hours each weekend from their home in Helena to land the acquired in Havre, with their 3 Jack Russells in tow.



Reciprocity with the Land and Each Other

The reality is that we need to see major shifts in the entire system. So, to us, building a regenerative food system is the right framing and the responsibility can't be solely on the farmers and ranchers to get us there. At Vilicus we believe that each farm needs to be nurtured as a self-renewing, thriving organism. The ultimate goal is to eliminate off-farm inputs, farm in collaboration with the natural systems in which the farm is embedded, and work from a place of reciprocity in everything. The entire food system needs to move to a space of working from relationships, not transactions.

Current farm economics are horrendous. Yet, the crop insurance programs and ag policies are significant incentives to stay stuck in a system of monocultures and off-farm inputs.

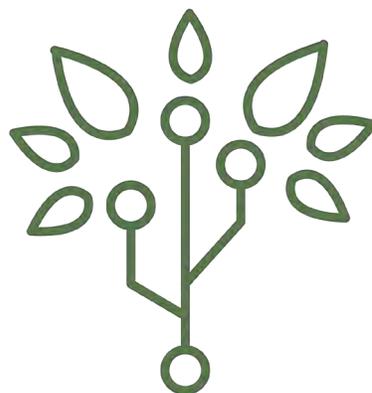
Sharing the Risk and the Reward

There must be fundamental change to how we collectively compensate farmers for work that supports all of us. Risk and reward across our food system must be more equitably shared with those of us actually doing the work of growing food and day to day land stewardship. Farms are much more than widget producers. If we continue to base compensation and long-term land stability exclusively on exported bushels, our farms aren't going to be in business over the long run.

Farmers make investments in taking care of the land every year. Those investments don't pay back on a quarterly profit reporting cycle. The entire system is upside down—Farmers give guaranteed returns to everyone else first: rent, fuel, parts, machinery, processing, labor, seed etc. Everyone else up the supply chain is pretty much guaranteed income regardless of production realities. The farmer is always last when it comes to reward, but first when it comes to risk. We can't have our farmers continue to pay for the privilege of doing this work on behalf of all of us and the planet.



STRATEGIC COMMUNICATIONS



Strategic communications focused on regenerative agriculture will play a critical role in amplifying both interest and action from stakeholders, including farmers and ranchers, public officials, scientists, lenders, brands leaders, and consumers. Change can't happen without key stakeholders having the right information and motivation. To date, there has been very little media attention or funding being channeled towards land-based solutions to climate change, including regenerative agriculture, and, if this doesn't change, we will always be a step behind the conventional industry players. The corporate food and agriculture industry spends billions to influence the public's understanding of food and farming and, by extension, control policies and markets. While we may not be able to match them dollar for dollar, we can help communities, farmers and ranchers, and other experts across the regenerative space share their stories and lift up their voices.

As noted to us by climate activist and storyteller, Jeff Biggers, “If we're serious about engaging communities for climate action and environmental justice, storytelling and all the arts must play a key role in our initiatives. I tell every organization, community and interfaith group, school and university, and especially town and city councils: Don't waste your resources on bureaucrats, task forces and commissioning studies that no one reads—invest in the arts, storytellers, writers, playwrights and farmers. Every organization, campus and city should have a Climate Storyteller-in-Residence, a Climate Artist-in-Residence, a Farmer-in-Residence, etc. If we are to meet the urgency of climate action, we must be training brigades of climate storytellers to astonish, inspire and organize our communities.”

In order to create food and agricultural systems that foster equity, wellbeing, and resilience, we must begin to advance, in much more strategic and coordinated efforts, a public narrative that investigates and reveals the true costs of corporate consolidation and the global and centralized industrial model, showcases the opportunities and outcomes of regenerative systems, and amplifies the voices and experiences of those most impacted by our current food and agricultural systems and on the frontlines of transforming them. Narrative work can focus on, for example, the importance of land use solutions for climate change, regenerative agriculture as a key to human health, revitalization of rural livelihoods, and positive success stories, especially focused on economics, of farmers and ranchers making the transition.

Funders and investors across the space must begin to recognize the critical role that communications plays in fueling a transformation in our food and ag systems and, accordingly, activate broad funding into communications efforts.

Some of the key strategies shared with us, and highlighted in more detail in this section, include:

- Working across the movement to build alignment and distribution of shared stories and narratives. The more we can repeat the same narratives across many channels and many formats, the more they will be remembered and repeated
- Developing and sharing communications strategies and tools directly with producers, so they can effectively educate and build awareness within their own communities and regions, as well as with potential buyers, retailers, and customers

- Investing in multi-media communications and PR support, including effective branding and marketing strategies, to build broad recognition and awareness of regenerative agriculture
- Collaborating with and collecting stories and case studies from farmers and ranchers, helping them to tell their stories and hear the stories of others across the country
- Building power to dismantle dominant false narratives, that continue to perpetuate the myths that our current system is efficient and the only way to feed everyone

KEY LEVERS AND OPPORTUNITIES

Building Shared Narrative and Alignment

The current dominant narrative of food and agriculture purports that the industrialized factory farm system is efficient, sustainable, and harm that is caused is part of what is necessary to feed the world. Meanwhile the local food movement, family farms, CSAs, etc., are dismissed as impractical or even “elitist”. While a rational look at the harmful impacts to animals, communities, farmers, and the planet quickly dispels this claim, the myth persists. Multiple narratives are being told around us all the time. Dominant narratives generally support existing power relationships and drown out other values, experiences and stories. We cannot realize the just and regenerative food system we need without cultivating real culture change. Key to this work is changing our narratives.

As shared with us by our colleagues at Animal Agriculture Reform Collaborative, Ricardo Levins-Morales, a Minneapolis based social justice artist, describes transformational public narratives as the rich soil that allows our campaigns to flourish. He asks, “What then are our stories, values or beliefs, that if widely held would make our campaigns more likely to succeed?”

Developing and aligning around shared narratives for a regenerative food and agricultural system that can influence procurement, consumer awareness and behavior, and policy decisions is a critical strategy that we must not ignore. While grassroots power-building organizations continue to grow and activate base through alliances and electoral strategies, they do not yet wield sufficient influence, coordination, and capacities to drive the story on climate and other environmental and social issues in a way that wins hearts, minds, and power to govern from a bold vision. In a national survey, conducted by the 11th Hour Project, 200 leaders working to create resilient and robust food and agricultural systems shared this urgency, expressing an “urgent need for expanding the communications capacity of food and farm movement organizations.” The need for shared narratives and stories across the sector has never been more apparent. If supported effectively, narrative shift can be a powerful strategy connected to other core strategies of base building, advocacy, and crafting social infrastructure capable of wielding and influencing political power before, during and after elections.



CURRENT & EMERGING OPPORTUNITIES

Carbon Underground

The Carbon Underground acts as an umbrella organization connecting academia, businesses, organizations, schools, governments, and the general public, communicating and educating about the power of healthy soil to combat climate change. They coordinate a globally interconnected set of research groups working to demonstrate the impact of sustainable agriculture, land management, and regenerative enterprises as principal tools for sequestering carbon. Through their focus areas of corporate impact, education and training, policy, and communications, Carbon Underground aims to facilitate the widespread transition of farms, ranches, and grasslands from industrial into regenerative enterprises.

Animal Agriculture Reform Collaborative (AARC)

AARC is a movement alignment hub facilitating bold collaborative action to accelerate the shift towards regenerative agriculture, mainly high-welfare pasture based animal agriculture systems. The 45 organizations represent a wide-range of constituencies, including: farmers and ranchers, rural communities, communities of color, environmental, worker, public health and animal welfare advocates. These organizations and leaders are working together, through AARC, to accelerate the transition to a regenerative agricultural system by growing a robust and active base demanding the bold policy and market changes we need, and by shifting the narrative to illustrate that a different way is not only necessary, it is also possible. Their narrative alignment work with movement leaders across the space focuses on developing a shared narrative across their organizations through extensive engagement, training, creative discussion, and deep listening.

Food and Farm Communications Fund

The Food and Farm Communications Fund is a multi-funder pooled grant program and advocate for the critical role of strategic communications and narrative in advancing social change. They provide and galvanize communications funding and resources for community-based organizations working to uplift grassroots narratives, build power, and embolden transformative food and farm systems change. They focus their work on the following strategies:

- Investing in Strategic Communications and Narrative Change: Grant programs to meet a range of critical needs
- Building Communications Capacity: Opportunities for grantee capacity-building and collaboration
- Showcasing the Value of Communications: Sharing grantee successes and applied learning

Current funders engaged in this pooled grant program include 11th Hour Foundation, The Christensen Fund, Grace Communications Foundation, Greater Kansas City Community Foundation, and Lumpkin Family Foundation. For funders who are interested in engaging in communications work, but don't have a specific communications program strategy, FFCF is a great resource and opportunity to engage in strategy communications work across the sector.



Grassfed Alliance

Grassfed Alliance is working to support small-scale, ecologically minded meat and dairy producers around the U.S. to align around shared narratives and communications strategies. Grassfed Alliance envisions a marketplace in which big buyers like grocery stores and restaurants fully understand the value of authentic grassfed products. They are supporting their constituents in demonstrating the resilience of decentralized, regional, “better meat” supply chains in the U.S. Grassfed Alliance hopes its efforts will lead to a dramatic increase in the market share of authentic grassfed products, beneficial ecosystem outcomes on the ground, improved producer economic viability, and healthier, happier animals and people. The Grassfed Alliance is starting, in 2020, a consumer research project to further understand what brings consumers to grassfed meat and dairy, and regenerative agriculture in general. The goal is to uncover what the most important emotional entry points are for consumers so that the regenerative agriculture community can create more impactful, focused messaging.

Food for Climate League (FCL)

The Food for Climate League is working to identify the optimal communications tactics and avenues for engagement to catalyze a global movement toward climate-beneficial eating. Their goal is to create tested narratives that celebrate delicious, healthy, regenerative, and Instagram-worthy foods that are great for us, and great for the planet. Over the past year, they have been conducting critical research on how to develop narratives that help companies and organizations illustrate how climate-smart eating speaks to our core human needs, narratives that can ultimately fuel system-wide change.

The Center for Rural Strategies

Based in Whitesburg, KY, the center works to support an integrated communications campaign that produces and distributes content in ways that:

1. Increase the capacity of grassroots, multi-sector rural advocates and their national networks to address food systems change
2. Positively affect the coverage of food systems issues in local, regional, and national media
3. Educate local, state, and national policymakers on food systems reform topics.

Dakota Rural Action

In addition to their farmer network building and policy and advocacy work, they are working to support both shifting the dominant narrative and educating citizens and decision makers regarding food and agriculture policy and programs. They are also focused on bridging Native and non-Native narrative and stories about training beginning farmers and ranchers in holistic sustainable agricultural practices and methodologies, and fighting factory farming development.



Multimedia Storytelling and Engagement

For much of the past twenty-five years, climate communication was focused on science and policy, and significant gains were made in terms of climate awareness and support for climate policies. Yet the challenge of transitioning citizens' awareness into engagement in discourse and action remains. As Finnian Makepeace of Kiss The Ground describes, "If we look at the history of communication with humans, in the last 100 years you have a major decline of agriculture and sustainability and an upward curve of human connection. We can't assume people know because they have access to more information, we have to educate."

In the Yale Program on Climate Change Communication's 2018 survey, 70% of respondents around the country acknowledged that global warming is happening and that they are concerned about the harm it will cause to future generations.²⁶ Yet only about one third of respondents indicated that they discuss climate change "at least occasionally." As Jeff Biggers, founder of the Climate Narrative Project, shared, "I feel like we have a climate communication crisis as much as a climate crisis. We're not just up against a formidable lobby of oil, gas, ag and coal, but somehow we need to rise above the noise, the distractions and the globalization of indifference to injustice in daily life. While the majority of Americans recognize the growing problem of climate change, surveys have found that most people rarely discuss it or know how to engage in real action."

To engage the public, climate and environment communicators, including regenerative agriculture, must broaden the discourse and approaches beyond the usual focus on science, policy and politics. A recent review of advances and critical needs in the field of climate and environment communication emphasizes the cultural work that is needed to address these issues, and calls for more transdisciplinarity and creative approaches in order to effect this cultural change. Researchers attribute recent advances in climate communication to developments in the cultural sphere, particularly the rise of storytelling.²⁶

'If we want to restore our Earth, we must re-story it.' ~ Jeff Biggers of the Climate Narrative Project

Storytelling is a powerful mode for shifting the discourse beyond explanations of science towards motivating action. Storytelling is key to understanding and adopting solutions to climate, environmental and social justice issues. Storytelling empowers us to envision change in real ways, from regenerative solutions like renewable energy and carbon-neutral buildings to walkable urban designs and regenerative food production. Storytelling, including often overlooked mediums of dance, visual arts and theatre, allows us to break from our often complacent ways and connect across differences, hear another voice, move in different shoes, and witness acts of wonder and resistance among those on the frontlines. Storytellers call us to care for, respond to, and become responsible to one another. Storying activates empathy, agency, and collective action—skills necessary for responding well to climate and environmental challenges and other major injustices.

We must invest in multimedia storytelling strategies—including dance, theatre, film, spoken word and creative writing, visual arts, PR campaigns and radio—in order to transform individual behavior and thinking in regards to energy, food and agriculture, waste, urban design and transportation, and our connection to our local history and nature. Eventually, we can envision a roadmap, through stories, on how we can transition toward creating carbon neutral and regenerative landscapes—bringing to light new narratives that highlight ways in which we don't simply "do less harm," but actively repair the environmental and human destruction and replenish our natural resources.



CURRENT & EMERGING OPPORTUNITIES

Civil Eats

Civil Eats is a daily news source for critical thought about the American food system. They publish stories that shift the conversation around sustainable agriculture in an effort to build economically and socially just communities. Founded in January 2009, Civil Eats is a nonprofit news organization with more than 150 contributors who report on the evolving food landscape from Capitol Hill to Main Street. They were named the James Beard Foundation's 2014 Publication of the Year, and inducted into the Library of Congress in 2019.

Project Drawdown

In 2017, environmentalist Paul Hawken set out to create a single, comprehensive, reliable compendium of carbon-reduction solutions across sectors. With the help of a little funding, he and a team of several dozen research fellows set out to “map, measure, and model” the 100 most substantive solutions to climate change, using only peer-reviewed research. The result, released in April 2016, is called *Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming*. Unlike most popular books on climate change, it is not a polemic or a collection of anecdotes and exhortations. In fact, with the exception of a few thoughtful essays scattered throughout, it’s basically a reference book: a list of solutions, ranked by potential carbon impact, each with cost estimates and a short description. A set of scenarios show the cumulative potential. Drawdown placed Regenerative Agriculture at #11 of the top solutions to climate change. Of the top 20 solutions discussed in the 2017 book, eight of them come from land, food, and agriculture. Many credit the release of Project Drawdown, and their continued work with communities, policy-makers, non-profits, businesses, investors, and philanthropists to discuss and deploy these solutions, for having driven the increased interest in regenerative agriculture as a solution in the last couple years.

Soil Centric

Soil Centric’s mission is to illuminate the opportunities, resources, and pathways for widespread participation in the creation of a resilient and abundant future. Their goal is to accelerate individual understanding and engagement in regenerative agriculture through their online Pathfinder Tool. Soil Centric has introduced a beta version of its Pathfinder Tool, designed to help individuals identify regenerative opportunities and ways to engage. The tool lists opportunities for farmers, ranchers, and land stewards, as well as nonfarmers. For farmers, opportunity categories include improving soil health, incorporating agroforestry, and integrating animals. The listings range from information resources to internships to online courses. Non-farmer opportunities range from volunteering to eating at carbon-neutral restaurants.

Food Tank

Food Tank is a non-profit global publication and advocacy network, providing a place for farmers and producers, policy makers and government leaders, researchers and scientists, academics and journalists, and the funding and donor



communities to collaborate on providing sustainable solutions for our most pressing environmental and social problems. They have been working for years to highlight and promote innovative, on-the-ground solutions to the most pressing issues in food and agriculture. They hope to bridge domestic and global food issues by highlighting how hunger, obesity, climate change, unemployment, and other problems can be solved by more research and investment in sustainable agriculture. They feature innovative stories and ideas that are already working on the ground, in cities, in kitchens, in fields and in laboratories.

Kiss the Ground

Kiss the Ground is a California-based nonprofit working to regenerate land and reverse climate change through rebuilding healthy soil. It creates educational curricula, campaigns and media to raise awareness and empower individuals to purchase food that supports healthy soils and a balanced climate. Kiss the Ground also works with farmers, educators, NGOs, scientists, students and policymakers to advocate for regenerative agriculture, and help drive brands and businesses to develop more sustainable supply chains worldwide. Some of their media work includes their campaign for The Compost Story featuring Rosario Dawson, Adrian Grenier, Amy Smart, Paul Blackthorne and Kendrick Sampson and their book and feature length documentary, entitled "Kiss The Ground."

White Earth Land Recovery Project

The mission of the White Earth Land Recovery Project is to facilitate the recovery of the original land base of the White Earth Indian Reservation while preserving and restoring traditional practices of sound land stewardship, language fluency, community development, and strengthening spiritual and cultural heritage. Their work to support communications efforts within their communities has included a community-owned radio program, theater program and tribal newsletter aiming to improve the community's relationship with local food producers and harvesters and to encourage healthy eating habits, environmentally friendly food production, and the preservation and sharing of traditional Ojibwe food systems.

Center for Food Safety (CFS)

CFS initiates change using statewide policy and litigation work and understands that this work goes hand in hand with a communications strategy, as education drives civic participation and civic participation increases media attention and thus leads to greater public awareness. CFS has been successful in broadly communicating the power of soil and regenerative agriculture as a climate change solution by producing high quality videos, sharing the films on the international stage, and creating original graphics and blogs. Their distinctive soil-themed videos were designed to create awareness about the soil carbon opportunity and have been viewed by hundreds of thousands of people across many platforms and languages. First screened at COP21 in Paris, CFS's short film Soil Solutions to Climate Problems has been very well received globally and has been used as a teaching tool in 4 countries in Southern Africa. Building on this success, CFS created "Dig Deeper," a series of two-minute video interviews with leading soil experts covering a range of topics. The goal of the series is to aggregate the wealth of emerging information



on soil carbon sequestration on their website, soilsolution.org. They also recently produced and released their latest four-part video series, Regenerating Paradise, which features interviews with farmers in Hawai'i who have incorporated healthy soil techniques at their farms. Finally, CFS finalized and released a new website Opt Out of Industrial Meat (www.endindustrialmeat.org). The website and its accompanying comprehensive report outline thoroughly researched arguments on the key reasons CAFO-raised products are unhealthy for people, animals, and the environment as well as important information on accessing plant and animal proteins that promote health and protect the planet through regenerative agricultural practices.

A Significant Gap in Funding: Mainstream Media and PR Campaigns

Funding for communications efforts was, by and large, one of the most significant funding gaps we identified across the regenerative ag sector and mentioned by nearly every person we interviewed for this report. While the organizations we have listed here are making significant contributions to supporting communications efforts across the space, we have seen very little funding directed towards the growth and scale of these efforts. And, perhaps most importantly, there has not been focused strategy, attention, and funding to create the kinds of public facing PR and multimedia projects that have the ability to reach a broad public audience, outside of our own small bubbles and movements. One of the most successful films, to date, touching on the issues of regenerative agriculture has been "Biggest Little Farm," which grossed over \$5 million at the box office and reached a national audience. But, building consumer and wide public support for these issues, to grow our movements and to grow demand, will take more than just one film or one project. Until we see major funders, investors, and brands step up to build strategic media and PR campaigns together, we will always be one step behind major ag industry players, who spend billions of dollars every year on PR and communications efforts. It's a winning strategy for them. We need to find a way to make it a winning strategy for regenerative agriculture and for our producers.

