April 29, 2021

Secretary Tom Vilsack U.S. Department of Agriculture 1400 Independence Ave., S.W. Washington, DC 20250

via regulations.gov

# **RE:** Comments in response to Notice of Request for Public Comment on the Executive Order on Tackling the Climate Crisis at Home and Abroad, 86 Fed. Reg. 14403 (Mar. 16, 2021), Docket No. USDA–2021–0003

Rural Coalition, an alliance of farmers, farmworkers, migrant and working people in rural areas across the nation, submits the following comments on behalf of the undersigned, in response to the request from the Chief Economist, U.S. Department of Agriculture for input on the development and implementation of a climate change mitigation strategy intended to shift American agriculture to net zero greenhouse gas emissions under the Executive Order on Tackling the Climate Crisis at Home and Abroad.

### **Introduction**

In developing our comments, we have honed our responses by drawing on the Climate 21 Project Transition Memo prepared for USDA as a possible basis for new policies on tackling the Climate Crisis.<sup>1</sup> The recommendations that we share build from the understanding that we can work in partnership with USDA to create an equitable transition to climate resilient agriculture.

### Equity is a Foundational Basis for Tackling the Climate Crisis

A food and agriculture system that is not equitable, inclusive and just is, by definition, not sustainable or resilient. Treating equity concerns as separate or additional concerns when designing any new policy, including for climate mitigation, guarantees failure. Equity must be fully integrated into USDA climate-related decision making at every stage.

The Climate 21 memo raises issues of diversity and equity at its outset:

Issues of diversity, inclusion, and environmental justice are important in all of USDA's work, including climate change. Given USDA's history of past discrimination against minorities, tribes and women in the implementation of farm and other programs, it is vital that USDA's efforts around climate change seek input from diverse stakeholders and that policies are administered such that access to resources and program outreach and delivery to these communities are prioritized.<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> (Bonnie, Jones, & Harrell, 2020)

<sup>&</sup>lt;sup>2</sup> (Bonnie, Jones, & Harrell, 2020)

The memo also emphasizes the vital role of producers and landowners as stewards:

**"Reset the narrative of agriculture and forestry as climate change solutions with rural stakeholders** by emphasizing producers' and landowners' historic commitment to stewardship, and economic opportunities presented by investments in climate mitigation and resilience."<sup>3</sup>

To effectively tackle climate change and advance climate resilience, USDA must employ a holistic frame that reverses the extractive and harmful policies of the past. The reorientation of this nation's food and farming system requires more than mere "input" from tribal and other producers who have been historically excluded and more than a "resetting of the narrative" for rural stakeholders. USDA will benefit from valuing and learning from the traditional ecological knowledges (TEK) of these producers. These practices of resilience and survival have been developed and handed down over many generations despite centuries of being removed from and denied access to the most valued land and to federal (re)investments.

In creating new strategies, USDA should not neglect these *very old* strategies that work. TEK (traditional ecological knowledges) are not new strategies but they *are* neglected strategies. This body of knowledge should be treated as, supported, and funded as a new strategy. Practices and land management systems that have built and maintained healthy soils and balanced ecosystems for centuries often don't qualify for grants because they are not repairing damage. What often works, for example for dryland farming, simply doesn't fit with or can't be funded by existing NRCS programs which require three years of irrigation records. The knowledge and practices they have long employed yield real results, and any preservation of healthy, high-carbon soils should be rewarded and incentivized.

**USDA must adopt the lens of deep equity** to address more than a simplistic inclusion and diversity of voices. With the recognition that structural change is needed to foster true equity for all, this comment focuses on the reorientation of agriculture towards a regenerative, holistic, science-based, and climate-resilient system. We address and highlight the following areas of concern:

- "Climate-Smart" Agriculture and Forestry
  - Concentration, Land Tenure and Climate
  - Carbon Markets Will Intensify Destructive Concentration
  - Federal Investments in Climate Resilience Must Address a Wider Range of Environmental Injustice and Ecological Threats
- Biofuels, Wood and Other Bioproducts, and Renewable Energy
  - Renewable Energy Production, Including Solar and Wind, Raise Equity and Environmental Justice Concerns
- Addressing Catastrophic Wildfire
- Environmental Justice and Disadvantaged Communities Questions
  - Additional Equity Recommendations

<sup>&</sup>lt;sup>3</sup> (Bonnie, Jones, & Harrell, 2020)

## **Climate-Smart Agriculture and Forestry Questions**

"Climate-smart agriculture" has been defined as an integrated, whole farm approach to managing landscapes that addresses the interconnection of food security and climate change. Such integrated practices that provide ecosystem services and play a role in air and water purification, nutrient cycling, erosion and flood control, and carbon sequestration are more accurately characterized as **climate resilient agriculture**. Remediating the current climate crisis requires a holistic, comprehensive approach in which whole farms produce both ecosystem services and food and fiber. Current proposals focus instead on conservation carve outs and carbon sequestration. Carbon markets are a reductionist and performative approach that employs farms and forests to compensate for or offset active emitters of greenhouse gases with ineffective, disjointed programs that carry significant dangers.

"Since USDA does not clearly define what it means by "climate smart" and since "climate smart" is associated with reductionist and technology based and focused approaches, we suggest USDA drop the use of the term. USDA should instead adopt terms such as "climate resilient agriculture" to describe the critical approaches that address whole ecosystems, with focus on agroecology and agroforestry as well community and ecological resilience."

Carbon sequestration should not be adopted as the sole metric and should not be taken out of context of the system in which it is occurring. Furthermore, it is a matter of national security and economic and public health to restore and build soil health and natural ecosystems to build resilience, nutrition, water retention, pollution reduction, biodiversity and an economic foundation for rural areas.

USDA would do well to begin by building upon existing programs, provided that at the same time it invests in eliminating existing gaps that have effectively excluded smaller-scale, largely Black, Indigenous and People of Color (BIPOC), producers from these programs. USDA should restructure its Noninsured Crop Disaster Assistance Program (NAP) and crop insurance programs to better address climate risks and reward practices that are known to increase climate resilience and reduce risk for farmers and the insurance program. The goal should be comprehensive programs that economically support all producers who engage whole farm solutions based on best practice for their regions, operations, local economies and the climate. Production and conservation are not inherently separate practices. Each can seamlessly support the other.