Producer Communications and Case Studies

Many of the producers we spoke with expressed a lack of experience with communications and marketing, and all seem to struggle with market development as a direct result. As with operations, they are frequently cobbling together resources for at least a logo and product label, and perhaps some basic sales collateral and a website. They often simply go without brand and marketing strategy, consistent marketing communications, or more robust strategic planning around their communications.

In addition to their own individual marketing and communications challenges, many producers shared that they often only hear about a handful of regenerative success stories. Producers we interviewed had heard the transition and success stories of farmers and ranchers like Will Harris and Gabe Brown many times, but are also desperately seeking other stories and narratives from producers across the country, including smaller producers, producers in their own communities, or producers with similar challenges to their own. What we have found, across this interview and research process, is that there are countless farmers and ranchers—big and small, young and old, of all races, colors and creeds—who have been on their own unique sustainable, climate-smart, regenerative or traditional agricultural journeys. Until we lift up this



diversified set of voices, all sharing their unique experiences, histories, and wisdom, many people are left to feel like only a few select farmers or ranchers have been doing this work or are making this transition and, subsequently, that regenerative agriculture remains a fringe movement.

As a movement, we need to bring together science, humanities and the arts with farmers and ranchers from all backgrounds to come up with new climate narratives that could effectively galvanize action and illuminate pathways towards a regenerative food and agricultural system: in effect, we have opportunity to train a new generation of storytellers and community organizers, placing our farmers and ranchers at the heart of both this work and the narrative. Additionally, by supporting organizations and individuals working to provide targeted communications and marketing support directly to regenerative farmers and ranchers and their communities, funders can fill a critical funding and strategy gap along the path to regenerative agriculture adoption.

CURRENT & EMERGING OPPORTUNITIES

Farm Generations, GrownBy

Farm Generations Cooperative is a new, national agricultural cooperative that brings farmer-owners together to creatively solve business challenges. The co-op's first project, GrownBy, is a sales and marketing platform for direct market farmers. Farm Generations is led by Lindsey Lusher Shute and Michael Parker. Lindsey was a co-founder of the National Young Farmers Coalition and led the organization as executive director for 10 years. Lindsey is an owner of Hearty Roots Community Farm, a diversified vegetable and livestock operation, in New York's Hudson Valley. Mike works for the National Young Farmers Coalition, helping farmers understand their financial decisions related to accessing farmland. The GrownBy platform is in its beta version, focused on a select number of growers in 2020. As the platform grows, it could be a very useful tool for diversified and direct-to-consumer growers to get sales, marketing and management support.

Illinois Stewardship Alliance

Promoting family farmers and local food systems, The Illinois Stewardship Alliance promotes ecologically sustainable, economically viable, socially just local food systems through policy development, advocacy and education. The Alliance is supporting communications work within their membership through comprehensive narrative trainings for cohorts of 25 farmer leaders and regenerative movement organizers to tell their own inspiring stories about soil's capacity to draw down carbon and protect drinking water to non-farming policymakers and their constituents, with urgency in a way that generates action.

Practical Farmers of Iowa, Leadership Training

Practical Farmers' Outreach Leaders are spokespeople for farming that protects the land, builds community, and brings a new generation back to the farm. Outreach Leaders comprise a core group of farmer members committed to sharing their farming stories, knowledge and expertise with a wider audience, including the media, the public and other farmers. Outreach Leaders seek media coverage on a range of topics to illustrate the value of diverse, sustainable farming systems, and how they "grow more than crops and bring more than food to the table"—a slogan developed by the farmer leaders themselves as an expression of the broader



benefits these farming systems offer. These farmers also serve as spokespeople and experts on the farming practices they use and their experiences with sustainable farming methods. Outreach leaders go through Leadership training to support their communications and messaging leadership. The first Outreach Leaders group completed training in 2012, and a second group of farmer leaders shored up skills in messaging, media outreach and communication in 2013. Practical Farmers staff work with Outreach Leaders to identify opportunities for speaking out and to help ensure their farm stories are well-crafted and emotionally compelling.

Native American Food Sovereignty Alliance

For Indigenous people, telling stories is embedded in the culture, their history, and their language. Through their stories, they share their deepest held beliefs about creation, their responsibility as human beings to be good relatives, and the importance of caring for their communities. The Alliance is a national network, leveraging resources and cultivating solidarity and communications support within the matrix of regional grass-roots tribal food sovereignty projects. They rebuild relationships through sharing the stories of their seeds, their foods, and their work to reclaim traditional lifeways for the health and well-being of their communities.

Western Organization of Resource Councils, Homegrown Stories

Formed in 1979, Western Organization of Resource Councils is a network of eight grassroots organizations (located in Colorado, Idaho, Montana, Montana's seven Native American reservations, North Dakota, Oregon, South Dakota, and Wyoming) with 15,000 members and 37 local chapters. WORC helps its member groups succeed by providing training, coordinating issue work and advancing the vision of a democratic, sustainable and just society through community action. Homegrown Stories is WORC's narrative project highlighting farmers and ranchers doing agriculture right and the struggles they face trying to compete with industrialized agriculture. This is an intimate look into strong, resilient rural communities and the people who fight for the land and people who call these places home. This narrative project aims to elevate people who do incredible work in our food system. By sharing their stories, they aim to tell the whole truth about American agriculture.

Western Sustainability Exchange (WSE)

WSE's Resilient Ranchland Program provides ranchers with the information and tools they need to be excellent stewards by using regenerative practices on their land. WSE works with ranchers to use these practices, then as an incentive for others to convert to these methods, they boost their profitability even further by connecting producers to new, lucrative markets. WSE is seeking support for the program to incentivize the use of regenerative agricultural practices with ranchers through: 1) regenerative practices education, 2) a resource management "dashboard" and land monitoring tools, 3) market-based incentives, and 4) a communication and outreach campaign. As part of the communication and outreach efforts, they will produce "Ruminant on This," their rancher-to-rancher blog providing details on a variety of regenerative techniques and profiling the landowners using the methods and enjoying the benefits. They will be working with over 1,000 ranchers to share information and communications resources about the benefits of regenerative practices.



THE ROLE OF CERTIFICATIONS AND LABELING

One of the challenges to realizing a full transition to regenerative agriculture is that “regenerative” itself lacks a clear definition. Most proponents agree that regenerative agriculture involves tilling the soil less, or avoiding tilling altogether, as well as planting cover crops, growing a diverse array of crops, and managed grazing. But some say these are just a baseline, and should be part of a greater sustainable farming system that goes beyond soil health. One point of quiet debate concerns the role of herbicides and synthetic fertilizers within regenerative agriculture. While conventional farmers using a regenerative, no-till approach tend to rely heavily on herbicides to manage weeds, organic regenerative farmers rely on a whole suite of other, less chemical and more labor-intensive tools.

As these debates rage on, what is clear is that there is still significant work to be done to ensure that responsible members of the food production and consumption chain understand these impacts and align their production and purchasing decisions accordingly. In order to ensure alignment of these production and purchasing decisions, certification offers one potential pathway. Although several certification schemes exist, they differ on how certification should be implemented and evaluated and the U.S. Department of Agriculture (USDA), which oversees the organic standards, has, so far, largely stayed out of the fray.

Throughout our research for this report, a question has continued to come up from producers and experts alike: “What role will certifications play in supporting a regenerative agriculture system?”

The Carbon Underground, as one example, has partnered with researchers and corporate partners to roll out a regenerative agriculture standard, the **Soil Carbon Initiative**. It can be adopted by conventional or organic farmers, and will measure for a handful of specific outcomes, as opposed to the practices they adopt. It does not necessarily require a decrease in the use of pesticides. As another approach, in 2018, a California-based nonprofit—formed by the Rodale Institute, Dr. Bronner’s, and Patagonia—launched the **Regenerative Organic Certification (ROC)**, which includes multiple tiers and a focus on animal welfare and social fairness in addition to soil health. Farmers must already be certified organic to apply, and the standard measures both the practices and the outcomes for soil health. It is an attempt to be a “north star” for the industry as a certification that encompasses the health of the planet, animal welfare, and social fairness.

Others worry, however, that taking a purist approach may scare off conventional farmers who are curious about converting to regenerative practices. “If the approach is all or nothing, you’ll get nothing at this point,” said Steve Swaffar, the executive director of No-Till on the Plains. The group does not take any kind of position about the use of chemicals. Swaffar said some flexibility is needed as the industry more widely adopts soil health practices. “As people begin to refine how they’re farming, using the suite of practices ... the soil will return to a natural state and will begin to self-regulate some of these processes that the chemicals are now used for,” Swaffar said. “It’s because the soil is now your protector, not just a growing medium.” As a result, farmers will start using fewer chemical inputs.

Bob Scowcroft, the retired executive director of the Organic Farming Research Foundation and a 35-year activist and leader in the organic farming movement, also has concerns about splintering support for organic food and what the organic movement worked for decades to get adopted. “I try to remind people, organic is still only 4.8% of the food economy,” he says. “95% of the economy is still sprayed with synthetic pesticides or made up of CAFOs, so are we going to shred each other? We can only afford to do



that when organic is 45% of the economy.” Rather, he would like to see more energy and faith put into the building upon and evolving the systems that are already established. “The model is already there to bring that language to the National Organic Standard Board to further the conversation on improvement of the standards,” Scowcroft says. “There shouldn’t be anything stopping anybody from doing that.”

One thing seems clear to us: the debate on improving the USDA organic standards to include additional regenerative principles vs. developing a new wave of regenerative standards is far from over. And, as demand for sustainable products continues to grow, sustainability label claims around food production have also proliferated. Yet, many are misleading and unverified. Every day, high-welfare, sustainable producers lose customers to misleading labels, as well-meaning shoppers are tricked into paying more for the same mass-produced industrial food with a different label. The misuse of labels, claims and terms has created a very confusing marketplace where people struggle to identify labels that meet their expectations. And, most importantly, amid all the greenwashing and labeling, farmers have developed a lack of trust in certification schemes as a solution, as farms with genuinely sustainable practices have a harder and harder time standing apart from flagrant greenwashing by industrial agricultural systems. Complicating issues more, many labels focus on single-issue solutions—like antibiotic-free chicken—and fail to address the complexity of the changes needed for systems-level change.

What we have concluded, through this process, is that third-party certification can give consumers confidence that their purchase matches their values, as well as a chance to become partners with farmers in delivering agricultural sustainability. Given a reliable way to purchase certified sustainable meat, eggs and dairy, consumers can support farms that make a difference. The challenge will be landing on the certification or certification(s) that truly represent a regenerative agriculture system, for all people, animals, and the planet, and that creates true transparency in the marketplace. While we feel certification will have a role to play, we also realize that there are many challenges that producers are facing on the ground, which we have identified in this report, that need to be addressed before certification will emerge as a priority for many of the producers we spoke with. The reality is, the producers currently managing a majority of acreage in this country are a long way off from being ready for a certification like the ROC and we have a lot of work ahead of us to get them there.

The Regenerative Organic Certification is certainly an aspirational target that we would love to see everyone aspire to and, if most of the barriers identified in this report can be adequately addressed, perhaps most of our producers can certify to it in the future. In addition to the Regenerative Organic Certification and the Soil Carbon Initiative, some groups that are leading the way on certification schemes that will add value for regenerative farmers and ensure that consumers and brands can align their purchasing decisions accordingly include **A Greener World’s Certified Regenerative Label** and **The Savory Institute’s Land to Market Program EOV Certification (Ecological Outcome Verification)**. A Greener World is one of the only certifiers active in a commodity market working to achieve ecosystem integrity by integrating multiple certifications. Their scope includes improved overall soil health, reduced soil erosion and runoff from farm fields, increased biodiversity and wildlife habitat, and increased soil carbon sequestration. Savory’s EOV certification has been developed in collaboration with leading scientists and researchers around the world, and is an empirical and scalable soil and landscape assessment methodology that tracks outcomes in soil health, biodiversity, and ecosystem function.

One other interesting certification that stood out to us is the **Agriculture Justice Project (AJP)**, working in both the United States and Canada. AJP is working directly with farms and food businesses to provide technical training and raise awareness of injustices in the agriculture system. AJP’s Food Justice Certification is in grocery stores nationwide, reflecting products produced by organizations operating under a high bar of social justice standards. The certification aims to bring transparency to the food system. Led by stakeholder participation, AJP rates worker wages and conditions, farmer contracts, and the rights of



all people involved in each ingredient used in the product sold. Through this label, the organization hopes to create a conversation about justice standards. AJP has been recommended by the Fair World Project, has won an award for equity in agriculture, and has given farming communities a voice by participating in public comments on national policies.

Funders who are interested in the certification space can work to underwrite certification programs to verify that adopted practices are effective, durable, and achieving multiple benefits for people and the planet. They can also help increase consumer awareness and demand for labeled products and partner with brands and major CPG companies to create wider adoption of the leading certifications. Future strategy could also ultimately aim to help shift and advance the USDA organic certification to adopt regenerative principles, as we begin to see more widespread adoption of and demand for these practices.



MAPLE EDGE FARM, IOWA



Farm/Ranch Name: Maple Edge Farm

Farmer/Rancher Name: Jon
Bakehouse

Location of Farm: Hastings, Iowa

Years Farming this land: 18

Crop or Animal Specialties: Corn, soy,
alfalfa, pasture, cattle

Except for five years, my life so far has been spent playing and working on the same acres. My great-great grandparents settled here in the late 1800s; it has been in the family ever since.

I am acutely aware that these acres have sustained our family for five generations and I want to make sure they continue to do so for our son, the sixth generation. While we utilize some of the most recent farming technology, our most important asset is having a feel for what this land can and can't do. Technology is a great tool, but it's poor compensation for the degradation our land has undergone over the generations. I daydream about what this land looked like covered with native prairie blooms and blossoms; what it sounded like abuzz with insects and animals; what it smelled like turning over a shovel of deep, undisturbed soil.

“I understand production agriculture will always be at odds with what Mother Nature really wants, but I envision getting back to even a fraction of what the landscape looked like before my ancestors put plow to soil.”

Putting Soil First

Our entire agricultural infrastructure, from research to products to machinery to markets, is geared toward a handful of crops, particularly

corn and soybean yields. This singular focus, on a handful of crops grown solely for efficiency and yield, has destroyed our soils. Regenerative agriculture means accepting our most important resource—soil—is degraded, then getting busy rectifying the situation.

Regenerative gets to the heart of the issue: being proactive about improving how our soil wants to function, not how we think it should function. For example, in Iowa, I would like to see all acres, after the corn harvest, be planted to a cereal rye cover crop to let the soil recover.



LUNA VALLEY FARM, IOWA



Farm/Ranch Name: Luna Valley Farm

Farmer/Rancher Name: Maren and Tom Beard

Location of Farm: Decorah, Iowa
Years Farming this land: 7

Crop or Animal Specialties: Grass Fed and finished Beef and Lamb, Heritage Breed Pigs, Organic Crops (corn, barley, oats, wheat, spelt), Hay, Permanent Pasture, Wood Fired Pizza (made with ingredients from our farm and neighboring farms).

We bought our farm seven years ago from a neighbor who was born and raised here. When we started farming this land, the pastures were in poor shape, there was lots of rusty barbed wire fence to tear out and every single building needed a new roof. Whereas some people looked at this place and saw worn-out land and rustic buildings, we looked at this place and saw potential and have slowly been working to improve pastures, fix up old buildings, and bring our beautiful farm back to life. We started off with sheep and some organic crops and have since diversified our farm to include a grass finished beef herd, heritage breed pigs (for pizza!), small grains for a local brewery, glamping and wood-fired pizza on Friday nights from May through October.

Tom grew up 1/2 mile away on his parents' organic dairy farm and Maren grew up in rural Wisconsin with an appreciation for small farms and farmers. We bought this farm when we were in our late 20's and hope to spend the rest of our lives here. We see our farm as deeply embedded within the community and take seriously our role to steward the land we farm, provide nourishing food for our community and share our farm, with the goal of connecting more people to the land.

Diversity is Key to Regenerative Agriculture

For our farm, regenerative agriculture means farming in harmony with nature, in a way that increases our resiliency in the face of the climate crisis. We farm with future generations in mind and aim to build topsoil, prevent soil erosion and grow food for our community. On our organic farm, our livestock play an important role in nutrient cycling and increasing soil fertility and we prioritize perennial cover and habitat for birds and bees. Diversity of enterprises and species, both plant and animal, is our greatest strength.



Transitioning Towards Regenerative Agriculture Will Require a Change in Mentality

We are surrounded by large conventional farms in Iowa that have gotten large and less diverse over time. Farmers have huge amounts of debt on machinery and are steeped in a specific system, creating an environment where they see no way out or haven't been shown other models. Aspiring farmers from farming families sometimes face the challenge of convincing their parents and grandparents to do things differently. Aspiring farmers from non-farming families, without a background in farming, face the near impossible task of gaining the skills to farm, accessing the necessary capital, and acquiring farmland.

Transition towards more sustainable and regenerative practices requires a change in mentality with a view towards the future. So many farmers are focused on the current year and how they're going to make payments on land and machinery, that it can be difficult to get creative and prioritize the next 50 or 100 years.

In the future, we would like to see: the average farm size goes down, the number of farmers goes up, and for all farms to become more diverse in terms of their enterprises, because diversity goes hand in hand with resiliency and regenerative farming practices.



RESEARCH AND SCIENCE

The revolution in regenerative agriculture cannot occur without the reimagining of agricultural science. Science is necessary to validate regenerative systems, scale and transfer successful systems to other farms, remove barriers to innovative farmers wanting to change their operations, and develop the data to inform sound policies that can encourage farm resilience and adoption of practices. As it is currently practiced, agricultural science is inhibiting the innovation of our food system. Scientists are, by and large, incentivized to focus on incremental changes to cure symptoms of a broken system, rather than helping to fundamentally reinvent it. The majority of scientists also do not have first-hand experience with farming and assess their worth using metrics that are generally valuable only to themselves, not farmers; as such, agricultural science is disconnected from the people they are trying to help. Additionally, funding for research within large institutions is often not truly independent and continues to fuel the current agro-industrial complex. Consequently, agricultural science is in a self-perpetuating rut, and transformational changes to agriculture will not come without changing the current scientific infrastructure and supporting truly independent research and science on regenerative agriculture.



We must prioritize research that will lead to actual results in terms of changed practices and enabling regenerative agriculture to scale up as fast as possible. By demonstrating the potential of regenerative agriculture with field-based evidence, additional funding and investment can be attracted to the field for scaling up results and, perhaps most importantly, can guide the development and adoption of regenerative food and ag policy. This should include the quantification of the benefits for farmers of different management practices, with a focus on explaining and predicting how management practices translate to desired changes in soil carbon, water management, biodiversity, and nutrient cycling in various regions and systems. And as many experts and activists pointed out during our interviews, we should also prioritize the blending of traditional knowledge with new scientific knowledge, so that they are mutually reinforcing and additive.

We need a systems approach to new research agendas, i.e. linking farmers, soil experts, social scientists, economists and participatory farming networks to gather data and share evidence. We need to quantify ecosystem services and economic benefits of scaling up, while transferring lessons learned across geographies. We need support for innovative individuals and anchor institutions, like Ecdysis Foundation, Chico State University, and The Land Institute, that are already supporting interdisciplinary research and serving as centers of excellence and innovation by pushing the boundaries of what academia has allowed to this point.

The Importance of Science and Research on Policy Change

One of the single biggest challenges to effective soil health policy and regenerative agriculture policies is the lack of data explaining how soil health indicators, agricultural practices, and agricultural production all affect each other over time in all the myriad settings across the United States. Without clear and accessible data or expensive private solutions, such as “precision” nutrient management techniques, farmers and policymakers both are left relying on heuristics, best-guesses, and rules-of-thumb. There is thus a compelling case to be made that funders, companies, NRCS and the US government, more broadly, should encourage and fund public and independent research exploring the interconnections between regenerative

agriculture, soil health, climate adaptation, nutrient density, ecosystem resilience, biodiversity and agricultural productivity.