Central to development of any practice-based incentives or carbon banking system must be equity. Institutional racism in agriculture continues to be prevalent and its impacts are cumulative, lasting and detrimental to climate solutions. A participatory-based study conducted in partnership with Rural Coalition entitled, "Ecological costs of discrimination: racism, red cedar and resilience in farm bill conservation policy in Oklahoma" found "*a disproportionate amount of USDA program funds, including conservation, commodities and loans, still flow to white farmers and ranchers. Per capita, Black farmers received about 50% of what other farmers received in government payouts in 2012."<sup>4</sup>* 

<sup>&</sup>lt;sup>4</sup> (fagundes, et al., 2019)

The study also noted the struggles BIPOC farmers face when working with USDA, finding that FSA would consistently "under-report Black farmers' base acreage, despite policies to mitigate the impact by allowing most farmers to use county averages. This prevents those farmers from obtaining the USDA commodity and disaster payments they are entitled to. The process to submit the paperwork necessary to claim higher yields is often burdensome, and if results are deemed unfair, the process to appeal local county committee decisions is time-consuming and difficult, as it is necessary to return to the same office that made the unfair decision in the first place. Farmers still report retaliation from local county committee officials and the County Executive Director that the local committees choose and supervise. As long-time officials retire, their family members often take their places, perpetuating what many Black farmers still consider the 'old boys' network,' which still has often too much control over USDA program and service delivery. This system allows the mentioned barriers for Black farmers to continue. Local conservation districts have similar levels of influence with respect to delivery of some conservation programs."<sup>5</sup>

Figures 1 - 3 further illustrate that "disparities in farm size and income in Oklahoma reflect similar patterns seen across the USA. Social science and legal literature argue that these trends are connected to the well-documented history of discrimination toward nonwhite and non-male farmers by the USDA, especially in the county-level Farm and Home Administration (FmHA; now the Farm Service Agency, FSA) offices—biases that prevented generations of farmers and ranchers from obtaining the USDA loans they needed to acquire land and keep their farm operating."<sup>6</sup>



Fig. 1. Conservation Reserve Program (CRP) acreage with socially disadvantaged farmers and ranchers in 2014.<sup>7</sup>

<sup>&</sup>lt;sup>5</sup> (fagundes, et al., 2019)

<sup>&</sup>lt;sup>6</sup> (fagundes, et al., 2019)

 $<sup>^{7}</sup>$  (fagundes, et al., 2019)



Fig. 2. Conservation Stewardship Program (CSP) funding with socially disadvantaged farmers and ranchers, from 2011 to 2014<sup>8</sup>



Fig. 3. Environmental Quality Incentives Program (EQIP) funding with socially disadvantaged farmers and ranchers from 1998 to 2015.<sup>9</sup>

<sup>&</sup>lt;sup>8</sup> (fagundes, et al., 2019)

<sup>&</sup>lt;sup>9</sup> (fagundes, et al., 2019)

"The latest study available on subsidy disparities found that in 2005, the average Black beneficiary of USDA program funds received \$9,555 less than the average received for all other beneficiaries (NBFA & EWG, 2007)."<sup>10</sup> This disparity highlights the urgent obligation to assure that any payments for ecological services or carbon sequestration incentive programs advance equity through minimum payments, elimination of cost shares for historically underserved producers, and increased support for outreach and technical assistance.

As part of its efforts to promote climate resilient agriculture, **USDA and policy makers must** also revisit policies that drive down the prices of commodities far below the cost of production. Such policies have been a key driver of over-production and the extraction and depletion of organic matter and nutrients from the soil and of water from aquifers. This highly vertically integrated, monoculture-based production model has destroyed the wealth of families and communities the world over.

Numerous producers and forest owners already implement innovative and climate resilient practices that sequester carbon and provide ecosystem services. These producers, notably Tribal governments, and BIPOC, small-scale and new entry producers, who have adopted and implemented such regenerative practices under the most extreme of circumstances, should be the first to receive any benefits or credit within a carbon or greenhouse gas program. For example, the Oklahoma Association of Conservation Districts works with many farmers who have adopted soil building practices, and indigenous producers have been implementing practices rooted in Traditional Ecosystem Knowledges (TEK) for decades, if not centuries.

In Arizona, Michael Kotutwa Johnson has documented in his recent dissertation<sup>11</sup> how management based on Indigenous Agricultural Knowledge (IAK), one aspect of TEK, leads to the same conservation outcomes as NRCS standard practices, but getting IAK based conservation methods approved by NRCS is a complicated process that happens on a case-by-case basis." He further notes that American Indian participation in USDA Natural Resources Conservation Service programs remains very low. Dr. Johnson has also shared with our members his methods of cultivating corn, squash and beans on dry land in a continual system that has remained productive for over 100 years, as documented in his photos. His dissertation provides clear evidence of how the ancestral practice of continuous planting, saving, selecting, and sorting of seeds over decades assures the seeds adapt to changing conditions. This is one example of the kind of practices that should be highly valued for payments for ecological services under any new or expanded programs that work toward climate mitigation.

The USDA should center its support on small- to mid-scale farmers using sustainable and regenerative systems such as managed rotational grazing, which can build soil health and sequester carbon. It should invest in this sector by removing cost-share and matching requirements for BIPOC, limited resource and beginning producers, set minimums, increase payments for practices and reduce the amount of paperwork required to participate in such programs. There is clear evidence that such requirements result in under-

<sup>&</sup>lt;sup>10</sup> (fagundes, et al., 2019)

<sup>&</sup>lt;sup>11</sup> (Johnson, 2019)

enrollment by these populations in programs that would benefit them, such as the Value-Added Producer Grant (VAPG) program. <sup>12</sup>

It is also imperative that USDA engage Tribal governments and groups representing BIPOC producers, including those supporting this comment, conduct a systematic review of the barriers to equitable and adequate access to *existing* programs and how these can be mitigated, building on existing scholarship and direct consultation with these communities. USDA should further incorporate their proposals to incentivize adoption of practices to advance regenerative, agro-ecological, organic, and other traditional approaches to farming, forestry, and ranching that are proven but now neglected or undermined by existing programs.

### **Concentration, Land Tenure and Climate**

Over several centuries, the food and agriculture, fiber, and energy systems within the boundaries of this nation have been reoriented continuously. These changes have been directed to feed, clothe, shelter, and power a growing population, and later a growing desire to utilize agriculture exports to balance trade. Capital investments have been employed to replace labor and to develop highly vertically integrated processing, distribution supply chains heavily reliant on energy. This highly extractive system is itself a clear driver of the climate crisis.

Our members and allies, including Family Farm Action Alliance, the Campaign for Family Farms and our environmental allies, who represent family farmers and/or have clear proposals to define and address the extreme concentration and vertical integration in agriculture. We support their analysis particularly of the livestock sector, which by its very structure and concentration, is a major source of ecological damage to land, water and air. We urge USDA to adopt their essential proposals to address concentration and mitigate the dangers it poses for the climate and the economy.

The COVID 19 pandemic has illustrated the fundamental need to consider and address the costs of highly concentrated processing and distribution. The need to protect the workers in the meat processing sector was suddenly viewed as essential not only as a matter of basic justice, but also because when the lives and health of the workers were imperiled, existing distribution channels were frozen with formidable costs from farm to fork.

A system where global trade routes can be disrupted by a single ship stuck in the Suez Canal lacks resilience. The pandemic further illustrated the value of domestic production of essential products both in the US and across the world. It also demonstrated the value of local and regional production and distribution of food. Increased federal investments in more local systems would increase resilience, increase the quality of food and catalyze this system as a base for economic development and ecological health in rural and urban communities.

In addition to addressing the impacts of extreme concentration in the processing and distribution of food products, climate policy must also address and mitigate current economic factors that

<sup>&</sup>lt;sup>12</sup> (Ayazi & Elsheikh, 2015)

trend toward ever greater concentration of land ownership as well as ownership of seeds, production capacity, and distribution. Concentration of ownership and growth of absentee owners have undermined and continue to destroy ecological, economic, community, and public health in communities across this nation and world.

USDA must also immediately work to comprehend and stem the loss of land tenure including an issuance of regulations to implement the 2018 Farm Bill provision supporting relending to heirs property owners. A regulation must also be issued, and USDA field offices must be trained in the use of the alternate documentation provisions, which allow heirs property owners to access USDA programs. The Administration should request full funding for immediate implementation of the National Agricultural Statistics Service Survey of Tenure Ownership, and Transition of Agricultural Land authorized in the Farm Bill. That study is critical to understanding the degree to which land by county and state is held in undivided interests (heirs property) or absentee ownership. The Civil Rights Office should be fully funded and staffed.

Local and rural landowners are the stewards upon which we all rely and must be central to our climate policy. Through land ownership, job creation and business can expand.

The Climate 21 memo appropriately noted the need to connect climate policies to rural economies, a connection that we strongly endorse:

*"Issue a Secretarial Order on Climate Change and Rural Investment* to signal climate change as a top priority of the department, frame USDA's interest in investing in agriculture, forestry, technology, innovation, and rural economies, and to set agendas for policy and programmatic actions needed to act on climate."<sup>13</sup>

New climate resilience investments have the potential to catalyze the reorientation of food, agriculture, fiber, and energy systems. We urge USDA to consider investing in bolder approaches, including the holistic approach such as that set forward by Native American Agriculture Fund (NAAF) in their "Vision for Native Food and Agriculture Rebuilding and Recovery."<sup>14</sup> The comprehensive framing and incorporation of a wide range of elements including a new system of food hubs, repurposing existing financing mechanisms, and focusing on investing in next generation producers could become a model for other regions and other communities of BIPOC producers.

Any climate policy must be evaluated for its impact on land tenure, land ownership and control of land. USDA must adopt such measures as are necessary to ensure that the role of this nation's farmers and ranchers, and particularly its BIPOC producers, is enhanced and not erased by climate policies. It must also act to ensure that climate policies work to enhance, not destroy, the economic and ecological resilience of rural communities and advance agriculture and forestry as foundational to their economies.

**Carbon Markets Will Intensify Destructive Concentration** 

<sup>&</sup>lt;sup>13</sup> (Bonnie, Jones, & Harrell, 2020)

<sup>&</sup>lt;sup>14</sup> (Simms Hipp & Givens)

If USDA takes on a new role in treating carbon as a commodity, it should proceed with great caution. Commoditizing carbon is a reductionist approach that has attracted venture capital, threatening land tenure. Bill Gates, a nonfarmer, now is the largest owner of U.S. agricultural lands, and there has been exponential growth of farmland purchase by unaccountable global investors.<sup>15</sup> As we address in the next section, concentration of the control of forest lands and resources is proceeding at a rate that should cause alarm. Further privatization of the commons (carbon) has already resulted in significant concentration of wealth.

The commoditization of carbon poses additional risks of further consolidation of land, wealth and power. It rewards the reductionist methods that define the current, extractive system, which must instead be fundamentally reformed to reduce climate impacts. If the federal government enters this arena, it must assure that markets are regulated and transparent, and robust measures must be put in place to mitigate the disproportionate burden on small and socially disadvantaged producers. Metrics must also prioritize small farmers, multi-crop, and specialty crop farmers. Allowing polluters to buy the right to continue polluting by concentrating land and trading offsets props up high emitting entities and further harms vulnerable and socially disadvantaged communities, who also disproportionately live in the most polluted and underserved communities. It is inequitable and deeply unjust. While with new federal support, landowners and producers can be engaged to remediate the environment, policies must also require that high emitting corporations also reduce their own emissions to have any significant effect on a changing climate.

Federal policies that incentivize emerging carbon markets are likely to reverse, not advance, equity, inclusion and justice. The effects of existing private carbon markets should be examined before the federal government embraces this approach. What mechanisms would private markets have to make assure that carbon credits do not simply allow industries to continue polluting without demonstrable emissions reductions. The continued pollution has disparate consequences for socially disadvantaged communities, exacerbating inequities. The money "invested" does not benefit local communities. For example, where hedge funds have purchased forest property in the rural South, studies show poverty increases. If these markets cannot advantage local ownership by farmers and forest stewards who know how to protect their lands and are interested in the welfare of their communities, they should be avoided. Pilot projects could measure proof of concept but should not be a focus of major federal investment.