KEY LEVERS AND OPPORTUNITIES

Practical and Key Ecosystem Research

The potential for ecologically based food systems to solve daunting, planetary-scale problems are promising. Farmers and ranchers are at the heart of the movement, leading the change of agriculture along regenerative principles, and they are doing it with little infrastructure. Indeed, these producers are often succeeding in spite of compromised policies and science that function as roadblocks to innovation. But each farm is a single observation, the methods and approaches used to monitor these operations vary, and there has been little attention paid to using these anecdotal reports to answer bigger questions about scaling or transferring the experiences to other operations and inform policies. We need to have qualified scientists coordinate, aggregate and interpret this growing mountain of data to transform agriculture. Farmers, ranchers and other technical assistance providers' efforts can be improved substantially if they have access to a scientific infrastructure that can support and promote their practices and aid in disseminating information among them.

The need for truly independent science, focused on researching practices and outcomes across the whole system, has never been more imperative.

CURRENT & EMERGING OPPORTUNITIES

Nature Conservancy, Colorado Sustainable Grazing Lands Pilot

Ranchers are working with the Conservancy to develop, test, and share tools to adapt management and monitoring plans for grazing operations. These tools will help them improve the economic production of their lands, increase their ecological value, and sustain the health and wellbeing of wildlife. The Conservancy has four test sites for this work throughout eastern Colorado, including at the JE Canyon Ranch and Fox Ranch preserves.

Ecdysis Foundation

Ecdysis Foundation, led by former USDA scientist Jonathan Lundgren, is a national hub of research ranches and farms that serve to advance the science and educational support for regenerative agriculture practices. They are producing farmer-driven science that can be translated, across multiple systems and regions, for practical use by producers and to guide and inform other key stakeholders in regenerative agriculture. They are currently scaling their work to build out regenerative agricultural hubs in key ecosystems across the US, including the northern plains, inner mountain west, California, and the Midwest. Within these hubs, they are performing critical regional research and experimentation on practices and tools and translating this research into on farm implementation, as well as disseminating this data and providing training to RCD's, NRCS agents, and key community level NGOs. Creating localized science-based roadmaps for producers to adopt regenerative



agricultural practices and become citizen scientists is a crucial lever towards advancing outcomes in this space.

Rodale Institute

Rodale has been putting science behind best practices in organic agriculture for more than 70 years. Their mission is to conduct rigorous research designed to help uncover the most effective, efficient, and regenerative farming practices. From their 40-year-old Farming Systems Trial—the longest-running side-by-side comparison of grain cropping systems in America—to new and exciting research on industrial hemp, they continue to develop best practices for farmers that are grounded in practical data. Their research areas of focus include: (1) Growing organic agriculture by helping farmers fight pests, disease and weeds without synthetic chemicals, and helping farmers transition from conventional to organic methods; (2) Mitigating and adapting to climate change with resilient farming systems; (3) Solving food insecurity by growing nutrient-dense foods. In addition to their long-term research trials, they investigate topics including nutrient management, improved techniques for composting, soil carbon accrual, pest and disease prevention, etc.

Point Blue Conservation Science, Rangeland Monitoring Network

Point Blue’s Rangeland Monitoring Network seeks to preserve the ecological value of rangelands and recommend conservation actions that enhance their function for people and wildlife. To accomplish this it seeks to understand and measure ecological function of rangelands and increase communication and collaboration among managers across California. They also have a **Rangeland Watershed Initiative**, working with local communities across California to enhance conservation on food-producing lands. Their team of biologists work hand-in-hand with Natural Resource Conservation Service (NRCS) conservationists and ranchers throughout California to implement practices that benefit soil, water, air, plants, and animals. Those practices include on-farm pollinator habitat, carbon farm plans, ranch infrastructure, waterbird habitat, grazing management, riparian restoration, and more.

Montana Rangelands Partnership, Rangeland Monitoring Program

The mission of the partnership is to further the health and sustainable use of Montana’s rangeland ecosystems. The rangeland monitoring program uses a set of methods designed in part by Montana State University to provide ranchers with easy-to-use, efficient monitoring techniques. Also known as “Monitoring for Success,” this program was developed as an interagency effort to create a uniform standard for landowner monitoring. Under the umbrella of the MRP, these methods are being updated and incorporated into educational materials and programs for producers.

The Land Institute

The Land Institute is a science-based research organization working to develop an alternative to current destructive agricultural practices. Led by a team of ecologists and plant breeders that partner with multiple organizations worldwide, they work



to develop an agricultural system that can produce ample food while minimizing or eliminating the negative impacts of industrial agriculture. Their work is dedicated to advancing perennial grain crops and polyculture farming solutions, breeding new perennial crops and developing ways to productively grow these crops in diverse polyculture mixtures.

Savory Institute

The Savory Institute equips land managers with innovative tools and curricula and conducts research on the ecological, social, and financial outcomes associated with Holistic Management. This research is used to inform policy discussions on issues such as climate change, land stewardship, and food security. The Institute continues to enhance its knowledge through its own practical learning site, the West Bijou Ranch, located in Colorado.

Delta Institute

Delta Institute is a Chicago-based nonprofit that works with communities throughout the Midwest to solve environmental challenges. Working with their partners, they identify opportunities for environmental solutions and design, test, and share solutions that yield benefits for communities. They are working to help individuals, businesses and communities become stewards of our air, land, and water by promoting models for better agricultural practices, such as the innovative pay-for-performance model they are testing with farmers in the Milwaukee River Watershed.

Perennial Agriculture Institute

The Perennial Agriculture Institute (PAI) is using strategic research-based advocacy to increase global recognition and adoption of perennial farming systems. The PAI gathers together a suite of such practices under the rubric of perennial agriculture—including perennial staple crop production, tree intercropping (integrating woody plants with annual crops), silvopasture (integrating trees on pasture), and multistrata systems (multiple layers of woody crops, e.g. shade coffee production). PAI is focused on strengthening the existing knowledge base by synthesizing scientific research, modeling impacts, and developing roadmaps for accelerating adoption. PAI will develop materials and convene gatherings for education and advocacy, targeting decision makers at key leverage points in policy, finance, and research sectors, to mobilize institutional support for expansion of perennial agriculture.

Croatan Institute

Croatan is an independent, nonprofit research institute whose mission is to harness the power of investment for social good and ecological resilience. Based in the Research Triangle of North Carolina with an extended team of affiliates in Boston, New York, the Florida Gulf Coast, and Geneva, the Institute has rapidly established a reputation for rigorous, cutting-edge research and actionable analysis to support strategic decision-making by organizations and practitioners in the field. The Institute's **Organic Agriculture Revitalization Strategy (OARS)** is a collaborative initiative that is re-envisioning organic food and agriculture as an inclusive economic development strategy for revitalizing rural places. Following an initial place-based



pilot project focused on investing in the expansion of organic food and agriculture value chains in eastern North Carolina, the Institute subsequently applied its OARS framework to a multi-year USDA Conservation Innovation Grant (CIG) on innovative mechanisms for financing regenerative agriculture, in collaboration with two dozen regional and national partners. Through this project, Croatan Institute produced the most comprehensive analysis of the state of regenerative agricultural finance in the United States in a ground-breaking report called "Soil Wealth: Investing in Regenerative Agriculture across Asset Classes." They identified nearly \$50 billion in assets under management in funds that are beginning to integrate regenerative food and agriculture considerations into their investment decision-making, and more than 65 distinct financial mechanisms, instruments, and approaches that they placed on a spectrum of readiness for application to regenerative agriculture. They are currently developing one of these financing mechanisms further, a new place-based model for regenerative agricultural financing and community development, rooted in special purpose rural districts. The project proposes to develop a **Rural Regenerative Agriculture District (ROADS)** concept in four different targeted geographies across the country in order to assess a variety of potential configurations for its deployment (as described in the financial tools section of this report).

Soil Foodweb Institute (SFI)

Founded by leading international soil microbiologist Dr. Elaine Ingham, the Soil Foodweb Institute provides expert analysis and advice to empower primary producers to take control of maintaining the health of their soil. SFI analyzes soil micro-organism activity and creates management plans tailored to farmers' specific soils to achieve a sustainable, productive, and low-input farming system. SFI Laboratories have extended across the globe, providing services to thousands of farmers to improve the health and productivity of their soils.

OpenTEAM

OpenTEAM, or Open Technology Ecosystem for Agricultural Management, is a farmer-driven, interoperable platform to provide farmers around the world with the best possible knowledge to improve soil health. OpenTEAM is a collaborative community of farmers, scientists and researchers, engineers, farm service providers, and food companies that are committed to improving soil health and advancing agriculture's ability to become a solution to climate change. OpenTEAM offers field-level carbon measurement, digital management records, remote sensing, predictive analytics, and input and economic management decision support in a connected platform that reduces the need for farmer data entry while improving access to a wide array of tools. Hubs and network farms are an integral part of the launch of OpenTEAM. They will be assisting OpenTEAM with field testing the user interface for the platform, and testing the tools and software in the OpenTEAM technology ecosystem. Hubs may be an individual farm or ranch, an organization that routinely works with a group of farms or ranches, or a company working with a set of operations in its supply chain. To date, more than one dozen organizations have joined to develop, fund, and implement OpenTEAM.



Stone Barns Center For Food and Agriculture

Guided by Chef Dan Barber, Stone Barns is scaling up their long-standing work at the intersection of farmers and chefs to amplify the adoption of practices that support ecological and human health, farm viability and thriving regenerative food systems. Stone Barns has partnered with Mass Design to completely rethink how their campus can be optimized to serve as a living lab, classroom and research center for a future of food rooted in healthy soils and systems. The center is launching a regional food lab, focused on the northeast, that will engage farmers, chefs, designers, artisans, inventors, innovators, seed breeders, scientists and key stakeholders to unlock the potential of regenerative agriculture in the region and share their learnings globally. The learning labs will initially launch individual labs focused on several different topics: Grains, grassfed beef, preservation and fermentation, seed breeding, cold storage, soil health ecology and butchery.

Healthy Soils, Healthy Humans

Soil health is human health, and as such our farmers are critical stewards of our health. Rich, healthy soil contains a web of organisms that perform critical functions. In addition to the multitude of other benefits that healthy soils provide us, there is also significant evidence that bio-diverse soil helps plants resist disease and use nutrients more efficiently. Like the ground beneath our feet, our guts harbor a collection of microorganisms. They perform critical functions for our immune systems and brain development as well as our ability to absorb nutrients. The more diverse the organisms inside us are, the more they modulate the inflammation that is central to illnesses such as heart disease, asthma, Alzheimer's, autism, depression, and cancer.

We have a major untapped opportunity to improve our health by helping farmers adopt practices that build soil health and eschew synthetic pesticides, herbicides and fertilizers. And these chemicals are derived from the same compounds that are raising our global temperatures and turning California into a tinderbox: fossil fuels. The federal government has subsidized these chemicals to help farmers fight pests and weeds instead of doing so through safer and better management practices. Regenerative farming practices offer us a long term solution, rebuilding organic matter and living biodiversity in soil, which produces increasingly nutrient-dense food year after year.

As Dr. Rupa Mayra, a member of the Healthy California for All Commission and an associate professor of medicine at UCSF, states, "After more than half a century, we see the results. Thousands of farmworkers, their children and their communities face risks of acute poisoning as well as long-term health consequences from daily exposure, including cancers and developmental disabilities. The residues end up in our food and bodies. Bees, birds and other wildlife are disappearing, the water table is contaminated, and soil biodiversity is compromised. We need to reverse the damage. Recovering from these petrochemical dependencies would simultaneously improve human health, ecosystems, and resilience in the face of climate change. Through a relatively short-term investment in abandoning practices that harm us, we can make significant long-term gains."

In October 2018, researchers and subject experts from around the world met for the Soil Health Institute's Conference on Connections Between Soil Health and Human Health. Attended by nearly 200 scientists



and organization leaders, the Conference concluded by presenting 10 recommendations focused on advancing the connection between soil health and human health through science and policy.

The recommendations include utilizing long-term agricultural studies to track soil health, developing research sites in varied geographical areas, and opening a center focused on the interaction between soil health, our food system, and human health. Conference participants also recommended increased communication to stakeholders, regionally and globally, by integrating existing data across disciplines into a comprehensive summary. Cooperation among research fields was also identified as a priority, with a need to identify fields that affect human health such as the soil microbiome, nutrient density, and the human-soil interaction and its effect on community well-being.

What is clear is that we need to better understand the links between healthy soils, healthy humans and healthy ecosystems. This is a cutting-edge field with emerging data on the human biome and the soil biome that will most certainly have long term impacts on consumer behavior and food and ag policy. Funders, policy makers, scientists, farmers and ranchers, and other experts have the opportunity to come together to advance some of these recommendations, including funding ongoing research in this field and supporting research facilities and individual researchers that are focused on this connection between the health of our soils and human health.

CURRENT & EMERGING OPPORTUNITIES

Bionutrient Food Association (BFA)

The Bionutrient Food Association, which founded the Real Food Campaign, was established in 2010 with a mission to increase quality in the food supply. Today, the Bionutrient Food Association is the preeminent organization working globally to bring forward the importance of focusing on Nutrient Density. Bringing forward empirical definitions of nutrient density and through developing a Bionutrient Meter for consumers, the BFA is poised for a much larger role in the food system. In 2020, they announced the expansion of their nutrient density in food research study. Through a partnership with Pipeline Foods, the RFC is adding grains to its survey of nutrition in the food supply. The research will evaluate the connection between the health of the soil in which crops are grown and the resulting levels of nutritional quality, or nutrient density, in the final products at harvest. In addition, the study will examine the connection of carbon sequestration in the soil from the atmosphere.

Soil Health is Human Health, Dr. Rupa Mayra

Currently, Dr. Marya is involved in a research project in its initial stages on the topic of food as medicine, inflammation, and soil health as human health. The team includes UCSF's Tammy Nicastro, researcher with the Institute for Global Health Sciences; Susan Lynch, Professor of Medicine and a Director of Human Microbiome Research; and Shari Weiser, Professor of Medicine and Internist at UCSF's Division of HIV, Infectious Diseases and Global Medicine at SF General Hospital. The study attempts to recreate the Shamba Maisha study in Kenya that is employing sustainable farming practices to improve the health of people living with HIV, and will look at how regenerative farming impacts inflammation and mental health in people who have been oppressed by poverty and homelessness. Another collaboration of Dr. Marya's is called "Soil Health is Human Health," a coalition of farmers, doctors, nurses, policy workers, scientists, and government agencies with



an initiative to move our land management system to one that prioritizes soil health, improves human health, and uplifts farmers. Already the coalition has been invited to submit a proposal to the California Governor for a nutrition and health initiative as it connects to soil and ag practices. Dr. Marya would like to see the UC system get behind this initiative to move California to regenerative farming practices.

Soil Health Institute

Almost 200 scientists and organization leaders listened to 41 researchers and subject experts during a two-day Conference on Connections Between Soil Health and Human Health, October 16 -17, 2018. After the briefings, the participants, who focus on soil health, microbiome research, nutrition, and public health, developed 10 recommendations to advance both science and policy communications between soil health and human health. Immediate next steps from the conference included forming a working group that can promote/facilitate creation of transdisciplinary soil health-human health research teams, convening periodic theme-specific conferences focused on different attributes of the soil-human health continuum, developing a web-based information repository, advocating for sources of funding that facilitate transdisciplinary research teams involving both soil health and human health scientists in cooperative research, and developing a critical review of the literature for publication in a transdisciplinary journal.

Health from the Soil Up, Dr. Daphne Miller

Daphne Miller, MD, is founder of the Health from the Soil Up Initiative which seeks to catalyze collaboration and innovative thinking at the nexus of soil health and human health. She is a Clinical Professor at University of California San Francisco and a Project Scientist at the Center for Occupational and Environmental Health at UC Berkeley. Dr. Miller's research explores ways to integrate human health and ecosystem health. She is an advisor and consultant to a number of organizations that address health and sustainability and is also a contributing health columnist to the Washington Post. Her books include *Farmacology*, *Health from the Soil Up*, and *The Jungle Effect*.

Institutional Research Programs

Although funding for research within large institutions is often not truly independent and, more often than not, focuses on research agendas that fuel the current agro-industrial complex, it is critical that we lift up the voices and fund the work of anchor institutions that are driving forward research agendas on regenerative and sustainable agriculture and resilient food systems. These individuals and researchers are not only leading a new path forward for institutional research, they are training and building the next generation of scientists who are capable of leading research centers in regenerative systems thinking.

CURRENT & EMERGING OPPORTUNITIES

Chico State Center For Regenerative Agriculture and Resilient Systems

Chico State is leading a new "whole systems" research agenda to advance a broad range of regenerative practices. Led by Director Cindy Daley, the Center is



supported by a dynamic team of faculty and staff who will promote regenerative farming practices to reduce greenhouse gasses, build topsoil, restore soil resiliency, increase the sustainability of farms and ranches, and address food and water insecurity. The program includes interdisciplinary teams and a collaborative network of applied research scientists, learning centers, and demonstration sites with partnering farms and universities. Investment in this program will help advance understanding of policy instruments, financing schemes, regenerative practices, and a deeper understanding of no-till organic cropping systems, compost applications in rangelands, livestock grazing systems, and organic dairy operations working to sequester carbon in soils.

Washington State University, Bread Lab

The Washington State University Bread Lab Plant Breeding Program conducts research on thousands of lines of wheat, barley, buckwheat and other small grains to identify those that perform well for farmers, and that are most suitable for craft baking, cooking, malting, brewing, and distilling. Selected for flavor, nutrition, and distinctive characteristics, samples of the most promising varieties are brought into the Bread Lab for analysis to determine the product that best utilizes and manifests their unique characteristics. The programs of the Bread Lab work to breed and develop publicly available varieties of grains and other crops that will benefit farmers, processors, and end-users while enhancing access to affordable and nutritious food for all people. Through innovation and discovery, and an appreciation of the culture and traditions that define what we eat, the Bread Lab plays a major role in moving food systems in more meaningful and just directions.

Washington State University, Center for Sustaining Agriculture and Natural Resources (CSANR):

CSANR leads efforts in sustainable agriculture, food, and natural resource systems that are economically viable, environmentally sound, and socially responsible. CSANR has worked on many issues and projects since its inception in 1991, including pesticide reduction, food systems and marketing, organic production, conservation practices, organic farming, soil health, sustainable agriculture policy, farm energy, climate change, limited resource farmers, and natural resource issues. They are always seeking resources to address critical, emerging issues that affect the sustainability of agriculture, food and natural resource systems.

Yale, The Quick Carbon Project and The Regenerative Agriculture Initiative

Housed within Yale's School of Forestry and Environmental Studies, The Quick Carbon Project is a low-cost protocol for rapidly measuring soil carbon across large landscapes at fine spatial resolutions. The inexpensive nature of this methodology lends land managers the ability to look at impacts of management decisions on below-ground carbon at the landscape scale – a key for soil carbon assessment. Funds are needed to perfect the tool and to develop an open source platform for its distribution and use. The Regenerative Agriculture Initiative (RAI) is a new student effort at Yale's Center for Business and the Environment that aims to inspire and educate decision-makers to support and invest in regenerative agricultural models. This year, the RAI conducted a landscape analysis of ongoing efforts to accelerate regenerative markets in the United States. Informed by interviews with more than 60



leaders in the field, including farmers, investors, food companies, nonprofits, and regulators, the team uncovered four main barriers to the widespread adoption of regenerative agriculture: insufficient farmer training programs, the cost of farmland, nascent markets for regenerative products, and the current crop insurance system. A year-long process of research and analysis has yielded a four-part article series to address each key barrier.

MSU Center for Regional Food Systems

The center's vision is a thriving economy, equity and sustainability for Michigan, the country and the planet through food systems rooted in local regions and centered on food that is healthy, green, fair and affordable. Their goals include: (1) Partner across Michigan to advance the goals of the Michigan Good Food Charter; (2) Educate new generations to lead regional food systems research and practice; (3) Cultivate and support communities of practice around emerging regional food systems issues and opportunities; (4) Increase the visibility of and access to MSU resources that support regional good food systems; (5) Expand the resource base for regional food systems applied research, education and outreach; (6) Develop farmers and farms for regional food systems; (7) Expand and coordinate engagement of MSU faculty and staff in interdisciplinary regional food systems applied research, education, and outreach.

- **Dr. Jason Rowntree:** Dr. Jason Rowntree has dedicated his life's work to developing systems to increase the resilience of food production worldwide. As an associate professor of Animal Science at Michigan State University, he addresses economic, environmental, and social complexity in agriculture. He has obtained more than \$6 million in funding to study how grazing livestock can improve land and mitigate climate change by capturing carbon and providing other ecosystem services. As an affiliate of the Center for Regional Food Systems, he strives to increase local food systems that strengthen local communities. He is former chair of the Grassfed Exchange, a leading U.S. grass-fed beef educational organization, serves on the board of the American Grassfed Association, is an accredited Holistic Management Educator and is an advisor of **Standard Soil**, a startup corporation led by Russ Conser, that aims to meet the nation's growing demand for grass-finished beef while restoring the ecosystems they manage. Jason's objective is to develop low-cost, low-input beef production systems for the Upper Great Lakes. As Faculty Coordinator of Lake City Experiment Station, his research and extension focuses on forage utilization of grazing beef cattle, extending the grazing season and forage-finishing. Another facet of his work is to improve economics of small and medium size beef producers through local and regional beef production and distribution system development.

Texas A&M AgriLife Research and Extension Center

The Center is home to research and extension education programs in environmental systems management, water quality, food, feed, fiber, and biofuel production, animal nutrition and health, rangeland restoration, agricultural resource economics, and natural resource conservation and protection.



- **Dr. Richard Teague:** Dr. Teague is a range ecologist with Texas AgriLife Research. Dr. Teague grew up and received his schooling in Zimbabwe, Africa. He has practical and research experience in grazing management systems, brush control with fire and chemicals on semi-arid rangeland in Africa and North America. He joined the Texas AgriLife Research and Extension Center at Vernon in late 1991 as an Associate Professor. He believes that research and service must provide the linkage that enables managers to base decisions for sustainable land use on the principles of ecosystem function. He has used four key elements to enhance this linkage: a systems research program, resource accounting, long-term assessment and partnering with rancher clientele. His goals are to (1) broaden the understanding of requirements needed to sustain rangeland resources and economic viability, and (2) generate science based information to allow producers to improve management practices on rangeland.

UC Davis Agricultural Sustainability Institute

The mission of the institute is to ensure access to healthy food and to promote the vitality of agriculture today and for future generations. They bring together the expertise of more than 70 UC Davis faculty, staff, postdoctoral fellows, graduate student researchers, and undergraduate student assistants to address issues related to food and farming sustainability. Partnering with farmers, ranchers, agribusiness, non-profits, policy makers, and local communities, UC Davis ensures that their research and teaching responds to the needs of the people of California and the world. They also house **The Inter-institutional Network for Food, Agriculture and Sustainability (INFAS)**, a national network of university and college educators, researchers, and activists, representing 26 institutions and spanning 20 states, who collaborate in analysis, synthesis, and problem-solving with practitioners to: increase U.S. food-system resilience; illuminate critical trends and common stewardship of public goods essential for food systems, such as water, biodiversity, ecosystem services, and public institutions; and reduce inequity and vulnerability in the U.S. food system.



PURE LAND ORGANIC, TEXAS



Farm/Ranch Name: Pure Land Organic
Farmer/Rancher Name: Megan Neubauer and Jack Neubauer
Location of Farm: McKinney, Texas
Years Farming this land: 8
Crop or Animal Specialties: 2 acres thornless blackberries, 1 acre annual fruit and vegetables

could barely grow a thing for the first couple years, now it's much more productive and full of life.

We started Pure Land Farm in 2012. We are a father-daughter team who made the leap from corporate life to full-time farming. For the first 5 years it was a market garden farm, but converted in 2018 to a you-pick operation. We have a long history of appreciating good fresh food in our family, and always gardened where we could. At first we wanted to be an aggregator service for produce delivery, but upon learning most farms didn't have an excess of produce back in 2012, decided to try to grow some ourselves.

It has been incredible to watch the growth all around us in these 8 short years. In transitioning to the you-pick model, we have been blown away by the community support and appreciation our guests have for the service we provide. We continue to try to widen the variety of produce we can grow and specialize in the things that grow well in Texas and that people really want to pick, like berries. As we are now firmly an agritourism business, we plan to expand and deepen the programs and activities we provide beyond field trips, classes, camping, etc.

Bringing Life Back to The Land

Regenerative agriculture to us is growing in a way that improves the environment around you, not depletes it. Every year, your soil should improve and have more organic matter, more beneficial insects and species, and that has been the story on our piece of land. We started with old dead pasture and

Valuing the True Cost of Production

It's becoming harder to make a living as a farmer. Part of our reason for transitioning to the you-pick model was that we weren't selling enough at the market anymore; every farmer was taking home beautiful produce every week. We must figure out how to get the product into people's hands and communicate the true cost of what it took to produce it. Everybody says they love supporting local food and farmers, but can't wrap their mind around why it costs more. We have to reach people and educate them in a way that makes them understand the actual costs of producing food on a market scale. We really feel like the you-pick has helped this; people can see with their eyes what we do in a way that they can't when they're just seeing tomatoes on a table at the market. I really want to see a change in how people perceive the actual monetary value of our work.



CHARTER LIVESTOCK, MONTANA



The Charter Ranch is a cow/calf, yearling operation. The ranch was first introduced to holistic resource management in the 1980s when Steve and Jeanne Charter were instrumental in creating the first center for holistic resource management in the country and helped spread and implement those ideas around the country. Through Ranching for Profit, the ranch was introduced to Nicole Masters, who set us up on a regenerative program that we continue to implement today. Over the years we have hosted dozens of ranch tours to share what we are doing with the broader public.

Charter Livestock strives to be an excellent mentor to other ranches through our past experiences and our passion for our lifestyle. Our goal is to try and figure out a way to ranch that is both profitable and friendly to the environment. A ranch that builds soil, sequesters carbon and raises healthy, happy hardworking families while sharing our knowledge with anyone who is interested. We believe that the current agricultural model is not serving us well and that regenerative agriculture is a possible way forward for us all.

There are 3 Main Barriers to Transition: Mindset, Policy, Markets

- Firstly, the mindset of trying new ideas.
- Secondly, the federal farm policies keep the status quo propped up.
- Lastly, lack of markets to reward producers for superior products.

Farm/Ranch Name: Charter Livestock

Farmer/Rancher Name: Steve Charter

Location of Farm: Shepherd, Montana

Years Farming/Ranching this land: The

Charter Family has been on the ranch since 1950. Steve Charter has been running the Ranch since 1980

“When we say “Regenerative agriculture”, we mean creatively working with nature and not against it.”
~ Steve Charter

Investing In Farmers And Ranchers To Implement and Evaluate New Practices

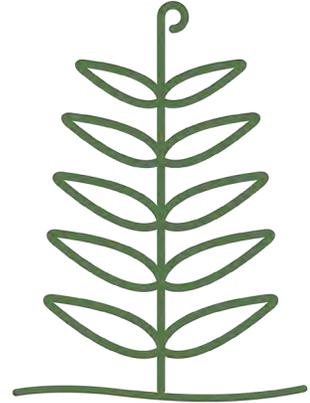
As individual producers we do not have the resources to do a lot of the innovative practices we would like to. If we could get support doing these practices it would help us demonstrate what is possible. One example of this would be virtual fencing to get livestock concentration and movement high enough to make a significant difference in building organic matter in soil and consequently sequestering carbon. Another example is feeding biological inoculants to animals for their benefit and to spread that biology on to the land. We are wanting to demonstrate these ideas. We need financial support and we need outside help to do the monitoring and data collection to show these practices work.

Compensating Producers for Stewarding our Lands

I would like to see national agricultural policy changed from supporting a system that degrades the land to rewarding producers that provide landscape services to benefit the whole country. Regenerative agriculture is going to need fair markets that adequately compensate producers for supplying nutritious products that help regenerate the land.

POLICY REFORM

Public policy shapes almost everything about the ownership and management of our working landscapes. From local land-use codes to state wildlife management to federal environmental regulations and farm subsidies to international trade agreements, policy decisions ultimately define our options and our future. Good policies can tip systems towards transformation, helping change the behavior of individuals and groups. Harmful policies create barriers to transformation by providing financing and incentives for agricultural practices that damage soil, pollute our water, and destroy ecosystems.



Recently, through the efforts of the National Healthy Soils policy network and other advocacy groups, the Green New Deal, and the creation of the House Select Committee on the Climate Crisis, the dynamics in Washington DC have shifted regarding climate and agricultural policy and we anticipate more hearings, resolutions, and bill introductions. Most of the major Democratic presidential candidates in 2020 have included agriculture in their climate platforms, a signal that they are beginning to read the changing political winds. Due in part to recent natural disasters exacerbating the country's dire farm crisis, even farmers in politically conservative states are beginning to talk about climate change.

The National Sustainable Agriculture Coalition (NSAC) has a climate sub-committee, which has also recently increased its activity. They recently released *Agriculture and Climate Change: Policy Imperatives and Opportunities to Help Producers Meet the Challenge* which summarizes the latest in agricultural and climate science and puts forward nearly 30 detailed public policy recommendations that will be used to inform recommendations to USDA and Congress. NSAC has also published eight policy principles on agriculture and climate change that will guide its future work to influence effective and farmer-centered legislation. Finally, members are collecting hundreds of farmer signatures on a statement calling for federal investments in solutions to enhance the resilience of rural and agricultural communities and incentivize the delivery of agricultural solutions to the climate crisis.

“While little gets started with policy, it is the afterburn, the long tail that is critical to sustain long term change.”
~ USDA employee

As momentum continues to build towards major policy changes, we need to rapidly experiment with and evaluate policy tools to help our government and policy makers have the evidence they need to implement ambitious new actions for climate mitigation, adaptation, rural economic development, habitat protection, and food security. Identifying and supporting a set of policy options that most stakeholders can agree and collaborate on is key.

We are seeing exactly these types of policy initiatives beginning to take root outside of the US, where countries are launching national healthy soils policies to support their farmers in transition and ensure that they are financially incentivizing farmers as they adopt regenerative practices. At the UN Climate Change Convention in Paris in 2015, for example, the French Government launched the 4 per 1000 soil carbon initiative. This initiative recognizes the ability of soil to draw carbon from the atmosphere and store it, helping to tackle climate change. The commitment aims to increase soil carbon levels around the world by 0.4% each year. As countries join this movement, they are focusing most of their efforts on launching national policies to meet the standards set forth in the initiative. In the UK, for example, they have put forth a national agriculture bill that sets out the practical and policy measures required to achieve the

necessary increases in soil organic matter and soil carbon, recognizing soil health as a national public good and a matter of national security. As part of the policy, the UK aim to reward farmers, financially, based on their level of soil stewardship. In Denmark, they are spending \$1 billion US dollars in capital loans to farmers who will implement conservation practices, and partnering this capital with farm advisors who support the farmers in their transition.

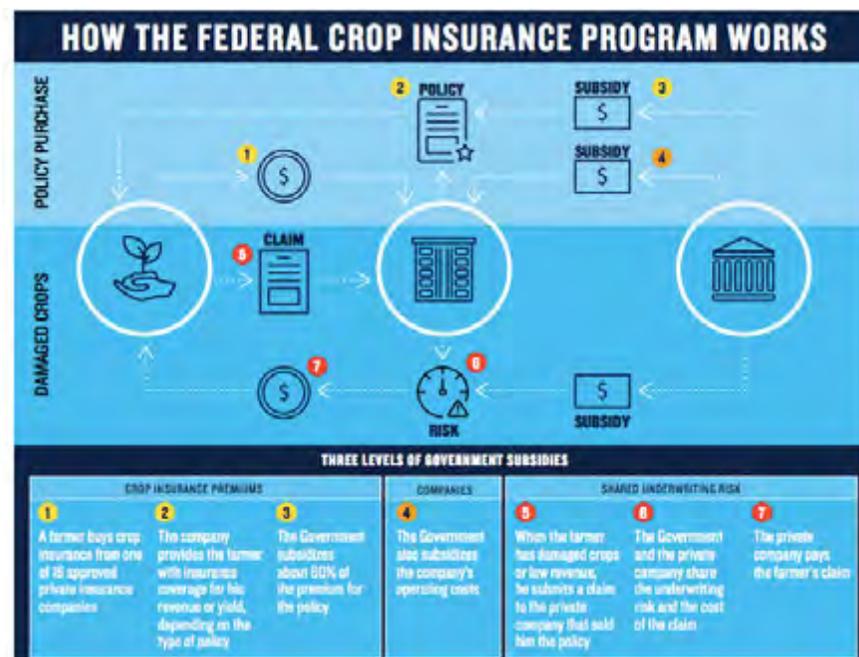
The implementation and scaling of such policies have resulted in more widespread awareness and adoption of regenerative agriculture and can serve as the models we look to and learn from in a US context.

KEY LEVERS AND OPPORTUNITIES

National Policy Reform

In the United States, much of what happens on our farms and agricultural landscapes is governed by the farm bill. The farm bill is a package of legislation passed roughly once every five years that doles out nearly a trillion dollars every 10 years for farm subsidies and crop insurance, the Supplemental Nutrition Assistance Program (SNAP), and on-farm conservation programs. The bill has a tremendous impact on farming livelihoods, how food is grown, and what kinds of foods are grown. Every five years, the farm bill expires and is updated: proposed, debated, and passed by Congress and then signed into law by the President. The most recent farm bill, the Agriculture Improvement Act of 2018, was enacted into law in December 2018 and expires in 2023.

Throughout our research, farmers and ranchers identified the subsidized federal crop insurance program as one of the single biggest barriers to transitioning to a regenerative system, if not the biggest and most critical barrier. Current subsidies are supposed to provide a safety net to even out the financial ups and downs of crop production and help farmers stay afloat in a competitive global economy. Instead, over the last half century they've created an expensive and polluting engine of overproduction, which drives down prices, saturates markets, and shifts the burden of recouping costs to taxpayers who subsidize farmers' insurance policies and other relief.



Original Source: NRDC, *Covering Crops: How Federal Crop Insurance Program Reforms Can Reduce Costs, Empower Farmers, and Protect Natural Resources 2017*



As long time farm bill expert, Dan Imhoff, explains, “The current farm bill will ensure that citizens continue to pay for their food at least three times: 1) at the checkout stand; 2) in environmental cleanup and medical costs related to the consequences of industrial agriculture; and 3) as taxpayers who fund subsidies to a small group of commodity farmers deemed too big to fail.” Corn, for example, currently receives more than one-third of crop subsidies, with about 40% going toward ethanol production and another 40% toward animal feed. Its predominance has unintended and very negative effects on clean water, international trade, obesity, and many other areas of society.

Corn, for example, currently receives more than one-third of crop subsidies, with about 40% going toward ethanol production and another 40% toward animal feed.

Granted, many of these corn farmers are caught in a vicious cycle. Most live in areas where the only market and infrastructure support commodity crops, and yet those crops don't support a resilient farm system. Noted by one midwestern farmer, “Crop insurance drives 95% of planting decisions in the US, which pushes corn and soy production, driving overproduction and lowering prices.” Crop insurance and farm subsidies are skewed primarily to very large corporate farms growing corn, wheat, and soybeans or managing animals in CAFOs (Concentrated Animal Feeding Operations). This uneven playing field and lack of support to farmers and ranchers working to diversify their systems makes transition extremely difficult.

While the crop insurance program aims to remove risk for farmers, which has benefits, it also incentivizes risky behavior (ie planting crops in degraded or marginal lands), rewards failure (with payments to cover losses), and keeps producers locked into a system of monocultures with rules that disincentive regenerative practices. The current crop insurance rating model does not recognize the benefits of improved practices, whether they are conservation practices or other regenerative practices. There is not a single variable in the rating model for soil health and other ecosystem and health outcomes. One Kansas farmer we visited told the story of losing his crop insurance because of his use of cover crops. Another South Dakota farmer spoke of perennial grasslands being plowed for corn and soy in places where it is too dry for those crops. Crop insurance currently promotes and incentivizes these risks.

“The crop insurance products that are offered are based on conventional systems of tillage, single crop production in a twelve month period. So, if a producer wants to do something that's a little out of the ordinary, maybe a non-program crop, or they want to put in cover crops in a semi-arid area where they would not have that as part of the normal policy that's offered, now they've got to go get an exception. And now it's up to THEM to prove that this is going to be something that's insurable, that the RMA (the USDA Risk Management Agency) is not gonna lose money by insuring that practice. That's too much risk and too much time for almost every single farmer out here.”
~Corn farmer in the heartland

Modifying, or better yet, overhauling, the farm bill is necessary to ensure we produce adequate, nutritious, and sustainable food—that doesn't bankrupt farmers, our landscapes, or taxpayers in the process. Changing harmful subsidies and crop insurance needs to be a priority across the movement and for funders.

NRDC, who is working across stakeholder groups to help reform crop insurance and other policies, proposes several common sense changes to the Federal Crop Insurance Program (FCIP) as laid out in the chart below. These changes would significantly reduce the cost of the FCIP by empowering farmers to manage risk with their own good farming judgment and would ensure that the program remains a strong safety net during challenging years.



TABLE 3: SOLUTIONS TO REDUCE ANNUAL COST OF FCIP.		
PROBLEM	ANNUAL FCIP COST (SUBSIDIES AND GOVERNMENT'S SHARE OF INDEMNITIES)	NRDC SOLUTIONS TO REDUCE COSTS
Planting on Marginal Ground	\$36 Million ⁵³	Eliminate yield exclusion provision
Prevented Planting Losses	\$568 Million ⁵⁴	Reform prevented planting rules, remove cover crop termination guidelines, collect data about cover crops, work with states to pilot incentives for cover crops
Eliminating Crop Rotation	\$490 Million ⁵⁵	Increase Whole Farm Revenue Protection participation, collect data about crop rotations, work with states to pilot diverse rotation incentives
Climate Change and Extreme Weather	\$7.6 Billion ⁵⁶	Collect data about cover crops and diverse rotations, work with states to pilot incentives for diverse rotations and cover crops
TOTAL	\$8.7 BILLION	

Original Source: NRDC, Covering Crops: How Federal Crop Insurance Program Reforms Can Reduce Costs, Empower Farmers, and Protect Natural Resources 2017

A New Incentive for Cover Crops in Iowa

Because cover crops are a proven method for reducing nitrates from farm runoff in water supplies, Iowa's Department of Agriculture and Land Stewardship collaborated with the USDA's Risk Management Agency to develop an incentive for cover cropping through federal crop insurance. This innovative program, which was made available for the 2018 crop year for a 3 year pilot, attempts to use the popularity of federal crop insurance to encourage additional farmers to try cover crops. Iowa will fund the incentive through its Water Quality Initiative, which invests millions of dollars annually in improving water quality. A significant portion of that budget goes toward helping farmers recoup the upfront costs of cover crops, such as seed costs, offering farmers an average of about \$25 per acre. However, a national USDA cover crop survey indicates that crop insurance incentives would encourage more farmers to try cover crops, perhaps at a fraction of the price of cost-share programs. So, the state and the RMA worked together to utilize a provision of the Federal Crop Insurance Act that authorizes states to offer a premium subsidy, in addition to the one offered by the federal government. Iowa's additional subsidy, which offers \$5 per acre to any farmer who planted cover crops on that acreage in the previous year, could encourage many more farmers to try cover crops. The willingness of state and federal agencies to embrace a new approach helped to make this innovative program a reality. Local farm and environmental groups, including Practical Farmers of Iowa, the Iowa Farmers Union, and the Iowa Environmental Council, have shown strong support for the initiative and have helped the state and the RMA with promotion and implementation. A program like Iowa's could be replicated in other states that wish to make a similar investment in cover crops, or implemented more broadly through the farm bill.