Investments to expand voluntary adoption of enhanced conservation practices building from current programs should be integrated with companion efforts to expand access to markets all farmers need. Complementary elements may include enhanced SNAP funding for fruits and vegetables, support for cooperative development and aggregation hubs, and expanded access to smaller scale and more localized processing facilities. Antitrust enforcement is also essential to free farmers and ranchers to adopt alternatives.

Any emerging federal interventions to reduce carbon or greenhouse gases must primarily recognize and remunerate such early adopters who have prioritized ecological health in their operations, uplift them, and then train and incentivize others to adopt these practices.

<sup>&</sup>lt;sup>15</sup> (Ross, Mittal, Johnson, & Word, 2014)

**USDA should also work with producers to develop conservation compliance verification procedures so that shortcuts are not rewarded**. The current trap of debt, costs of production in excess of price, and forced reliance on concentrated sources of inputs preclude adoption of new practices. Whole farm revenue and crop insurance reform are also necessary.

It is imperative to note that due to the nature of carbon cycling, rates of sequestration and ecosystem services vary depending upon location, climate, soil, biomes and more. Such a systems would mean that producers who have been subject to decades of discrimination and exclusion after to being pushed to the most fragile and vulnerable land would receive only a fraction of the benefits of other producers.

Furthermore, this form of "climate smart" policies do not stop the existing polluting practices they offset. Small to mid-size farm operations cannot maintain their viability and employ sound practices in an extractive system while commodity prices continue a downward trend in an increasingly vertically integrated global market. Sustainable agriculture must be reflected systemically throughout the entire agricultural chain, from soil to table and through to compost.

For that reason, USDA should adopt climate resilience policies that make payments for integrative and regenerative ecological practices rather than for quantities of carbon sequestered. Such an approach may also reduce the danger of land consolidation by absentee owners and investors seeking to accrue and profit from the passive benefits and payments for carbon sequestration. USDA must foster programs which keep producers employing climate resilient methodologies on their land.

If establishment of a carbon bank is inevitable, USDA and other federal agencies must make clear how and where such an entity would be constructed and located, and how it would be regulated. In particular, clear policies and procedures to assure racial equity and environmental justice must be developed and instituted in direct nation to nation consultation with Tribal governments, and with the involvement of rural rooted and other communities with experience in addressing equity.

If the USDA is truly committed to equity, it must do more than making programs more accessible. Rather, the structural impacts of its decisions must be considered. For example, incentivizing factory farm biogas projects contributes to increased scale of these operations and greater consolidation, putting small-scale dairies, for example, out of business. A systemic, or "deep equity" lens is essential if USDA is to meaningfully support and engage tribal governments and BIPOC producers who already suffer many disadvantages, as well as workers in family farms.

Food and farming systems in the United States are highly complex and intersect with many of today's most pressing climate challenges. USDA's overarching approach to climate resilient farming and forestry programs should honor and appropriately navigate this complexity by taking an integrated, holistic approach. Specifically, any and all new decisions and programs should be governed by a set of guiding criteria. We urge USDA not to myopically

focus on carbon sequestration, but only to enact decisions if the action meets a set of key guiding criteria. The following may serve as a starting point for these guiding criteria:

- Will not inadvertently incentivize GHG-emitting chemical inputs;
- Does not create disproportionate barriers for small- and mid-scale farms or socially disadvantaged farmers;
- Has been developed in a participatory process that includes tribal government consultation and representation of populations, including BIPOC producers and farm and food chain workers most likely to be impacted by the decision(s), and/or is embraced by these communities;
- Does not reward entities that cause high levels of environmental or community harm;
- Does not create inequity by driving further consolidation of land, wealth or control in the sector.

### Federal Investments in Climate Resilience Must Address a Wider Range of Environmental Injustice and Ecological Threats

Our current food and agriculture system is dependent upon the labor of millions of farm and food chain workers. While capital can move freely across borders without restrictions, labor cannot. Immigration policies and lack of labor protections mean farm and food chain workers and their families are routinely denied fair wages and the ability to secure legal presence to live and work safely and with dignity in their communities. Women workers are often the least protected and most vulnerable to low wages and sexual harassment on the job. The combined impact of these factors profoundly affects farming and farm laborer communities.

These workers are often the first and most exposed to the documented dangers of pesticides, herbicides and other agricultural chemicals, including nutrients; these dangers also pose broad ecological impacts. Farmworkers, and farmworker women in particular, routinely experience exposures and injuries that have long term consequences on their health and that of their children and families.

In addition, growing climate impacts are already posing new threats to workers, impacts which are being largely overlooked. The incidence of heat related illnesses among farmworkers is rising rapidly. The threat was intensified during the pandemic where essential personal protective equipment also increased the incidence of heat stress. Several years ago, a group of women farmworkers, or *campesinas*, who are part of the Rural Coalition were a part of a delegation to New Mexico. There, the leaders of the southwest USDA Climate Hub shared the very useful information then available. One feature was the posting of a heat stress index for cattle. The women immediately asked why there are not such tools to measure the risk of heat stress for workers. We thus reiterate here the recommendation of farmworker women that workers should directly receive protections from heat stress, including personal protective equipment to measure the heat they are experiencing. We further recommend that such any Climate Hub or other heat index also indicate dangers for human health, especially for workers; and that enforceable protections for all workers regardless of immigration status are set in place with regard to heat stress and pesticide exposures and working conditions.

Our communities have long raised concerns about the impact both habitat disruptions and agricultural chemicals are having on land and water. They cite a growing incidence of invasive species incursion and plant and animal diseases. Our communities have observed that overuse of pesticides and especially herbicides, which are frequently employed main to reduce the need for labor, are a factor contributing to more noxious weeds, and plant diseases including citrus greening disease. The agroecological cultivation methods they have long employed have been protective against these threats. They believe these methods could be tested more widely for their efficacy in removing toxins and healing and restoring land exhausted by chemicals and compaction. Farmworkers who suffer the costs of overuse of agricultural chemicals most directly strongly support reductions and much stronger restrictions on their use to reduce ecological and human health consequences.

Any climate resilience strategy must also value and foster real protections and enhancement of habitats for another population that provides critical and irreplaceable ecological services-pollinators. Our environmental members and allies have developed strong and compelling evidence for reducing and eliminating the use of many agriculture chemicals and adopting agroecological and other beneficial practices to restore the land and reduce or eliminate the need for these chemicals. We support their recommendations in this important area.

### **Biofuels, Wood and Other Bioproducts, and Renewable Energy Questions**

As USDA pursues ideas for new investment in bioproducts and renewable energy, it would do well to begin with a holistic approach to guide investments. Recent and continuing massive power grid failures had broad social consequences that require our urgent attention. While some of these issues are likely to be addressed in an infrastructure bill, USDA must consider what role bioproducts and renewable energy can and should play in a future energy transportation system.

The production and distribution of energy, including electricity and fuel for transportation, are already highly consolidated industries dependent on complex supply networks that are starkly lacking in resilience.<sup>16</sup> Substituting biofuels or large-scale renewable sources including wind energy for other fuels into the existing power and transportation systems will not address the current costs and vulnerabilities of these systems. Investing in biogas digesters to turn the massive waste of concentrated animal feeding operations into an energy product does not remediate the worker safety, food safety or ecological and economic costs of these concentrated operations for farmers, workers and communities. Nor will those approaches take advantage of new technologies and opportunities to build a more resilient and localized system of energy production and distribution.

While other federal agencies will also be considering these questions, we urge USDA to consider that these transportation and energy systems and how they are reoriented bears significant consequences for rural communities, and especially for persistently poor communities and the tribal and BIPOC communities who live there. Smaller scale and more localized energy production could reorient energy distribution and increase the resilience of these systems instead of just expanding the current system, which is by its very nature, extractive.

<sup>&</sup>lt;sup>16</sup> (Bailey, Gopaul, Thompson, & Gunnoe, 2020)

Transportation systems bypass and fail to serve rural residents who need alternatives to cars. There are deep equity issues involved at every level.

We also seek to understand what role USDA is envisioning for forests in its energy equations and for more detail on its overall approach to wood and fiber as these relate to carbon markets and climate resilience.

A growing body of research details the impact of the degree of highly concentrated ownership of forest land on children, families and the communities. This research documents the need for policies that secure land tenure as the basis of community and child wellbeing, protecting the intergenerational transfer of land and building a community with a healthy ecosystem and a tax base sufficient to support quality education, employment opportunities, and a strong infrastructure.

We include them here in the conversation because trends related to privately held forest land, in this case the transition from companies owning forests for producing paper to companies who own and manage the land as a financial asset, relates to how these forests might be used and valued both for biofuels and carbon credits.

In the paper "Taking Goldschmidt to the Woods: Timberland Ownership and Quality of Life in Alabama," Dr. Connor Bailey and colleagues used "a database of property tax records for 13.6 million acres representing every parcel of privately owned timberland in 48 rural Alabama counties to test two hypotheses inspired by Walter Goldschmidt relating land ownership and quality of life."<sup>17</sup>

Like the historic Goldschmidt study that linked concentration in land ownership to poverty in communities of the Central Valley of California, the data "show private ownership is highly concentrated and 62 percent is absentee owned...Our findings support Goldschmidt-inspired hypotheses that concentrated and absentee ownership of timberland exhibit a significant adverse relationship with quality of life as measured by educational attainment, poverty, unemployment, food insecurity, eligibility for free or reduced price lunch at public schools, Supplemental Nutrition Assistance Program participation, and population density. Low property taxes in Alabama limit the ability of local governments to generate revenue to support public education or meet other infrastructural or service needs in rural areas. We call on rural sociologists and kindred spirits to pay more attention to the fundamental importance of land ownership which shapes the foundations of power and inequality affecting rural life in America and beyond."

The paper goes on to detail how investments in timberland in Alabama, driven by investment decisions of large corporations with little connection to the communities, has changed:

Since 1990, and in particular during the period 2000–2008, corporations in the forest products industry sold most of their lands—approximately 50 million acres nationally (Bliss et al. 2010; Gunnoe, Bailey, and Ameyaw 2018). This large-scale divestiture was motivated by shareholders who reasoned the value of timberland should be used to pay

<sup>&</sup>lt;sup>17</sup> (Bailey, Gopaul, Thompson, & Gunnoe, 2020)

down corporate debt and buy back stock shares, thus increasing share values (Gunnoe 2014). The primary buyers of these lands were other corporations and financial managers and investors classified as Timber Investment Management Organizations (TIMOs) and Real Estate Investment Trusts (REITs). TIMOs manage land for investors (e.g., pension funds) which own land as a financial asset but lack timberland management expertise. REITs are corporations which own land on behalf of shareholders and enjoy a tax-free status as long as they distribute 90 percent of their profits directly to shareholders and have minimal income from any form of manufacturing activity.

TIMOs and REITs have replaced paper companies as the largest owners of timberland in Alabama. The five largest owners of timberland in Alabama are either TIMOs or REITS, owning 1.9 million acres representing 10 percent of all privately owned timberland in the state. Similar changes in timberland ownership are happening elsewhere in the U.S., where three REITs and six TIMOs own a combined 31.4 million acres (FORISK 2018). The connection between absentee TIMO and REIT investors with the land or people who live near their land is distant at best (Gunnoe et al. 2018). "<sup>18</sup>

We have observed similar trends particularly in the State of Georgia. In Alabama, Georgia and other southern states, there remain many private forest landowners, including many Black landowners. There has been a push to address the heirs property issues that many Black landowners face as land transitions into undivided interests held by survivors when owners pass away without a will. However, the process of probating a will or an estate left with no will or executor, even in states where the Uniform Partition of Heirs Property Law has been enacted, is complex and expensive.