CURRENT & EMERGING OPPORTUNITIES

AGree Coalition, Meridian Institute

Representing a diverse range of interests, the members of the coalition include researchers, academics, farmers, former officers of the U.S. Department of Agriculture (USDA), and NGO leadership. Together, they are advocating for and helping build evidence for common-sense policies that protect both natural resources and farmers' livelihoods. The Coalition's members actively develop recommendations, lobby Congress, support the USDA's implementation processes, and lead strategic communication efforts. Supporting farmers in adopting conservation practices, alongside maintaining a viable crop insurance program, is a key focus for the Coalition. Over the past 5 years, Meridian helped build the evidence based research alongside Cornell University that showed, using 5 years of field level data in Illinois, how the current crop insurance models are off by up to 200%. Backed by this evidence, they built a coalition to help get specific language in the 2018 Farm Bill that will enable the infrastructure and the research that is needed to change the rating models.

The current AGree AG Data Pilot aims to help the USDA develop secure data-sharing protocols, granting access to decades of critical USDA farm data for the first time in history. AGree has developed a pilot project proposal, in partnership with key USDA leaders, to analyze USDA data from six states—Indiana, Illinois, Iowa, Missouri, Minnesota, and South Dakota—to assess whether the implementation of cover cropping, no-till practices, and other regenerative practices affect the number of prevent plant acres—acres that, under crop insurance, cannot be planted because of flood, drought, or other natural disasters. This is a critical opportunity to demonstrate to the USDA the relationship between no-till, cover cropping, and farm outcomes, and the reduced risk of regenerative agriculture practices. This pilot will result in a model USDA can implement to facilitate future data sharing, as well as re-evaluate and calculate the risk profiles that ultimately govern our current crop insurance system. If successful, this pilot has the potential to dramatically change crop insurance moving forward, tipping the scale towards incentivizing regenerative practices through insurance.

NRDC Climate Resilient Farms Program

NRDC is working with farmers to promote techniques that build resilience to temperature shifts, floods, and drought. As part of their Climate Resilient Farms work, they are focused on partnering with industry leaders to help reform crop insurance and other policies and reward farmers who help prevent the worst impacts of climate change by saving water and taking care of their soil. NRDC is calling on the U.S. Department of Agriculture to reform the FCIP and recommend that the program offer lower rates to farmers who invest in low-risk, water-smart practices like cover cropping and no-till farming. Their reports and research have helped shine a light on how this shift would make the FCIP more fiscally sound and make America's farms more resilient to climate change. They are also urging state and federal agricultural agencies to promote greater water efficiency.



Land Core

Land Core is working with the USDA, legislators, soil scientists, NGOs and farmers across the country to develop federal legislation to address issues in the current agricultural system. They're identifying market-based strategies to monetize a producer's investment in soil health, as well as focusing the national conversation around the necessity of soil health outcomes. Their policy work is focused on the following: (1) Working with Members of Congress and USDA on farm bill soil health legislation; (2) Securing additional funds for federal level soil health programs; (3) Establishing a voluntary, outcomes-verified soil health program, recognizing producers who are rebuilding healthy soils; (4) Advising, coordinating and advocating for consistent outcomes-driven data in state-level programs and policies in order to foster federal initiatives. To amplify their policy work, Land Core educates policy makers and decision makers on soil health via one-on-one meetings, stakeholder convenings, public briefings, lectures and conference presentations, as well as Congressional hearings.

National Sustainable Agriculture Coalition (NSAC)

NSAC is a leading force for agricultural policy reform in the United States. It supports advocacy by farmers and rural stakeholders in opposition to harmful subsidies and in support of healthy soils, a just and healthy food system, and soil carbon sequestration. This group has prioritized the Environmental Quality Incentives Program (EQIP), the Conservation Stewardship Program (CSP), and the Grasslands Initiative—all key tools that should be leveraged to support sustainable land management strategies. NSAC has also recently published eight policy principles on agriculture and climate change that will guide its future work to influence effective and farmer-centered legislation. Finally, members are collecting hundreds of farmer signatures on a statement calling for federal investments in solutions to enhance the resilience of rural and agricultural communities and incentivize the delivery of agricultural solutions to the climate crisis.

NSAC currently has little or no funding for climate policy. As the country's preeminent sustainable agriculture voice in Washington DC working on behalf of over 100 food and farming organizations, this is an important and effective organization to support with building out its climate work. A combination of funding NSAC and the National Healthy Soils Policy Network, with their synergistic approaches and overlapping memberships, is a potentially powerful approach.

Carbon 180

Carbon 180 is fostering and supporting multi-stakeholder campaigns in several western states to help move policy frameworks and demonstration projects on soil carbon sequestration through agriculture. By creating coalitions with local governments, NGOs, academics, and farmers, Carbon 180 is working to explore federal policy options for catalyzing soil carbon storage at scale.

Intertribal Agriculture Council, Native Community Farm Bill Platform

In advance of the 2018 farm bill, the Shakopee Mdewakanton Sioux Community sought to help Native communities advocate for their interests by commissioning the



report *Regaining Our Future: An Assessment of Risks and Opportunities for Native Communities in the 2018 Farm Bill*. The Indigenous Food and Agriculture Initiative, Intertribal Agriculture Council, National Congress of American Indians policy staff, and the Intertribal Timber Council worked collaboratively to provide input for the report. According to Zach Ducheneaux of IAC, “By virtue of that report, we created a Native Farm Bill Coalition - with Shakopee & IAC as the ‘policy informers’ due to their deep work with tribal producers on the ground.” As 2018 farm bill implementation continues, and with groups already beginning to look ahead to the next farm bill in approximately 2022, there is an important opportunity to support the IAC, Native Farm Bill Coalition, and partners to ensure that they are able to continue elevating the needs of tribal communities in policy discussions.

Calling All Funders To Policy Work

In addition to strategic communications support, policy work is perhaps the largest funding gap in the regenerative agriculture movement. Despite federal policy driving a majority of the incentives and disincentives on the landscape level, very few funders have well developed agriculture policy strategies and programs. Funders like the Walton Foundation, who have been one of the leading funders focused on food and ag policy in the US, often find themselves in a party of 1 or 2 when funding policy level work. While policy work may not be flashy and is a long term effort, it is critical and necessary work that can drive the changes we want to see on vast acreage. Until we see more funders engaged in this work, and coming to the table with big dollars, it is hard to imagine a successful realization of regenerative agriculture systems in the US. For those funders interested in dipping their toes into policy level work and building collaborative strategies alongside peers, we would recommend engaging with:

- 1. Sustainable Food and Ag Systems Funders (SAFSF):** SAFSF aims to strengthen connections, foster collaboration, and build capacity of their members in order to catalyze action on public policies that reflect the network’s values—at the local, state, tribal, and national levels. Conversations and opportunities for action on policy are woven into SAFSF’s program offerings, which began with the Annual SAFSF Policy Briefing (2014-17) and now include: An evolving partnership with the National Association of State Departments of Agriculture (NASDA) and its regional divisions; Monthly members-only, off-the-record Policy Radio Hour calls; policy-focused funders’ learning calls and webinars; and food and agriculture policy conversations at the SAFSF Annual Forum.
- 2. Funders For Regenerative Agriculture (FORA):** FORA’s five-year strategic campaign to accelerate and deepen the adoption of regenerative agriculture provides a unique opportunity for collaboration and learning among funders. FORA’s Policy Strategic Working Group, chaired by Jennifer O’Connor (Guidelight Strategies) and Mark Muller (Regenerative Agriculture Foundation), brings funders and leaders across the space together to use group exploration, philanthropy, investment, and other forms of action to achieve specific policy outcomes over the next 5 years.



State and Local Policy

While national policy changes around the Farm Bill and the FCIP are critical long term strategies, building on the current momentum at the state and local levels, as we move towards the next farm bill in 2023 and the next progressive administration, will be instrumental first steps. Many states, including California, are leading the world with ambitious GHG reductions targets, investments in science and quantification methodologies, and grants for farmers and ranchers. Investments in state level policy leadership will support the incubation of emerging approaches that can be scaled to the federal level.

States have the ability to create innovative agricultural conservation programs to address a variety of financial barriers to conservation adoption in a targeted manner, and also to generate funding for all kinds of conservation programs that supplement federal funds allocated through the farm bill. State level funding can be a substantial component of conservation dollars available to farmers. For example, farmers in North Carolina received approximately \$5.4 million from state-funded conservation programs in comparison to \$5.1 million from federal farm bill conservation programs in one year.

State programs are also more than just an additional funding source. They often provide more specific and targeted approaches to priority conservation needs and, importantly, allow for new policy incubation for expanded implementation at the federal level. For example, the state of Delaware provides conservation funding that is specifically targeted to poultry operations, which constitute the largest agricultural industry in the state. In Arizona, where water scarcity is a major conservation concern, the state has focused on incentivizing water efficiency best management practices (BMPs).

Revenue from cap & trade and other carbon pricing mechanisms can be an important mechanism to provide farm payments at the state level, as reflected in the California Healthy Soils Program (HSP), which derives funding not from carbon offsets but from regulatory payments by industry into a greenhouse gas fund that is under the control of the legislature and Governor. The HSP provides financial assistance for implementation of conservation management practices that improve soil health, sequester carbon, and reduce greenhouse gas emissions. Many states, as part of the National Healthy Soils Policy Network, are implementing and exploring their own healthy soils programs, policies, and funding mechanisms. Seven states currently have pending legislation that include soil health:

- Florida: SB 286, carbon farming bill filed on 9/16/2019
- Iowa: Health Soils bill submitted to Legislative Service Agency
- Massachusetts: S.2404, healthy soils bill, continues in 2020
- New Hampshire: HB 1562, healthy soils bill
- Vermont: H.656, agriculture bill, includes Farm Agronomic Practices Program
- New York: A02718, carbon farming
- Washington: SB 5947/HB 2095, bill including sustainable farm and field program, continues in 2020

Other State Level Funding Mechanisms to Explore

Greenhouse Gas Proceeds: Nine states participate in the Regional Greenhouse Gas Initiative (RGGI), a cap and invest program for electric utility greenhouse gas emissions in the northeast and mid-Atlantic. Most of the permits needed by electric utilities for power plant emissions are sold at auction on a regional basis, and the



proceeds are returned to each state. States have flexibility in use of the funds, but the vast majority of the proceeds have funded energy efficiency and renewable energy programs designed to reduce emissions, and programs that benefit energy consumers. Many of these same states are now negotiating a Transportation and Climate Initiative (TCI), which would provide a regional approach to reducing greenhouse gas emissions from the transportation sector. Regenerative practices store carbon in the soil in the form of soil organic matter, so regenerative agriculture and soil health programs could be a natural use of RGGI or TCI proceeds at the state level.

Fertilizer and Pesticide Fees: Fertilizer and pesticide fees are another avenue of funding that states are using to support specific conservation practices. These fees are often referred to as a double dividend fee structure, which are built from that idea that if an environmental tax can be used to reduce distortionary taxes, such a program can produce environmental benefits and lead to increased economic efficiency. For purposes of this report, double dividend is used to describe a situation in which a fee is collected from a practice that can cause environmental harm, and revenues derived from this fee are used to fund practices that increase environmental quality. Some state level examples include:

- Wisconsin has a fertilizer tonnage fee charged for commercial fertilizers, currently 62¢ per ton. The proceeds support agrichemical management, fertilizer research, outreach, nutrient and pest management, and agricultural chemical cleanup.
- Iowa created a Groundwater Protection Fund in 1987 which receives money from pesticide dealer license fees, pesticide registration fees, and a fee for fertilizer sales based on the percentage of nitrogen in the product, using 75¢ per ton of 82% nitrogen fertilizer as the base.
- Nebraska has a state buffer strip program funded by proceeds from fees assessed on registered pesticides. The program annually assesses a \$160 fee on each pesticide registered in the state in order to fund the program. Currently the program provides \$6.4 million to buffer projects under contract in the state, and provides an annualized contract budget of approximately \$660,000. The program offers payments for two eligible types of buffer strips: a narrow filter strip and a riparian forest buffer strip. Program payments can be used in tandem with federal programs, with a maximum total payment to a farm of \$250 per acre.
- Michigan's Agriculture Environmental Assurance Program (MAEAP) is funded by pesticide and fertilizer water quality protection fees. The state assesses a \$100 pesticide registration fee and a \$270 water quality protection fee on over 15,000 pesticides that are sold in the state, as well as a \$1 fee on every ton of fertilizer sold. MAEAP helps farmers adopt cost-effective practices that reduce erosion and runoff into ponds, streams and rivers. Farmers who participate in MAEAP can earn recognition as a top steward in the community, regulatory protections, and preferred consideration for technical assistance and cost share.



CURRENT & EMERGING OPPORTUNITIES

CalCAN, Healthy Soils 2.0

CalCAN is a statewide coalition in California that advances policy to realize the powerful climate solutions offered by sustainable and organic agriculture. California's Healthy Soils Program (HSP), which has served as a model for other states, is only two years old, and since its launch it has been adapted and improved, its funding has quadrupled, and farmer participation and awareness has grown. However, CalCAN is working to ensure it is much more impactful both in terms of achieving more net GHG reductions and working better for farmers and ranchers. Some of the improvements CalCAN would like to see in the next version of the program (Healthy Soils 2.0) include:

- Integration with the State Water Efficiency and Enhancement Program (SWEET) to maximize the synergies of improving soil health and water retention
- Integration with the Alternative Manure Management Program (AMMP), since both it and HSP involve the production or use of on-farm compost as well as grazing management practices
- Better coordination with NRCS grant programs that fund similar practices
- Payment rates and practice standards tailored to California's many diverse and varied regions
- Investments in projects that engage regional hubs or involve multidisciplinary team collaborations
- Longer-term projects that are designed to build momentum for expanded implementation of targeted practices with increasing numbers of farmer and rancher participation over time

Philanthropic investment in more bold, visionary and integrated mechanisms maximizing the potential benefits of healthy soils practices could serve as a model for other states and also lay the groundwork for a revisioning of HSP under a future administration.

State Innovation Exchange, Agriculture Program

The State Innovation Exchange (SiX) is a national resource and strategy center that collaborates with state legislators to improve people's lives through transformative public policy. The SiX network includes over 3500 legislators representing all 50 states. In 2020, SiX is launching the Rural, Food & Agriculture Legislative Cohort (RFLAC) for progressive state legislators who have an interest in issues including healthy rural economic development, local food economies, food sovereignty, and regenerative agriculture and helping them develop policies that support regenerative agriculture adoption.

National Healthy Soils Network

The National Healthy Soils Policy Network is building on collective power and policies across 17 key states to not only improve and revamp the current healthy soils programs so that there is an increased adoption by farmers, but also launch at least two regional hubs alongside farmer leaders and technical assistance providers.



Building capacity in these national networks of state-based agriculture policy organizations is needed so they can play a more influential role across the sector in shaping the development, passage, and implementation of regenerative organic agriculture policies across the country. Funding is needed for capacity building to carry out activities such as:

1. Developing a comprehensive resource library of climate smart agriculture bill language
2. Offering webinars, trainings and consultation to individual states
3. Collaborating with the State Information Exchange (SiX) to connect with progressive state legislators who are interested in advancing climate smart agriculture bills
4. Supporting for a steering committee to set direction for the Network and fundraise
5. Coordinating a newly launched online resource (healthysoilspolicy.org) that documents and tracks healthy soils state legislation

Roots of Change (ROC)

Roots of Change is a think-and-do tank working to ensure emergence of a sustainable food system in California. ROC provides road maps to build food movement power and secure policy victories. ROC is focused primarily on California because it is a bellwether that can positively influence the nation. Since their inception in 2002, they've laid the foundation for lasting change through many projects, such as helping San Francisco and Los Angeles create viable, effective food policies. They were instrumental in shaping Market Match, the statewide incentive program that matches nutritional benefits like WIC and CalFresh at farmers markets. And they helped influence Ag Vision, the state's plan for a healthy agricultural future. The group's main initiative has been the California Food Policy Council. This group of 29 regional food policy councils works together to share ideas, resources, and lobbies on behalf of food and ag-related issues in Sacramento.

Restore CA

Restore California is an innovative model for the kind of private and public partnerships that can fund the transition to regenerative agriculture. Scientific analysis suggests that a restaurant can entirely offset the impact of its operation through a 1% surcharge directed to renewable farming. The revolutionary Restore CA program, whose founders were recently awarded the Basque Culinary World Prize for their efforts, will allow Zero Foodprint member restaurants to add a 1% surcharge to their bills, providing funding for California farmers and ranchers to implement practices that build healthy soil, as part of a statewide push toward carbon neutrality. Restore California is a collaboration between the nonprofit Zero Foodprint and California state agencies to generate more funding for agricultural climate solutions and to optimally and equitably direct the funds to expedite the transition from extractive to renewable farming practices. This pilot will serve as a model for other states to adopt similar programs to accelerate the adoption of regenerative agriculture.



CUNY Urban Food Policy Institute

CUNY Urban Food Policy Institute is another think and do tank at the CUNY School of Public Health, that seeks to provide evidence and support for more equitable, sustainable and healthy food policy for New York and the region. For the past five years, the CUNY Urban Food Policy Institute has been monitoring and publishing scientific and policy papers and briefs about New York City and State food systems and highlighting their successes and limitations, evaluating community food programs in low income neighborhoods around the city, convening food policy advocates and analysts from around the region to discuss key policy issues, and collaborating with urban food planners in other cities and countries to share lessons from New York and learn those from other sites. To avoid wasting the opportunity a crisis offers to learn new lessons, the CUNY Urban Food Policy Institute is currently working to create a COVID-19 Food System Impact Monitoring Project to assess in real time how the covid epidemic and the public and societal responses are affecting the New York regional food system. Ultimately, the goal is to ensure that the lessons COVID-19 teaches about food system vulnerability and resilience are used to make the New York regional food system healthier, more sustainable, and more equitable.

Other Notable State Soil Health and Regenerative Ag Initiatives

New York Soil Health Roadmap: The 2019 roadmap identifies key policy, research and education efforts to overcome barriers to adoption of soil health practices by farmers in New York. The Roadmap was developed by New York Soil Health, an initiative coordinated by Cornell University. The Roadmap also identifies strategies for integrating soil health goals with state priorities focused on environmental issues such as climate change and water quality.

Hawaii Carbon Farming Task Force: In 2017, Hawaii enacted HB 1578, which created a Carbon Farming Task Force to identify agriculture or aquaculture activities and best practices that provide soil health and carbon sequestration benefits and could be used to establish a carbon farming certification. The 13-member Task Force is to make recommendations to the legislature including proposed legislation. The Task Force has until December, 2022, to provide a preliminary report to the legislature.

Nebraska Healthy Soils Task Force: Legislative Bill 243 (2019) was enacted to create a Healthy Soils Task Force appointed by the Governor to develop a comprehensive healthy soils initiative for the State of Nebraska, develop a comprehensive action plan to carry out the initiative, and develop a timeline to improve soil health in Nebraska within five years of the completion of the action plan. The legislation gives the Task Force until January, 2021 to complete its work. The new law includes components of the action plan, including consideration of outreach and financial incentives needed. The bill passed on a 43-0 vote in April, 2019.



Maryland Healthy Soils Program: Maryland House Bill 1063 was enacted in 2017, establishing the Maryland Healthy Soils Program to increase biological activity and carbon sequestration in the state's soils by promoting practices based on emerging soil science. It requires the Maryland Department of Agriculture (MDA) to provide farmers with education, technical assistance and, subject to available funding, financial incentives to implement farm management practices that contribute to healthy soils. The bill did not include additional funding, but the Department has implemented the new law with existing resources, building on the Department's support of Maryland's soil conservation districts. The Department collaborated with the Healthy Soils Consortium to identify practices that are most effective in improving soil health and building soil carbon stocks. MDA will create a menu of Maryland-specific practices, determine metrics and tools to quantify soil carbon, and provide incentives to encourage climate friendly soil practices. The Department is also examining existing programs to find ways to promote soil health co-benefits. The bill was passed by overwhelming votes in the Senate and House of Delegates.