The Federation of Southern Cooperatives, which has studied these trends for decades, estimates that at least 40% of Black-owned properties are now held in undivided interests or heirs property. Such properties are left wide-open to the partition sales that occur when outside interests offer to purchase the interest of one, often distant, family member, forcing a sale of the whole property with distribution of the usually small proceeds among all family members. The risk of such forced sales grows as potential federal payments for ecological services for forest land investments makes them a more desirable asset for timber interests or even pension funds. BIPOC families are less likely to have access to affordable and unconflicted legal services necessary to create wills and succession plans. In the aftermath of a pandemic that has left over 560,000 families coping with the loss of family members, USDA and other federal agencies lack information to assess how many more properties are at risk. It is likely however that at least some of those properties include farm and forest land.

It is essential that USDA work with its BIPOC community-based organization partners to identify and address these risks and how new federal investments may make the critically important securing of land tenure for the nation's Tribes and BIPOC communities even more difficult and important. USDA should begin by issuing regulations to implement the heirs property relending program established in the 2018 farm bill. It should also issue a regulation and field directives to help farm and forest landowners faced with succession

<sup>&</sup>lt;sup>18</sup> (Bailey, Gopaul, Thompson, & Gunnoe, 2020)

issues to utilize the alternate documentation provisions in the 2018 Farm Bill to access conservation and forestry programs they need to care for and protect the land as these issues are resolved. Finally, as mentioned elsewhere, USDA must assure that NASS Land Tenure study is funded and implemented to help understand the degree to which land is held in undivided interests and absentee ownership and to serve as baseline - and a warning sign - to document how the incidence of these land tenure patterns changes as new policies are implemented.

In addition to properties that are left vulnerable to losses through unresolved heirs property issues, we have reports from our members of the incidence of parties seeking to take possession of land not actively managed by use of adverse possession. Thus, a party that uses land of a certain period of time has specific rights on property law in some states to claim that property without a sale. Thus, when property owners must work outside, their neighboring producers use the land and sometimes cut the timber or otherwise legally challenge the property rights of the rightful owners by their adverse possession and use of it.

Another concerning trend is the growing use by wide networks of entities who entice BIPOC producers in particular to sign a power of attorney appointing an outside party to manage their utilization of USDA services. These entities often charge a significant percentage of the benefits without informing the producers that USDA provides these services at no cost. There are multiple examples in states including Florida, Arkansas and New Mexico where such parties are charging between 10 and 30% of USDA benefits, including loans, in return for securing these benefits. The farmers are often not aware that qualified technical assistance is available from many trained and trusted community-based members to do the same thing without cost.

Timber Investment Management Organizations are among such entities reaching out to BIPOC landowners seeking to manage their land and timber assets for a cost. Any increase in payments for the ecological benefits forests can provide, or in their potential for new biomass facilities, pose potential risks for landowners who are not provided with a full understanding of how these tools work, and how benefits are accrued to owners vs. those who manage them for profit. USDA should assure that landowners have the information they need to assess these risks.

As we have noted elsewhere, USDA would be well advised instead to provide funds that will sustain the technical assistance programs offered by many community-based organizations who have helped thousands of Tribal and BIPOC farmers and ranchers navigate USDA programs at no cost. Such technical assistance programs should include support for consulting foresters to help navigate current and any new USDA programs and to access any local tax reductions relating to holding the land in forestry use.

USDA has not demonstrated it has the tools to understand how investments in ecological services, particularly if these create incentive or expand carbon markets, will impact the ownership and control of the land.

# **Renewable Energy Production, Including Solar and Wind, Raise Equity and Environmental Justice Concerns**

Our members have further informed us that the terms of contracts related to renewable energy including wind turbines, solar farms and easements for power lines and other energy related uses of farmland are also subject to abuse. In Oklahoma for example, Black and tribal farmers were told essentially that the wind seemed to blow around their properties and was therefore less valuable than the wind blowing elsewhere. Because virtually all these types of contracts (as well as gas and mineral leases) include non-disclosure agreements, producers are unable to compare terms with their neighbors and have no way of knowing if these are fair.

In Oklahoma, Texas and other southern states, farmers and rural residents have installed solar energy systems for their own use. However, if these systems are connected to power company grids, the companies charge the farmers and families for distributing the clean energy they produce.

We expect these predatory enterprises and forced sales of heirs properties to grow if USDA provides new investments in ecological services or promotes carbon markets. We urge USDA to develop a full understanding of the risks of these practices for all farmers, and particularly the imminent threat they pose to the land holdings of BIPOC communities. Moreover, USDA must, in consultation with Tribal governments and BIPOC communities, develop tools to identify and mitigate these threats to land tenure. This should include a new focus on ways to promote the development of succession plans by all farm families. USDA should also upgrade its power of attorney forms to require written disclosure by outside entities who require producers to pay them for services USDA provides without cost.

Any large-scale change in federal policies has the potential to create a new set of winners and losers. Without the NASS study on land tenure, USDA has no database to serve as a baseline to determine the impact of current trends and new policies on who controls the land and what impact such changes have on environmental justice and equity.

We also urge USDA to consider the role of education, research and community investment in rural regions. While the reorientation of transportation and energy systems bears significant consequences for rural communities, and especially for persistently poor communities and the tribal and BIPOC communities who live there, there is great opportunity for investment and development of highly skilled workforces. **Rural communities must be involved in the development of any new systems or reorientation.** Producers and rural communities are already very well versed in environmental science, economics and mechanical engineering. Further investment into rural regions starting with youth through high schools and community colleges will only improve development of alternative renewable energy sources and on farm technologies, while providing new job opportunities for a new generation of rural youth.

In order to phase out fuel-based systems and incentivize renewable electricity USDA must invest in innovative renewable solutions that engage agriculture and support agricultural communities. For example, vast research shows that hemp fiber, which is often composted or destroyed after harvest, is proven to outperform current battery technology with better energy capacity and storage. With sufficient investment, the cost to produce hemp electric batteries is likely far cheaper and less destructive than current battery production. Moreover, hemp producers have been able to invent numerous products from hemp, such as concrete and fiber, which processes emit much less greenhouse gas than traditional methods. USDA should consult with Tribal Governments and rural, community-based organizations and educational institutions on innovative ideas to guide investment into such technologies, also as a new basis for community economic development and jobs in the future. Such investments could help grow more smaller scale and more localized energy production to reorient energy distribution and increase the resilience of current systems with much greater benefits to rural communities.