Maryland Agricultural Water Quality Cost Share Program: This program provides grants to farmers to offset seed, labor, and equipment costs associated with conservation practices, especially planting cover crops. Cost-share rates vary from year to year, but in recent years farmers have received up to \$75 an acre to plant cover crops. Participating farmers can also receive attractive field signs to help educate the public on ways agriculture is protecting the Chesapeake Bay. The program is a major factor in cover crops being planted on more than half of eligible Maryland cropland, rates higher than any other state. Funding is provided by the Chesapeake Bay Restoration Fund and the Chesapeake and Atlantic Coastal Bays Trust Fund. Maryland provided \$34 million in cost share grants to farmers in FY 2017.

Connecticut Regenerative Agriculture Program: Connecticut Committee Bill 6647 (2019) would require the Commissioner of Agriculture to establish a regenerative agriculture program, adopt rules to define "regenerative agriculture," and provide state standards for minimum carbon and water content that would apply to grants awarded by the Commissioner to encourage regenerative agriculture. As of early 2020, the bill remains in committee.

New Mexico Healthy Soil Program: New Mexico HB 204, enacted in 2019, creates the Healthy Soil Program in the state Department of Agriculture to promote and support farming and ranching systems and other forms of land management that increase soil organic matter, aggregate stability, microbiology and water retention to improve the health, yield and profitability of the soils of the state. The new program includes a healthy soil assessment and education program, and a grants program. The assessment and education program provides for education and outreach to farmers, a baseline soil health assessment, development of a network of soil health champions, and public education. Grants may help cooperative extension, soil and water conservation districts, Tribal, Pueblo, and local governments provide technical assistance to producers and landowners. The legislature provided \$375,000 to implement the bill and for research on soil health monitoring



Nebraska Cover Crop Payments: Nebraska LB 729 (2019) would provide incentives for farmers to plant cover crops of \$20 per acre for single-species cover crops, or \$45 per acre for multi-species cover crops. The funds would be made available in target watersheds, focusing first on watersheds with high nitrate runoff, and for farms within 2.5 miles of a waterway. The bill does not provide a specific funding source, but identifies federal, state, and local grants and other funds designated for the purpose. As of 2020, the bill remains in committee.

Illinois Conservation District Authority: Illinois Senate Bill 1980 (2019) would amend the state's Soil and Water Conservation Districts Act to add "soil health" to the declared purpose of the state's 97 soil and water conservation districts. It includes a definition of "soil health", and would allow districts to initiate and conduct soil health activities. Those powers include surveys, investigations, research, development of comprehensive plans, entering into agreements with other entities, and making machinery and equipment available to landowners or farmers within the district. As of 2019, the legislation had passed the state Senate on a 56-0 vote and is now pending in the House of Representatives.

Advocacy and Movement Building

With increasing momentum focused on both state and national policy, significant capital and resources are needed to ramp up grassroots advocacy and movement building efforts across the US. These efforts are instrumental to building long term power at the state and local levels that will ultimately tip the scale towards large acreage change.

As Niaz Dorry at National Family Farm Coalition describes, "Power comes from organized people across movements, thus we must focus on power and movement building to establish state and federal policies essential to addressing our desire to farm and ranch in harmony with nature while ensuring lives with dignity on the farm and good food for all, especially the most vulnerable amongst us."

Organizations across the space highlighted the efforts they are already engaging in to prepare for the next farm bill, and to bring members and organizations together to build alignment and establish unified strategies. Targeted support for these organizations in the short-term represents an important approach to addressing the entrenched policy barriers mentioned by many interviewees. This movement building and advocacy work includes educating our policy makers and legislators on regenerative practices, building aligned campaigns, advancing state level healthy soils work, and supporting grassroots movement building.



CURRENT & EMERGING OPPORTUNITIES

National Family Farm Coalition

The National Family Farm Coalition has several decades of experience building successful movements across the U.S. fighting for critical environmental and economic justice issues. Rooted in building shared alignment and connectivity amongst over 38 grassroots farmer-led organizations in the U.S., the National Family Farm Coalition is focused in the next three years on organizing these groups to push forward critical local-level policies for regenerative agriculture and build collaborative campaigns to advocate for changes to the 2023 farm bill that will support regenerative organic agriculture.

AARC, Animal Agriculture Reform Collaborative

AARC is a movement alignment hub facilitating bold collaborative action that accelerates the shift towards regenerative agriculture, primarily through high-welfare pasture-based animal agriculture systems. AARC has created a space where 45 member organizations and leaders from the environmental, independent farmer, sustainable food, labor, civil rights, and animal welfare movements come together to build power to win the systemic changes necessary to advance toward a better animal agriculture system. Their main focus for 2020 is to increase AARC members' alignment and capacity to shine a light on the problems of the factory and conventional farm industry, build an engaged base, and secure policy commitments and action by candidates and elected officials and create shared collective narratives across the movement.

Regeneration International

RI works to promote, facilitate and accelerate the global transition to regenerative food, farming, and land management for the purpose of restoring climate stability, ending world hunger, and rebuilding deteriorated social, ecological and economic systems. They provide information and resources to multiple stakeholders in key regions globally that highlight the connection between healthy soil, regenerative agriculture and land use, food, health, healthy economies, and climate change. These include a multilingual website and social media networks, an interactive online portal, consumer campaigns, events, and international conferences. They are currently assisting in the building of numerous Regeneration Alliances, including those in South Africa, India, Mexico, Guatemala, Belize, Canada, and in the Midwest. And every year, RI brings a delegation to the U.N. Climate Summit to raise awareness about the links between soil and climate. RI also engages in farmer training, through partnerships with Via Organica and its teaching farm and the Main Street Project's regenerative poultry project.

HEAL FOOD Alliance

HEAL serves as a platform to build collective power that advocates for a fair food system. Led by over 55 member organizations, HEAL amplifies the experiences of frontline communities who are affected by the current system. To achieve a vision of transformative change, the organization's programs focus on three areas: growing



community power, developing political leadership, and exposing harmful policies and power structures. Among these programs, HEAL launched a School of Political Leadership to connect activists, farmers, educators, and organizers to build solidarity in community resistance to policies favoring large-scale agriculture. Additionally, HEAL's Good Food Purchasing Program encourages transparency in the public food procurement process, providing governments a framework for choosing healthy foods produced sustainably and ethically.

Socially Responsible Agriculture Project (SRAP)

Through education, advocacy, and community organizing, SRAP empowers rural communities to protect themselves from factory farms and to advocate at a local and state level for the kind of agriculture that supports healthy and thriving rural communities. SRAP is unique, in that they work in rural communities and directly with citizens who stand to lose the most from factory farm pollution, yet who are the most disenfranchised by the system. SRAP empowers and supports rural communities through: (1) Agency and Empowerment: Providing communities who are facing urgent or impending threats from factory farms the tools, resources and support they need to directly campaign and advocate for themselves and their communities; (2) Organizing and Mobilization: Organizing and mobilizing local communities into regional and statewide coalitions that can collectively advocate for the kind of agriculture that supports healthy and thriving communities; (3) Awareness and Movement Building: Building alliances with a variety of stakeholders to engage in public education campaigns that promote and support factory farm policy reform at local, state and national levels.

California Farmer Justice Collaborative (CFJC)

The California Farmer Justice Collaborative's mission is to ensure that farmers of color are empowered to directly participate and effectively lead in building a fair food and farming system in California. Their membership is made of farmers, advocates, academics, non-profit administrators and individuals who work to promote the economic self-sufficiency of underrepresented farmers. They work alongside small farmers across the state with a focus on California's ethnically diverse farmers and ranchers who may have limited access to government programs. They respond to the need reflected in our communities for increased public participation by marginalized farmers in market improvement, access to technical assistance and cooperative extension resources, funding and incentives for climate change adaptation, and innovative programs for environmental stewardship. In 2017 CFJC worked to pass the Farmer Equity Act, adding a definition of Socially Disadvantaged Farmer and Rancher to the California Food and Agriculture Code.

Dakota Rural Action

In addition to their myriad of direct farmer networks and support, the lobbyists for Dakota Rural Action work before, during, and after legislative sessions to inform and educate members about upcoming legislation and to encourage members to directly lobby their legislators themselves. This work includes conducting lobby trainings where they teach members about how to talk to legislators, encouraging



members to write letters and emails to their legislators, and hosting lobby days up at the capitol building during the session. Dakota Rural Action also encourages members to hold house and community meetings to ensure the general public is informed about the issues during the session, to write letters to the editor to their local newspapers, and to help keep their own communities engaged.

Missouri Rural Crisis Center

MRCC fights to preserve family farms and independent family farm livestock production, promote stewardship of the land and a safe, affordable high-quality food supply, support social justice and economic opportunity, and engage rural Missourians in public policies that impact their farms, food, families and communities. In addition, MRCC plays leadership roles in national and international efforts for fair farm and trade policies.

Western Landowners Alliance

Western Landowners Alliance was founded by western landowners to advance policies and practices that sustain working lands, connected landscapes and native species. They provide a direct voice for landowners on policy matters, share information among peers across their network, and champion the stories of working land stewardship.

National Black Food Justice Alliance (NBFJA)

National Black Food and Justice Alliance is a coalition of Black-led organizations working towards cultivating and advancing Black leadership, building Black self-determination, Black institution building and organizing for food sovereignty, land and justice. NBFJA seeks to achieve this by engaging in broad based coalition organizing for black food and land, increasing visibility of Black led narratives and work, advancing Black led visions for just and sustainable communities, and building capacity for self-determination within local, national, and international food systems and land rights work.

The San Mateo County Food System Alliance (SMFSA)

This local Alliance has been breaking ground for the alliance movement since its formation in November 2006. As the first food system alliance in California, SMFSA has sought to bring together all the parts of the local food system into a cohesive group capable of creating an ever healthier and more vibrant local food economy. Throughout their history, they have worked hard to understand and lift up the different perspectives on San Mateo food and farming from the views of “coast-side” farmers and fishermen, to “bay-side” community service workers struggling against poverty and obesity. This is also the first alliance in California to seat both the County’s Agricultural Commissioner and its Public Health Officer, creating an unprecedented opportunity to link local food production to healthy citizens and improve food system coordination. SMFSA is an alliance model that funders, especially regionally focused funders, can seek to advance in other regions.



THE ROLE OF LITIGATION

When we look at the landscape of policy change and the barriers to changing current laws and practices, there is one giant roadblock that we must call attention to: Congress, state legislatures, and the executive branch are often captured by lobbyists on behalf of well-funded entities that are a part of the industrial food complex, such as chemical, biotech, and big food corporations. As a result, regulatory agencies are led by individuals appointed by executives and legislatures that have been co-opted by industry. These agency appointees often come from the very companies the agency is supposed to be regulating, the classic idiom of the fox guarding the henhouse. It is a revolving door, where, for example, top officials in industrial agricultural companies like Monsanto/Bayer or Dow become top officials at USDA, EPA, and other agencies, and promulgate regulations that profit their prior companies at the expense of public health and environmental protection. The influence of industry on legislatures means that very few progressive, 21st century laws that address 21st century environmental and health challenges are passed. Post-Citizens United and with no foreseeable campaign finance reform, the political pathways available to us remain riddled with challenges.

In response, the courts have risen as one of the best hopes for effecting meaningful social change and advancing a regenerative agricultural system through policy. In many current instances, the only effective way to halt corporate usurping of democracy and regulatory integrity is through litigation. High impact public interest litigation can take several forms and purposes. It can be used to “stop the bleeding,” that is, as a last ditch defense against overreach and the dismantling of public rights by bad actors. Many current cases against the current Trump administration’s environmental, health, and immigration policies take this form.

Public interest litigation can also be used to “shift the consciousness,” that is, as a means of renegotiating the nation’s social contract around an issue by having the courts recognize a legal right and enshrine it in law. Examples include the Supreme Court’s decision in *Mass v EPA* (2007), which recognized that greenhouse gas emissions were pollutants under the Clean Air Act, or *Monsanto v Geertson Seed Farms* (2010), which recognized that the spread of genetically engineered, pesticide-resistant crops to organic or conventional plants was a form of transgenic contamination farmers had a right to challenge (both cases were initiated and litigated by CFS attorneys).

As funders and policymakers look to support farmers and ranchers in a transition to regenerative agriculture, litigation against bad actors and defense against the violation of environmental and health laws should be seen as a key strategy, one that mirrors the playbook of the environmental and climate movement’s litigation against big oil and gas.

Below are some notable organizations leading the path forward on litigation.

Center for Food Safety (CFS)

CFS is currently involved in a successful series of lawsuits challenging state “Ag Gag” laws, which prohibit access to and video/photography of the horrific conditions of industrial animal factories. “Ag Gag” legal victories that strike down laws on Constitutional 1st Amendment grounds are at the same time codifying the public’s right to know about their food and where it comes from. At CFS, this type of high impact public interest litigation is what they have specialized in for more than 20 years. Litigating against illegal activity by regulatory agencies, and the corporations behind those illegal actions, means they are both stopping the bleeding and shifting the consciousness through these cases. In addition to the cases listed above, they have numerous current “stop the bleeding” cases: challenging the rollback of organic food



standards (which weakens laws related to humane livestock treatment, especially grazing and confinement); challenging polluting factory farms under the Clean Water Act and other statutes; challenging the allowance of neonic pesticides and “pesticide-promoting” GMOs which exacerbate climate change; protecting endangered species and nearly endangered bees who pollinate our food supply from pesticide approvals that threaten them; protecting our oceans from new industrial-scale aquaculture pollution (aka, fish CAFOs), and many others.

Earthjustice, Sustainable Food and Farming Program

Earthjustice has shown that focused and persistent legal advocacy can clean up industries. Now they are applying this experience and knowledge to reform Big Food. Working in partnership with activists, communities, progressive farmers and ranchers, scientists and others, they are supporting and accelerating sustainable and regenerative approaches, while fighting polluting or harmful practices. Their litigation efforts focus on: (1) Healthy and Safe Food: Challenging loopholes in food safety oversight, challenging food companies using unhealthy chemicals, suing the government to ensure consumers receive accurate and transparent nutrition information; (2) Climate Friendly Farming: Working with states to enact healthy soil laws or reform tax incentives to encourage carbon farming; (3) Safer Farming: fighting for and obtaining nationwide protections for farm workers exposed to pesticides, fighting against the “arms race” of genetically modified herbicide resistant crops, suing to ensure waters heavily polluted by agricultural runoff are cleaned up.

Public Justice Food Project

Public Justice pursues high impact lawsuits to combat social and economic injustice, protect the Earth’s sustainability, and challenge predatory corporate conduct and government abuses. The Public Justice Food Project is one of the only legal projects in the country that is focused solely on dismantling the structures that enable the consolidation of corporate power and extractive practices in our food system and supporting a vision of animal agriculture that is regenerative, humane, and owned by independent farmers. They bring forward strategically targeted litigation that supports the larger good food movement and redresses the structural and institutional inequities upon which the current system is built. In addition to pursuing litigation that makes a difference, they are growing a legal network across the country to support communities impacted by industrial animal agriculture. As a recent example of their success, when it became clear that the Clean Water Act wasn’t working to hold industry accountable, they worked with their partners to use the Resource Conservation and Recovery Act against industrial animal agriculture for the first time to show that these facilities weren’t using waste as fertilizer—they were just dumping it—and they had to clean it up.

The Law, Ethics & Animals Program (LEAP) at Yale:

LEAP has two main goals: inspiring impactful learning and scholarship about the deep legal, scientific and moral questions that humanity’s treatment of other animals raises and, secondly, empowering Yale scholars and students to produce positive legal and political change for animals, people, and the environment upon which they depend. LEAP’s programming includes: academic and experiential animal law courses; the Climate, Animals, Food, and Environment Law & Policy Lab (“CAFE Lab”)—the first of its kind in the nation—where students work with experts to develop new legal and political strategies to address the multiple externalized costs of industrial animal agriculture; a student fellows program and active support for student research projects and publications; regular lectures, panels, and speaker events that bring leading thinkers—including lawmakers, scholars, artists, scientists, advocates, and journalists—to Yale’s campus to inspire, enrich, and inform the Program’s work; and the “When We Talk About Animals” podcast series.



RICHARDS LAND AND CATTLE, RICHARDS GRASSFED BEEF, CALIFORNIA



Farm/Ranch Name: Richards Land and Cattle, Richards Grassfed Beef

Farmer/Rancher Name: Carrie Richards

Location of Farm: Oregon House, California

Years Farming this land: In our family since 1941

Crop or Animal Specialties: Beef & Lamb (AGA & EOV)

organic practices. After pleading with my father that we had a product that was not only sellable at the ranch, but very healthy, we sold our first grass finished steers to friends and family in 2011. People were thrilled to know where their food was coming from, and how it was raised. So in 2012, we started Richards Grassfed Beef.

Richards Land and Cattle was purchased in 1941 by my great grandfather, Thomas H. Richards Sr. The property is 6500 acres of rangeland in Yuba county and has been run as a commercial cow/calf cattle operation with various land managers and a few grass finished animals per year for our family.

My “ah ha” moment was in 2006, and it eventually led me back to the ranch in 2016. My health was suffering and, no matter what doctor I went to, they said “your tests look great” and sent me on my way. As I started elimination diets and reading everything I could find on health, it became very apparent that you are what you eat! Everything I read led me back to pastured meats and



Holistic Grazing As A Tool to Restore the Land

When we started the beef company, although we were finishing 30-50 beautiful animals a year, I noticed the land itself was not very healthy. As I dove into research about land management I realized that the ranch needed a drastic overhaul to the “way we always done it.” After a year and a half, we successfully converted the operation to

holistic management and have seen massive changes in the health of the ranch’s ecosystem. I feel like the land has been given time to breathe, rest, and now we are moving into the thriving stage. When I think about regeneration, I think about working “with” nature, reading the land, and giving

the land time to heal. In my years back here at the ranch I have realized that rest is the greatest tool in our toolbox.

Growing up, this place was my absolute favorite place to be and I feel like it is bouncing back from years of overgrazing and over use. If we could cover crop millions of acres and then holistically graze them, what an amazing boost to the soil health that would be! Cropping integrated with grazing is the way of the future, and I would love to see that shift.

Fear is The Biggest Barrier: The Devil You Know Vs. The Devil You Don't

Even though most people are losing money in agriculture, the fear of change is so great that they would rather wrestle with the devil they know vs. the devil they don't know. To be honest, I found holistic management because of our financial issues. We were buying too much hay and it was draining us. I knew there had to be a better way, so I went looking for it and we cut our hay bill by \$75,000 in one year! Most people don't know there is another way to ranch and farm, and they are too tired to look for it. So they keep doing the same thing. The NRCS plans are great, but they make you spend the money up front, and that is hard on an operation with slim margins. I think fear and not knowing what resources to look for and who to trust are the biggest barriers.

“I would love to see more regional groups started with many different food producers. Finding ways to work within 10, 50 and 100 miles and create a web of regional groups that can keep our communities strong and healthy and keep the regenerative food supply full of nutritious products 365 days a year!”
~ Carrie Richards



OTHER NOTABLE ISSUES

Compost

In agriculture, there is major potential for composting to provide beneficial outcomes both for the climate and beyond. Many agricultural practices are site-specific, but composting is one fundamental element of organic and regenerative agriculture that can be adopted by anyone growing and/or eating food. Compost adds organic matter to soil. The key to soil fertility lies in the organic or humus content of soils. Compost is loaded with organic matter and beneficial soil organisms that improve the health and structure of soil, store water, and sequester CO₂ from the atmosphere.

A recent study out of the University of California Davis suggests that compost plays a larger role than once thought in building soil carbon. The study was published this summer in the journal “Global Change Biology” and conducted at a long-term research site the university initiated in 1993. The researchers measured soil organic carbon at five different depths down to two meters over a period of 19 years. It found that carbon levels fluctuate more in deeper soil than most evaluation methodologies tend to account for. In practical terms, the findings could mean compost has been undervalued by agricultural incentive programs, and that we've been measuring carbon levels in soil all wrong.