### Addressing Catastrophic Wildfire Questions

The communities we serve stress the fact that healthy forests are valuable and complex ecosystems that are important to the health of our entire planet. It is important to consider their ecological value and the economic importance of protecting it.

Monoculture forest plantations featuring a single species grown as an economic product do not provide the same ecological benefits as natural forests. Tree planting on a massive scale cannot replace these forests. USDA should work with private landowners and other federal agencies to identify and take steps to protect the forests that are relatively healthy and already sequestering significant amounts of carbon. It should also promote research to detail the benefits of protecting forests primarily for that purpose. USDA should construct programs that incentivize that protection in a permanent and sustainable manner with benefits to tribal governments, private landowners including BIPOC forest landowners, and the forest and park users and communities that surround national forests and other federally held lands that include forests.

While wood is a valuable resource, more research on how to sustainably harvest timber, and on how to meet needs for wood, energy and fiber in ways that protect forests represent critical research topics worthy of USDA investments.

It is further important to note that catastrophic wildfires are occurring largely on federal and state land and often in the Western US. USDA is urged to consult with other federal departments and particularly the Interior Department, on the land management practices on federal land. Moreover, USDA must consult directly with Tribal Governments and BIPOC producers including ranchers from the historic land grant communities of New Mexico and Colorado who use or have historically held land on the status and issues related to allocation of grazing leases and other rights to use land. These communities possess a deep understanding of traditional methods to enhance ecologically based management of the land, and the role of grazing animals in protecting forest health.

### **Environmental Justice and Disadvantaged Communities Questions**

We have included numerous equity focused proposals in previous sections and in the recommendations that follow. We further stress the need for USDA to consult closely with Tribal governments as well as its community-based organizational partners on how to resolve the many historical and structural barriers that prevent Tribal and BIPOC producers from engaging with and attaining the same degree of support and benefits most

other farmers and ranchers receive from USDA. Even in the present day this sector of producers receives only a miniscule level of the support other producers depend upon.

In order to address this gap, we urge USDA to pilot and the US Congress establish a comprehensive USDA Equity and Access Program that supports and enables Tribal and BIPOC farmers and ranchers to secure land tenure and fair access to USDA programs and services, and to build and secure viable operations that also benefit and provide an economic base for the poor rural communities where many reside.

### A more holistic approach to filling gaps in programs and services would jumpstart opportunities for BIPOC farmers to survive and thrive. We will be sharing a comprehensive template for such a program, but essential elements include:

- Access to land ownership and secure land tenure A significant percentage of producers and aspiring producers we serve lack farm and tract numbers and the documentation required to acquire them, even if they are cultivating land that has been in the family for generations. A land access program should provide incentives, cost shares or other support to help families resolve heirs property issues, secure clear title to their land and secure and maintain a succession plan for the future of their farmer. This could include assistance to help heirs property owners secure a Power of Attorney agreement or a Tenant in Common agreement. Such instruments would allow and encourage family agreement on the use and management of the property but doesn't require them to deed the property over to one owner or encourage the use of partitions by one party to force a sale or transfer of the property.
- USDA should provide more options to work with a mentor farmer or otherwise substitute work on a family operation, as a farmworker, or farming experience outside the US in order to meet the 3-year requirement to qualify for beginning farm loans.
- Access to farm operating loans Producers recommend that USDA make available options for operating loans that defer the first payment for 24 months and provide interest rates reductions. These terms would allow them to build up the equity that many BIPOC producers lack due to the cumulative effect of discrimination. USDA should also seek clear authorities to implement standing disaster provisions that allow automatic deferral of principal payments during times of declared disasters and emergencies.
- We further strongly recommend that Congress remove the statutory requirement that FSA serve only as a lender of last resort so farmers can remain eligible for USDA loans even as they progress in building equity and experience.
- Provide support for new incentives and tools to help producers improve record keeping systems, general farm and financial management practices and meeting all regulatory requirements.
- Provide incentives for participation in cooperatives to market their products, and to farmers to serve as mentors to other producers.
- Ongoing support for a network of qualified technical assistance based in the communitybased entities that have developed the trust of producers to help them navigate the full suite

of farm, credit and conservation programs. These technical assistance providers should receive support to help producers access both FSA and NRCS systems. Producers are already noting that recently instituted requirements to address ecological practices and benefits require them to use different language to define their needs for assistance. It is imperative that they have trusted technical assistance to navigate these and other coming changes.

Under this initiative, producers would receive support and incentives (which could be constructed as tiered grants, cost share payments or a comprehensive loan with loan forgiveness for meeting requirements of each tier) combined with technical assistance provided directly to farmers and ranchers through community-based organizations that already serve them.

We understand that all of these recommendations do not directly address USDA's climate questions. However, in order to engage fully in the many conservation programs USDA already has, a significant percentage of BIPOC producers first need to meet eligibility requirements to access FSA before all the current and proposed programs will become available to them. Federal support for protection and care of the vulnerable land base they hold is, however, in the interest of their families, their communities, and our nation. Addressing these gaps is the first step to building racial equity and environmental justice.

### **Additional Equity Recommendations:**

- 1. USDA should immediately request funds from Congress to implement and complete the National Ag Statistics Survey of land ownership as a baseline to measure the impact of any payments for ecological services on land tenure, including changes in the incidence of land held in undivided interests and absentee ownership. The NASS Total Land Survey should be repeated within 5 years and once a decade thereafter with data collected on land ownership by race, gender and ethnicity, age of producer and other demographic and economic characteristics to the county level.
- 2. USDA should immediately implement the heirs property relending fund authorized in the 2018 Farm Bill and funded by Congress annually since to assure the required pilot projects are set in places with results ready to inform the next Farm Bill.
- 3. USDA should revisit how land tenure is reflected in its data systems. The categories of owner, renter and operator are insufficient, and the very large number of entities whose status is described as "unknown" in the payment system managed by FSA masks the degree to which land is held in undivided interests, in corporate or other forms of absentee ownership, and also the degree to which crop, grazing and forest land is managed by outside interests. Data on who actually controls land are essential to developing any long-term plan to mitigate the climate crisis.