The researchers compared the carbon levels across a number of different cropping systems—conventional, conventional with cover crops, and one that included the application of compost alongside cover crops. They found that systems using cover crops alone not only failed to store more carbon, they actually lost significant amounts of carbon in the soil below about a foot deep. The system that used both cover crops and compost, however, had significantly increased soil carbon content over the length of the study—about 0.7 percent annually.

Nicole Tautges, co-author of the study, says it wasn't a surprise to find that compost is good at helping soil store carbon—it's where exactly it does this that was revealing. "The surprising piece was that it raised soil carbon between one and two meters deep. Because the big question is, 'How does the carbon get down there when we're only applying it in the top foot?'" adds Tautges, the chief cropping systems scientist at the UC Davis Agricultural Sustainability Institute. Her team has hypothesized that it has to do with how water moves through soil, and they plan to continue studying its movement. But just demonstrating the importance of soil depth could be significant, both for increasing the value that farmers and policymakers place on compost application and also, eventually, for how soil carbon measurements are taken.

Calla Rose Ostrander, director of the Carbon Project at the People, Food & Land Foundation, who has worked with the Marin Carbon Project for the last six years, sees compost as crucial, but only if it's used as part of an approach to farming that's sustainable in a holistic way. "I think we have this desire to say, 'What's the quick fix?'" says Ostrander. She doesn't want people to see compost as a silver bullet—spreading it on their farm without doing anything else to improve the soil. "You still need to manage for the whole ecosystem."

UC Davis, Calla and others who are working and researching compost hope to see compost included more often in the list of practices that farmers are being paid to adopt. California already does this, through its Healthy Soils Incentives Program, and a handful of other states have put similar efforts in place. However, there is currently very little effort at the federal level. The US Department of Agriculture's Natural Resources Conservation Service (NRCS) currently recognizes cover cropping, but doesn't place much value on compost.

Karen Leibowitz, executive director of the Perennial Farming Initiative and the Restore California effort, also highlighted this issue, "The NRCS is working with a very established set of practices that does not include compost application. It doesn't make the same estimates of compost application that the new science does."

As we look to move capital to growers, both private and public dollars, to add carbon to their soils, it's imperative that we identify what practices and methods have the most impact in particular systems. Funders looking to advance this work can direct funding towards continued research, as well as investing in the development of mid-scale and regional composting infrastructure and facilities.

Farmworkers

The United States is home to approximately 3 million farmworkers. The average income for an individual farmworker ranges from \$12,500 to \$14,999 a year, making it the second lowest paid job in the country.²⁷ According to the National Center of Farmworker Health, about 25% of farmworkers are living with total family incomes well under the federal poverty line.²⁷

Protecting farmworkers is paramount for our food supplies. While food chain workers have always been essential in a myriad of ways, historically their health and safety has not been prioritized. The COVID-19 crisis has served to exacerbate the underlying inequities farmworkers face daily.

The recent New York Times article, *What Happens if America's 2.5 Million Farmworkers Get Sick*, paints a vivid picture of the daily life of a farmworker: "Picture yourself waking up in a decrepit, single-wide trailer packed with a dozen strangers, four of you to every room, all using the same cramped bathroom and kitchen before heading to work. You ride to and from the fields in the back of a hot, repurposed school bus, shoulder-to-shoulder with 40 more strangers, and when the workday is done, you wait for your turn to shower and cook before you can lay your head down to sleep. That is life for far too many farmworkers in our country today."

These conditions are the result of generations of grinding poverty and neglect and, in the context of the current COVID-19 crisis, will, as the Times article points out, act as a "superconductor for the transmission of this virus" and any others that come after it. Farmworkers have, for too long, been an afterthought of our food and agricultural movements. They have never had adequate access to healthcare or sick leave and, oftentimes, barely make a liveable wage.

As our system buckles under the weight of this current crisis, one message we must pay attention to is that we can no longer treat the people who harvest our food as expendable. They are essential. If they fall, we will all fall. The people laboring to get food from farm to fridge deserve, now and in the future, basic workplace protections, liveable wages, and equitable access to healthcare in the event that they get sick. As we move along the path towards a more regenerative food and agricultural system, funders, buyers, retailers, policymakers, and every key stakeholder along the supply chain must continue to ask themselves how to better partner with and support the nation's farmworkers along the way.

A few examples of national organizations and programs that are working to empower and protect farm workers include:

- **Agricultural Justice Project:** As mentioned earlier in this report, The Agricultural Justice Project was created to provide farms and food businesses with tools to improve work and trade practices from farm to retail. One of the technical tools AJP provides is a certification program for social justice standards called Food Justice Certification (FJC), deemed the “gold standard for labor and trade practices in North America.”
- **Alianza Nacional de Campesinas:** Launched in 2011, Alianza Nacional de Campesinas is the first national organization dedicated to empowering women farmworkers to make sure they have a leadership seat at the policy table and to combat violence against women in the fields.
- **Farmworker Justice:** Created in 1981 to empower migrant and seasonal farmworkers, Farmworker Justice seeks to help farmworkers improve their own living and working conditions, immigration status, health, occupational safety, and access to justice. Farmworker Justice collaborates with private law firms and legal advocacy organizations to help fight labor abuse of farmworkers and advance farmworker rights.
- **United Farm Workers of America (UFW):** Created by Cesar Chavez, Dolores Huerta, and Gilbert Padilla in 1962, UFW has grown to be a powerhouse for organizing farmworkers and advocating for their rights. They worked to bring national attention to the farmworker cause in the 1960s, leading to several union contracts in states across the country, and continue to focus on the rights of farmworkers ever since.

Food Waste

Every year, the US wastes so much food—63 million tons of it—that it’s the largest single material sent to the nation’s landfills. We spend \$218 billion a year on food that is thrown away, while around 37 million Americans are food insecure.²⁸ The food wasted costs \$74 billion to American businesses and \$144 billion to American consumers. Wasted food also accounts for approximately 20% of land, water and fertilizer use, 8% of global GHG emissions, and 2.6% of all US GHG emissions, equivalent to more than that of 37 million cars.²⁸

As laid out in Project Drawdown, reducing food waste is #3 of the 100 most impactful solutions to reversing climate change globally. Reducing food waste is not only a climate change solution, it also presents an opportunity to address US food insecurity, with the potential to recover over 1.8 billion meals annually.

While food waste was not necessarily part of this landscape analysis, which focuses on the levers to drive adoption of regenerative agriculture practices, reducing food waste is, nevertheless, a critical strategy to supporting sustainable agriculture, improving rural economies, and alleviating inefficiencies and inequities in the supply chain long term.

ReFed, a multi-stakeholder nonprofit that takes a data-driven approach to solving the national food waste problem, is the only U.S. organization wholly dedicated to food waste reduction and acts as a central hub for the movement.

Starting with the 2016 Roadmap to Reduce U.S. Food Waste by 20%, ReFED has developed a trusted history of producing first-of-their-kind tools and resources providing a full-supply-chain picture of U.S. food waste, cost-effective solutions to solve the problem, and methods to track progress. They have partnered directly with over 20+ organizations to adopt their food waste frameworks and methodologies, including Organization for Economic Cooperation and Development, Asia-Pacific Economic Cooperation, Walmart, Deloitte, and Johns Hopkins University. In 2018, they distilled the 27 most cost-effective, scalable food-waste solutions into a list called “The ReFED Roadmap” and in 2020, they will be releasing their new Insights Engine. The tool combines over 50 public and proprietary datasets to quantify the amount and cost of year-over-year food surplus happening in the U.S. The platform will fuel an actionable and data-driven path to achieve their national goal to cut food waste in half by 2030.

Funders and corporations looking to engage in the food waste challenge in the US, should engage with ReFed to make use of this hub of resources and solutions providers.

Fiber

US funders and investors have played a key role in building a movement to re-localize and improve the sustainability of our food system. At the same time, a closely related and important part of the agricultural system has been largely overlooked: fiber and textile production. Food and fibers—including both plant-based fibers like cotton and hemp and animal-based products like wool and leather—are part of an interconnected system with many linked impacts on health, social justice, and the environment. Funders interested in the food system, sustainable agriculture, soil health, carbon sequestration, environmental health, and economic justice have many compelling reasons to expand their focus to the fiber and textile system.

Fiber crops like cotton, flax, and hemp are often overlooked in discussions of the agricultural system, yet they are major contributors to agricultural economies and their environmental impacts. For example, cotton is grown on 2.3% of the world’s arable land, but it is responsible for 14% of agricultural insecticide use and over 25% of all chemicals manufactured worldwide are used in the textile industry. While rangelands and grazing lands are increasingly studied for their carbon sequestration and climate mitigation potential in food systems work, textile industry connections such as sheep production for wool and leather as a byproduct of the cattle industry are rarely examined in these analyses.

For example, cotton is grown on 2.3% of the world’s arable land, but it is responsible for 14% of agricultural insecticide use and over 25% of all chemicals manufactured worldwide are used in the textile industry.

As in the food system, the global textile supply chain also relies on low-cost labor in developing countries and buries many labor abuses far out of sight of the end consumer. From child labor in cotton fields to the labor of women workers and immigrants across the harvesting and processing chain, the fiber system presents critical opportunities to address injustice and ensure that workers’ voices are part of developing solutions. In the US, justice issues in the fiber system are exacerbated by the prevalence of undocumented workers: a 2015 study ranked the “textile, apparel, and leather” industry group second in the US by share of undocumented immigrants. Redesigning and rebuilding the US fiber production system presents a critical opportunity to draw on the principles of Just Transition and ensure that workers’ health and prosperity are valued and incorporated.

US funders and investors currently have a key moment of opportunity to invest in the sustainable fiber and

textile sector. US consumer awareness is growing, new nonprofits and for-profits are emerging in the sector, major apparel brands are refocusing on natural fibers and soil health, and a new generation of US farmers is focusing on textile crops such as hemp and wool. Working with established and emerging organizations in this growing field, US foundations are well-positioned to draw on key lessons from the sustainable food movement and accelerate the development of a coordinated movement for clean, ethical, and sustainably-produced textiles as a force for environmental and social change.

To address these needs and continue building momentum, Sustainable Agriculture and Food Systems Funders (SAFSF) has just launched its Special Project on Sustainable Fibers and Textiles.

The first step in this project will be the development of a "Textiles Roadmap" that will serve interested US funders and investors. This interview-driven research process will result in a 5-7 year vision for values-based investment and funding needed to support regenerative fiber agriculture and revitalize US-based textile processing and manufacturing. The Roadmap is led by project team Sarah Kelley and Jenny O'Connor (Guidelight Strategies), and is guided by an Advisory Committee of experts in investing, grantmaking, and the textile industry.

The text for the section on fiber was originally developed and published by Sarah Kelley and Jennifer O'Connor (Guidelight Strategies) for our work on SAFSF's Special Project on Sustainable Fibers and Textiles.

LONG TERM FUNDING APPROACHES TO CONSIDER

Regional Approach: Mapping and Funding Hotspots

We need investment in key geographic areas where teams of scientists, technical assistance providers, NGOs, government extension services, and others are already in the field partnering with networks of farmers and ranchers in support of regenerative practices. Foundations need to target regions where they can drive the greatest change and develop frameworks that are applicable to other regions. While we have not yet seen a detailed mapping of priority regions, we see this as a priority opportunity for funders in order to identify key barriers and opportunities unique to that region, engage key stakeholders and develop partnerships, and build a thorough regional supply chain strategy. Some locations do currently stand out for their early adoption of climate smart practices and for their importance for food security and the climate. These states and regions include, to name a few:

- **Montana:** A model for the mountain west
- **California:** An early adopter of innovative practices and policies that can serve as a model for other states
- **Midwest:** A climate hotspot where we can build on an existing robust regional network of stakeholders

A Regional Mapping Approach:

Chesapeake Bay Watershed Foodshed Mapping, Arabella Advisors

As an example of the kind of regional mapping that can help stakeholders in a particular region align priorities and direct resources effectively, Arabella Advisors conducted an assessment of food systems efforts in The Chesapeake foodshed. Their 2016 analysis showed the pathways for funders, advocates, and other stakeholders invested in creating a better food system to capitalize on a growing and converging movement to build and scale an equitable, sustainable, and thriving regional food economy in the Chesapeake Bay watershed. The report focused on several cross-cutting issues that key stakeholders and funders in the region would need to address in order to be successful: (1) Overcoming structural barriers to create a food system that is equitable for producers, consumers, and workers alike; (2) Elevating the voice of disadvantaged communities in food system efforts; (3) Gathering more data on the current infrastructure and gaps in the supply chain, and enhancing coordination of regional food initiatives; (4) Opening and influencing mainstream, institutional markets; (5) Strengthening the advocacy capacity of organizations engaged in food system work. By assessing the current landscape of food system initiatives in the Chesapeake Bay watershed and identifying the most crucial gaps and challenges, their report has helped the Washington Regional Food Funders, Town Creek Foundation, Kaiser Permanente, the Chesapeake Foodshed Network, and other food system stakeholders align their priorities strategically and direct resources to the greatest needs and most promising levers for strengthening the regional food system.

Blended Capital Approach

Foundations are in a position to utilize diverse tools in their effort to achieve their charitable purposes. More recently, beyond making grants towards these purposes, foundations have been making use of tools including mission and program related investments (MRIs and PRIs). There is a growing need for deploying additional tools, in addition to grant capital, to help transform our food system. The state of the food system and, in particular, the broad environmental, human, and social impact of the current food system makes it a particularly well-suited sector for the deployment of all available tools by foundations whose charitable missions relate to the many challenges we face in our current food system. These include a range of pressing issues across the entire food production, processing, distribution, and consumption landscapes.

Historically, the capital available for innovation in food and agriculture has been far lower as a proportion of the size of these markets compared to other sectors that are either adequately, or in some cases, even over-funded. For example, in 2015, venture capital financings by sector reported that food and agriculture represented 1.4% of the US total. This, while food and agriculture represented 5.5% of US GDP that year. Because food and agriculture has been under-funded for so long, and because, to the extent that funding has been available, it has largely been deployed in ways that have neither considered nor prioritized the environmental, physical, and social challenges in our current food system, significant opportunities exist to invest in people and organizations that can change the food system.

Foundations can and should develop strategies to deploy MRIs and PRIs to kick-start the capital needed to drive change that will improve the environmental, physical, and social health of the food system, when these objectives are aligned with a foundation's mission. This might include investing in existing or emerging funds, as well as other food businesses and entrepreneurs, that will support the transformation of our food system.

Some examples of blended capital fund models include:

RSF Social Finance
RSF Social Finance (RSF) is an innovative public benefit financial services organization dedicated to transforming the way the world works with money. RSF offers investing, lending, and giving services to individuals and enterprises committed to improving society and the environment. RSF has both a Food System Fund and a Regenerative Economies Fund. These funds have a \$100k minimum and PRI level returns. They also have a Social Investment Fund that only has a \$1k minimum. Food and Agriculture is one of the fund's main focus areas and they are genuinely focused on transformation of our food and agricultural systems.

1st Course Capital
1st Course Capital is an early stage investment fund that has been established to help surface, support and scale the entrepreneurs driving towards positive impact and creating a new US food system. 1st Course Capital aims to be a lighthouse fund that will draw more investors into food system change and help educate funders and investors in identifying the entrepreneurs and innovations that can truly drive transformative and impactful change in our food system.

No Regrets Initiative

The focus of the No Regrets Initiative is to improve soil health and grow soil carbon in the agricultural soils of North America. To these ends, they demonstrate and advocate for a Regenerative Assets Strategy that deploys human, ecological, and financial capital toward soil health and its effect on climate change. Their portfolio combines philanthropy, lending, and their own Paicines Ranch as a demonstration and learning center, using an integrated-capital approach.

Seed Commons

Seed Commons is a national network of locally-rooted, non-extractive loan funds that brings the power of big finance under community control. By taking guidance from the grassroots and sharing capital and resources to support local cooperative businesses, they are building the infrastructure necessary for a truly just, democratic and sustainable new economy. Seed Commons takes in investment as a single fund, then shares that capital for local deployment by and for communities, lowering risk while increasing impact. Seed Commons also shares backend services and a comprehensive, peer-based learning system to give each member the tools necessary to succeed at accessing capital like market players, yet deploying it using local community relationships.

Thread Fund

Thread Fund work to improve market conditions for enterprises involved in sustainable and eco-agrological food. They use multiple forms of capital to leverage change and consider one of the best ways to conserve farmland is to improve the economics of farming. Tim Crosby is the Principal of the Thread Fund, which is a proud member of the Global Alliance for the Future of Food and SAFSF. Financial capital is deployed through a series of LLCs and philanthropic capital is deployed through a donor-advised fund at the Seattle Foundation. The primary region for engagement is the US's Pacific Northwest region, with strategic national and international investments also deployed.

National Black Food and Justice Alliance / Black Land and Power Fund

NBFJA is a coalition of Black-led organizations, developing Black leadership, supporting Black communities, organizing Black self-determination, and building institutions for Black food sovereignty & liberation. Spearheaded by activist Dara Cooper, NBFJA's two-year-old fund is a democratically governed finance vehicle that invests in cooperatives, farmland, legal assistance, and food hubs.

Equity and Justice Approach

As funders across the capital spectrum consider this need for long-term blended capital, there is a particular need to ensure that these approaches help address historical inequities and that BIPOC communities can benefit from regenerative agriculture in the full, community-focused sense that so many interviewees expressed and be fully recognized as agriculturists and leaders of the regenerative agriculture movement.

As Leah Penniman of Soul Fire Farm notes in a 2019 article on the connection of Black people to the land, “One of the projects of colonization, capitalism, and White supremacy has been to make us forget this sacred connection to soil. Only when that happened could we rationalize exploiting it for profit. As European settlers displaced Indigenous people across North America in the 1800s, they exposed vast expanses of land to the plow for the first time. It took only a few decades of intense tillage to drive around 50% of the original organic matter from the soil into the sky as carbon dioxide.”

Given this long-term connection between extractive treatment of both soil and people in the current “degenerative” system, there must be a similarly long-term funding commitment to addressing equity and building a multi-racial movement for true systems-level reform. Organizations and opportunities profiled throughout this landscape analysis offer many opportunities to deploy funding and integrated capital to organizations and funds that are designed and directed by frontline communities and focused on rebuilding wealth and sovereignty.

As Penniman concludes, “abandoning the ‘colonizer’ mentality that first created the problems is crucial.”

Participatory Grantmaking Approach

In addition to the many structural and practical barriers to regenerative agriculture discussed above, many interviewees addressed the related issue of barriers to funding. Specifically, interviewees called out the governance and decision making structures of most funders as being hard to navigate and riddled with inequities. As interviewees pointed out, funding often goes to people and organizations that program officers already know or are already in relationship with, a majority of which are white, making it unlikely for others to access that capital from the outset or be successful through an anonymous LOI process.

As noted in a 2020 study on racial equity in philanthropy, 95% of all US philanthropy dollars go to white-led organizations, and 70 to 80% of these are led by men.²⁹

As one interviewee noted, “What many funders have in place is currently very opaque. Just being able to break down some of those barriers- so it’s not just a digital portal and there’s some humanness to how people can interact with program officers, not just in writing, that would be great.” Another interviewee noted: “What’s fundamental is ensuring that funders are investing in folks who have been engaged in the work and are on the front lines. It’s very easy for funding to follow well-worn paths. Environmental Organizations are finally understanding that agriculture is part of the solution to climate change. That is great. But funding those organizations to start doing ag work is NOT going to have the same impact as funding those who have been doing it for a long time.”

There is also renewed attention to the question of whether foundations are inherently incompatible with democracy. In “No Such Thing as a Free Gift,” Linsey McGoey challenges the motivations and efficacy of major foundations by documenting their power and clout over public institutions. Rob Reich of Stanford University has argued that philanthropic foundations are “plutocratic by nature.” Journalist Joanne Barkin agrees: “Big philanthropy...aims to solve the world’s problems by foundation trustees deciding what is a problem and how to fix it. They may act with good intentions, but they define ‘good.’”

Across sectors—in the U.S. and globally—there is growing public demand for more accountability, transparency, and collaboration. Within the social sector, more and more conversations are taking place around equity, community engagement, and inclusive processes. Participation itself has had decades of traction in pockets of the social sector, as well as in other fields such as public health, deliberative governance, community development, and community organizing. While philanthropy has long supported participatory initiatives in these and other fields, it hasn't yet fully embraced participation in its own decision-making efforts, especially grantmaking. But that's changing.

Participatory approaches are changing the role of foundations from arbiters of what gets done to facilitators of a process in which they work with community stakeholders to designate priorities and act. This can include everything from inviting community stakeholders to help set priorities and develop strategies to having them sit on foundations' boards or advisory committees. In some instances, foundations are involving community stakeholders in funding decisions (as well as in setting the criteria by which those decisions are made) through blended structures that include both donors and community stakeholders. Others are pushing the envelope further by using completely peer-led grantmaking panels in which no donors are participants. Even as more and more foundations express an interest in participation, however, adoption of these approaches is still the exception in philanthropy.

Participatory grantmakers not only acknowledge and talk about power; they break down barriers that keep people powerless through an approach that realigns incentives, cedes control, and upends entrenched hierarchies around funding decisions. This is important, says research by the National Committee for Responsive Philanthropy, because, "As a grantmaker, you cannot truly strive for and advance equity until you understand your own power and privilege in society and in relation to your grantees."

Although there is no formal definition, practitioners doing this work agree that it emphasizes "nothing about us without us" and shifts power in grantmaking decisions from foundation staff to the people most affected by the issues. They also agree that the process itself gives agency to people who benefit from funding to determine the priorities of their own lives.

Now is the time for every single funder, big or small, to ask themselves: How can the very funding process itself do more to build community and move away from building competitive pressure and lack of transparency? How can we institute participatory frameworks or other approaches to community and network-building funding?

Some examples of notable organizations and funders who are focused on these type of just and participatory philanthropic models include:

Justice Funders

Justice Funders is a partner and guide for philanthropy in reimagining practices that advance a thriving and just world. Justice Funders emerged in 2009 as the Bay Area Justice Funders Network, as local funders sought spaces to bring the philanthropic community together with front-line leaders following the murder of Oscar Grant by BART Police. Today, Justice Funders is the home of the Bay Area Justice Funders Network while also:

1. Offering professional and leadership development programs,
2. Providing coaching and consulting for organizational transformation and
3. Designing, piloting, and scaling innovative collaborations that advance social justice movements.

Social Justice Fund, Northwest

As an organization interested in social justice and promoting social change, Social Justice Fund NW has funded a wide range of activist organizations working in communities of color. In 2003, they lowered their minimum contribution to join to \$240, opening up membership to people in a much broader range of incomes. And in 2010, they embarked on the next step of democratizing their philanthropy, with the first Next Generation Giving Project, making this their sole model for grantmaking in 2011. At their core, Giving Projects are about raising and distributing resources. Between 2010 and 2017, 54 projects have raised an average of about \$100k each from a total of 8,000 donors. The vast majority of these donors were not previously giving to social justice issues. Many were not engaged philanthropically at all. Giving Projects have been especially successful at reaching traditionally underrepresented communities, including young people (about 75% of participants are under 35) and people of color (about 50% of participants), as well as people with wealth.

Headwaters Foundation for Justice (HJF)

Headwaters Foundation for Justice was established in 1984 when a group of thoughtful, progressive donors got together. They believed the people who directly experienced society's injustices were essential to ending them. They used that belief to change philanthropy's landscape, and created a new grantmaking model—one that shifted power away from funders and placed decision-making in the hands of the people. This was the start of an innovative, community-centered, trust-centered model. Today, HFJ still relies on a community-centered model to guide all of their funding decisions. Their participatory grantmaking programs prioritize community organizing that is led by Black People, Indigenous People, and people of color (BIPOC). To date, they have awarded more than \$10 million to grassroots organizations across Minnesota.

Chinook Fund, Denver

Inspired by the recent founding of the Funding Exchange in New York, Chinook Fund's founders wanted to build a foundation that would support small, grassroots organizations working for peace, human rights, and economic justice. They wanted the foundation to be held accountable to the communities it served, and to provide a way to hold activist organizations accountable to those communities. That thinking led to the launch of their community-led grantmaking committee, and now Giving Project, which makes all funding decisions for Chinook. Giving Project volunteers make all grantmaking decisions independently, which allows the fund to support movements which are most relevant to the community.

Multi-Year Funding Approach

The benefits of multi-year funding and its connection to nonprofit effectiveness, capacity, and impact have been recognized for years. Multi-year funding allows nonprofits to respond to crises and opportunities, and to build internal and external capacity. It contributes to sustainability and greater staff retention, allows grantees to respond to new community problems, and improves planning and leadership development.

Back in 2009, NCRP's *Criteria for Philanthropy at Its Best* report called upon grantmakers to serve “the public good by investing in the health, growth, and effectiveness of their nonprofit partners” by, among other actions, providing at least 50% of their grant dollars in the form of multi-year grants. This call was supported by the research of numerous groups, including GEO, Bridgespan Group, Center for Effective Philanthropy, TCC Group, and many of their funders and members. A study from CompassPoint and the Meyer Foundation, *Daring to Lead 2011*, called for “recognition among funders of the ways in which they contribute to the chronic undercapitalization of nonprofit organizations.”

Nonprofit leaders we spoke with described the difficulty of running effective programs and building strong organizations without consistent, multi-year funding. As one notes, “We are the ones doing the work and making the changes funders hope to achieve, but we need to have funding that is consistent from year to year so that we can do the work most effectively.” Other comments echo this and point to the importance of stable funding for building strong organizational capacity. Others point out a disconnect between expectations of stellar outcomes within a timeframe much shorter than is required to actually make change; as one says,

“The funding needs to last long enough to get measurable results. Too often, the expectations are that we can do magic in very short periods of time.”

Nonprofit leaders also raised the importance of flexible funding. Grantmakers for Effective Organizations (GEO) backs up this sentiment, identifying in recent reports that general operating support is one of the most effective strategies grantmakers can use to boost nonprofit performance, and they provide extensive resources on this topic. The National Committee for Responsive Philanthropy (NCRP) also identifies general operating support and multiyear funding as “good grantmaking practice,” important in creating healthy and effective nonprofits.

Some foundations have made big strides on this front in recent years. In 2015, the Ford Foundation pledged 40% of its grantmaking budget to general operating support, and in 2017 announced \$1 billion over five years to support and strengthen the cores of its grantees. 100% of grants from the Claneil Foundation are for general operating support, along with many other examples of funders making this shift. Yet, in a 2019 analysis of grantmakers, the Center For Effective Philanthropy, still found over 50% of foundation grants are single-year grants and only 20% of grants are for general operating support. GEO also found that at least 8 out of 10 sampled foundations either do not make multi-year commitments or do not report making them, making it difficult for US nonprofits to find and obtain this vital type of support.

It is time for a reckoning. As we look at the landscape of regenerative agriculture in the US and the long road ahead to a new regenerative system, funders need to start asking these important questions:

1. In what ways might longer, larger, more flexible, and/or more consistent grant support help our grantees, our foundation, our farmers and ranchers, and the landscape achieve shared goals?
2. In what situations might it make sense to consider providing longer, larger, more flexible, and/or more consistent grant support to our most aligned grantees?

As my friend and colleague, Phil Taylor of Mad Agriculture, once told me, “Regeneration is a process, not a destination. So we need to just start asking people if they are “in” for the journey ahead.

So, “Are you In?”

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APPENDIX A

BEHAVIOR AND CULTURAL CHANGE

	Producer Convenings	On-Farm Learning	Women In Farming & Ranching
Alternative Energy Resources Organization		X	
American Farmland Trust			X
Black Urban Growers (BUGS)	X		
Dakota Rural Action	X		
Farm Beginnings Collaborative		X	
Intertribal Ag Council	X	X	
Midwest Organic and Sustainable Education Service (MOSES)	X	X	
No Till on the Plains	X	X	
Northeast Organic Farming Association	X	X	
Practical Farmers of Iowa	X	X	
Quivira Coalition	X	X	
Ranching For Profit	X		
RegeNErate Nebraska	X	X	
Savanna Institute	X		
Savory Institute	X	X	
School of Adaptive Agriculture	X		
Soul Fire Farm	X	X	
The Southeastern African American Farmers' Organic Network (SAAFON)	X	X	
Women in Ranching			X
Women's Food & Agriculture Network	X		X

LAND ACCESS

	NFLO Engagement	Farmland Protection	Connecting New & Underserved Farmers to the Land
Agrarian Trust	X	X	X
American Farmland Trust	X	X	X

	NFLO Engagement	Farmland Protection	Connecting New & Underserved Farmers to the Land
Black Farmer Fund			X
California Farmlink			X
Cascade Ranch			X
Indian Land Tenure Foundation			X
Intertribal Ag Council			X
Land for Good	X	X	X
Land Loss Prevention Project		X	X
Land Stewardship Project	X		X
Minnow		X	X
Poudre Valley Community Farms			X
Practical Farmers of Iowa	X		X
Savanna Institute	X		X
Soul Fire Farm			X
The Nature Conservancy	X		
The Northeast Farmers of Color Land Trust (NEFOC)		X	X
The Southeastern African American Farmers' Organic Network (SAAFON)			X

TRUSTED TECHNICAL ASSISTANCE

	Peer to Peer Learning Programs	Workshops & Trainings	RCD, Extension, NRCS Capacity Building	Farm Business Planning	New & Next Gen Farming Training
A Greener World	X			X	
Agrarian Trust		X			
Agriculture and Land Based Training Collaborative		X			X
Agriculture Justice Project				X	
Alternative Energy Resources Organization	X				
Berkeley Food Institute			X		
Black Farmer Fund	X			X	
Black Urban Growers (BUGS)	X	X			

	Peer to Peer Learning Programs	Workshops & Trainings	RCD, Extension, NRCS Capacity Building	Farm Business Planning	New & Next Gen Farming Training
Carbon Cycle Institute		X	X	X	
Cascade Ranch		X			X
CoFED (Cooperative Food Empowerment Directive)		X			
Dakota Rural Action	X			X	X
Ecdysis Foundation	X	X	X		
Farm Beginnings Collaborative	X	X		X	X
Fibershed				X	
Food System 6 (FS6)				X	
GC Resolve				X	
Hudson Valley Farmer Training Collaborative		X			
Intertribal Ag Council		X		X	
Kitchen Table Advisors		X		X	
Land Loss Prevention Project				X	
Land Stewardship Project		X			X
Mad Agriculture		X	X	X	
Mandela Partners				X	
Midwest Organic and Sustainable Education Service (MOSES)	X	X		X	
National Incubator Farm Training Initiative (NIFTI)					X
National Young Farmers Coalition				X	X
New England Small Farm Institute		X	X		X
No Till on the Plains	X	X			
Northeast Organic Farming Association	X	X			
Organic Agronomy Training Service			X		
Practical Farmers of Iowa	X	X			X
Quivira Coalition		X	X		X
Ranching For Profit	X	X		X	

	Peer to Peer Learning Programs	Workshops & Trainings	RCD, Extension, NRCS Capacity Building	Farm Business Planning	New & Next Gen Farming Training
RegeNErate Nebraska	X	X		X	
Regeneration International		X			
rePlant Capital				X	
Rodale Institute		X		X	
Savanna Institute		X			X
Savory Institute	X	X			
School of Adaptive Agriculture		X			X
Soil Foodweb Institute		X		X	
Soil Health Academy		X	X		
Soul Fire Farm	X	X		X	X
Steward				X	
Stone Barns Center for Food and Agriculture		X			X
The Carrot Project		X		X	
The Northeast Farmers of Color Land Trust (NEFOC)				X	
The Southeastern African American Farmers' Organic Network (SAAFON)	X			X	
Vilicus Training Institute					X
Western Sustainability Exchange		X			
Women in Ranching	X	X			
Women's Food & Agriculture Network	X				

FINANCIAL CAPITAL & INCENTIVES

	Regenerative Financial Tools & Vehicles	Payments for Ecosystem Services	Ag Lender Partnership	Farmland Asset Financing
American Farmland Trust		X		
Black Farmer Fund	X			
California Farmlink	X			X

	Regenerative Financial Tools & Vehicles	Payments for Ecosystem Services	Ag Lender Partnership	Farmland Asset Financing
Carbon Yield		X		
Croatian Institute	X			
Dirt Capital Partners				X
Ecosystem Services Market Consortium		X		
Farmland LP		X		X
Florida Ranchlands Environmental Services Projects		X		
Hudson Carbon		X		
Intertribal Ag Council	X		X	
Iroquois Valley Farmland				X
Lakewind Organic Field Fund	X			
Land Core			X	X
Land for Good				X
Mad Agriculture	X			
Maine Harvest Federal Credit Union	X			
National Black Food and Justice Alliance	X			
Nori		X		
Northeast Farm Access, LLC				X
Pipeline Foods			X	
Regen Network		X		
rePlant Capital	X			
Savanna Institute				X
Savory Institute		X		
Steward	X			
The Carrot Project	X		X	
The Northeast Farmers of Color Land Trust (NEFOC)				X
Western Sustainability Exchange		X		
Winnett ACES				X

REGENERATIVE SUPPLY CHAINS

	Regenerative Processing & Distribution	Institutional Procurement	Local & Regional Food Systems
275 Food Project			X
A Greener World	X		
Agriculture and Land Based Training Collaborative			X
Capay Valley Farm Shop			X
Cairnspring Mills	X		X
Chef Ann Foundation		X	
CoFED (Cooperative Food Empowerment Directive)			X
Common Market	X		X
Corbin Hill Food Project			X
Cream Co Meats	X		
Croatian Institute	X		
Ecotrust		X	
Edible Schoolyard		X	
FairShare CSA Coalition			X
Farm Generations, GrownBy			X
Farm to School Network		X	
Food Corps		X	
Food Solutions New England			X
Food System 6 (FS6)	X		X
Good Foods COOP			X
Good Meat Project			X
Grassfed Alliance			X
HEAL Food Alliance		X	
Illinois Stewardship Alliance			X
Lakewind Organic Field Fund			X
Mandela Partners			X
Missouri Rural Crisis Center			X
Northern Plains Resource Council			X
Other Half Processing	X		
Pipeline Foods	X		

	Regenerative Processing & Distribution	Institutional Procurement	Local & Regional Food Systems
Real Meals Campaign		X	
Regenerative Agriculture Alliance	X		
rePlant Capital	X		
RestoreCA	X		
Rock Steady Farm & Flowers			X
Savory Institute	X		
Stone Barns Center for Food and Agriculture			X
Tahoe Food Hub			X
The Center For Good Food Purchasing		X	
The Climate Collaborative	X		
The Food Conservancy			X
Thrive Market	X		
Timeless Natural Foods	X		
Urban School Food Alliance		X	
Vilicus Training Institute			X
Walden Local Meat	X		X
White Earth Land Recovery Project			X
Winnett ACES			X
Yellowstone Valley Food Hub			X

STRATEGIC COMMUNICATIONS

	Building Shared Narrative & Alignment	Multimedia Storytelling & Engagement	Producer Communications & Case Studies
American Farmland Trust			X
Animal Agriculture Reform Collaborative (AARC)	X		
Carbon Underground	X		
Center For Food Safety		X	
Civil Eats		X	
Dakota Rural Action	X		
Farm Generations, GrownBy			X
Food and Farm Communications Fund	X	X	X
Food for Climate League		X	X

	Building Shared Narrative & Alignment	Multimedia Storytelling & Engagement	Producer Communications & Case Studies
Food Tank		X	X
Good Meat Project			X
Grassfed Alliance	X	X	X
Illinois Stewardship Alliance			X
Kiss the Ground		X	
National Black Food and Justice Alliance	X		
Native American Food Sovereignty Alliance			X
Practical Farmers of Iowa			X
Project Drawdown		X	
Quivira Coalition			X
Regeneration International		X	
Soil Centric		X	
The Center For Rural Strategies	X	X	X
Western Landowners Alliance			X
Western Organization of Resource Councils			X
Western Sustainability Exchange			X
White Earth Land Recovery Project		X	X
Women in Ranching	X		

RESEARCH & SCIENCE

	Practical & Key Ecosystem Research	Healthy Soil, Health Humans	Institutional Research Programs
Agriculture and Land Based Training Collaborative	X		
American Farmland Trust	X		
Bionutrient Food Association		X	
Carbon Cycle Institute	X		
Chico State Center For Regenerative Agriculture and Resilient Systems			X
Croatian Institute	X		
Delta Institute	X		
Ecdysis Foundation	X		
Health from the Soil Up		X	

	Practical & Key Ecosystem Research	Healthy Soil, Health Humans	Institutional Research Programs
MSU Center for Regional Food Systems			X
OpenTEAM	X		
Perennial Agriculture Institute	X		
Point Blue Conservation Science	X		
Rodale Institute	X		
Savory Institute	X		
Soil Foodweb Institute	X		
Soil Health Institute	X	X	
Soil Health is Human Health			X
Stone Barns Center for Food and Agriculture	X		
Texas A&M AgriLife Research and Extension Center			X
The Inter-institutional Network for Food, Agriculture and Sustainability (INFAS)	X		
The Land Institute	X		
The Nature Conservancy	X		
UC Davis Agricultural Sustainability Institute			X
Washington State University, Bread Lab			X
Washington State University, Center for Sustaining Agriculture and Natural Resources			X
Western Sustainability Exchange	X		
Yale, The Quick Carbon Project and The Regenerative Agriculture Initiative			X

POLICY REFORM

	National Policy Reform	State & Local Policy	Advocacy & Movement Building
American Farmland Trust		X	
Animal Agriculture Reform Collaborative (AARC)	X	X	X
CalCAN		X	X
California Farmer Justice Collaborative (CFJC)		X	X
Carbon 180	X		
Carbon Cycle Institute		X	
CoFED (Cooperative Food Empowerment Directive)			X

	National Policy Reform	State & Local Policy	Advocacy & Movement Building
CUNY Urban Food Policy Institute		X	
Dakota Rural Action		X	X
Food First			X
Food Solutions New England		X	X
Food Tank			X
HEAL Food Alliance	X	X	X
Indian Land Tenure Foundation	X		
Intertribal Ag Council	X	X	X
Kiss the Ground			X
Kitchen Table Advisors			X
Land Core	X		
Land for Good		X	
Land Loss Prevention Project		X	
Land Stewardship Project	X	X	
Meridian Institute	X		
Missouri Rural Crisis Center	X	X	X
National Black Food and Justice Alliance			X
National Family Farm Coalition	X		X
National Healthy Soils Network		X	X
National Sustainable Agriculture Coalition (NSAC)	X		X
National Young Farmers Coalition			X
Native American Food Sovereignty Alliance			X
New England Small Farm Institute			X
Northeast Organic Farming Association			X
Northern Plains Resource Council	X	X	X
NRDC	X		
Quivira Coalition			X
Regeneration International			X
RestoreCA		X	
Roots of Change		X	
Socially Responsible Agriculture Project (SRAP)		X	X
State Innovation Exchange	X	X	
The Center For Rural Strategies			X

	National Policy Reform	State & Local Policy	Advocacy & Movement Building
The Northeast Farmers of Color Land Trust (NEFOC)			X
The San Mateo County Food System Alliance (SMFSA)		X	X
The Southeastern African American Farmers' Organic Network (SAAFON)			X
Western Landowners Alliance			X
White Earth Land Recovery Project			X
Women's Food & Agriculture Network		X	X

OTHER NOTABLE ISSUES

	Farmworker Rights	Food Waste
Agriculture Justice Project	X	
Alianza Nacional de Campesinas	X	
California Farmer Justice Collaborative (CFJC)	X	
Farmworker Justice	X	
ReFed		X
United Farm Workers of America	X	