- 4. USDA should promote the development of succession plans by all farm families, with support provided for development of such plans by BIPOC producers and their families.
- 5. FSA power of attorney forms should require outside entities to provide written disclosure to producers of the amounts of any payments they require to provide them with services USDA provides without cost.
- 6. USDA should also develop programs to support qualified technical assistance from trusted entities who already help producers and forest owners secure USDA program access and services at no cost to producers.
- 7. Carbon sequestration should be seen as an important but not the only factor in evaluating success. New investments should also be evaluated based on total ecological benefit and related factors including increases in overall resilience, in pollinator habitats, restoration of watersheds and water quality and disaster resilience.
- 8. Investments in climate resilience should be practice based. USDA should modify the EQIP and CSP programs to include a wider range of practices informed by traditional ecological knowledges and indigenous agriculture knowledges. These should include support for practices as well as new uses of the conservation reserve program that promote the continuous planting, saving, selecting and sorting of seeds over decades to assure they adapt to changing conditions. Set asides should be expanded to include tribal run projects and projects developed by traditional communities focused on increasing the ability of seeds and breeds to adapt to changing conditions. At the same time, USDA should consult with Tribal government and BIPOC communities to institute essential measures to protect the rights of tribal and other communities to retain control of these seeds and breeds.
- 9. USDA should increase incentives and reduce the amount of paperwork for BIPOC, limited resource and beginning producers in existing conservation programs. This should include eliminating costs shares and matching funds requirements, increasing minimum payments and utilizing payments for practices rather than for carbon sequestration.
- 10. USDA must also invest in providing sustained support to expand the essential network of technical assistance providers connected to the community-based organizations who have the capacity and experience to provide this essential hands-on assistance.

- 11. USDA and other federal agencies should ensure workplace protections for all farmworkers and food chain workers, including protections against sexual harassment and discrimination. USDA should work with other federal agencies to address heat stress. It should also institute immediate reduction of line speeds in poultry processing.
- 12. USDA must assure that any USDA Climate Policy and Rural Investment Advisory Board, or similar federal advisory committee established with the purpose of advising the Secretary on climate policy<sup>19</sup> include a critical mass of representation identified by Tribal Governments and from groups with documented experience representing socially disadvantaged producers and landowners including forest landowners.
- 13. USDA should engage career staff with deep familiarity and trusted relationships with Tribes and BIPOC communities in the development of effective policies, including the outreach, small farms and civil rights offices within NRCS, FSA, APHIS, NIFA, NASS and many other USDA agencies. They should restore the cross-agency collaborations among career staff that generated many effective policy ideas that have informed equity advances in federal law. They should also reinstitute the structures that allow such collaborations and restore ongoing partnerships with community-based partners who are delivering services at the field level.
- 14. The Farm Service Agency and NRCS applications for program benefits should include a question inquiring whether the producer experienced a climate change event within the last 18 months that impacted resources such as planting, harvesting, or marketing.

# Conclusion

In any transition in our food, agriculture, fiber and energy systems to address the climate crisis, it is of course essential that solutions benefit both the economy and ecology. In closing, we reflect that the terms ecology and economy both derive from the same root – the Greek word "oikos" which means household. Our efforts to restore a resilient household – one that sustains our planet and its people into the future – requires deep humility and the capacity to begin to know what we do not know. Our solutions require the humility to consult and respect tribal, indigenous and traditional ecological knowledges to inform and deepen our understanding of how we can make the equitable transition essential to the future of our planet and its people.

In our view, this starts with assuring that in the US and beyond, land and resources are reconnected with the persons and communities who know how to care for them, for the benefit

<sup>&</sup>lt;sup>19</sup> (Bonnie, Jones, & Harrell, 2020)

of all who live, work and depend on these systems. This requires a focus on secure land tenure, and a basic reorientation of systems from extraction to investment in true and durable resilience.

We appreciate this opportunity to share our insights and recommendations with you. We are most willing to answer any questions you may have and to offer any assistance on refining and implementing a vision that reorients our current food and agriculture systems to one that is resilient and just and equitable.

Submitted by

Rural Coalition, Washington, DC

and

National Groups ActionAid USA, Washington, DC Agroecology Research-Action Collective, Berkeley, CA Alianza Naciónal de Campesinas, Oxnard, CA American Sustainable Business Council, Washington, DC Campaign for Family Farms and the Environment, Washington, DC Caribbean Agroecology Institute, Burlington, VT Community Food and Justice Coalition, Oakland, CA Congregation of Our Lady of Charity of the Good Shepherd, U.S. Provinces, Silver Spring MD Family Farm Action Alliance Farm Aid, Cambridge, MA Farms to Grow, Inc., Oakland, CA Friends of the Earth, Washington, DC Government Information Watch, Silver Spring, MD LEAD for Pollinators, Inc., Akron, OH Hempstead Project Heart, Keshena, WI Institute for Agriculture and Trade Policy, Minneapolis, MN National Advocacy Center of the Sisters of the Good Shepherd, Silver Spring MD National Latino Farmers and Ranchers Trade Association, Washington, DC North Carolina Association of Black Lawyers Land Loss Prevention Project, Durham, NC Pesticide Action Network, Berkeley, CA Real Food Media, Minneapolis, MN Rural Development Leadership Network, New York, NY Slow Food USA, New York, NY

Regional Groups

21st Century Youth Leadership Movement, Eutaw, AL Alabama State Association of Cooperatives, Epes, AL American Indian Mothers Inc. DBA/Three Sisters Farm & Ranch C-op, Red Springs NC Black Farmers & Ranchers New Mexico, Jarales, NM Border Agricultural Workers Project, El Paso, Texas Church Women United in New York State, Rochester NY Community to Community Development, Bellingham, Washington Concerned Citizens of Tillery, NC Cottage House, Inc., Ariton, AL Dakota Rural Action, Brookings, SD Earth Action, Inc., Pensacola, FL Farmworker Association of Florida, Apopka, FL Friends of Family Farmers, Walterville, Oregon GoFarm, Golden, CO Heartwood, Tell City, IN Iowa Citizens for Community Improvement, Des Moines, IA Kansas Black Farmers Association, Nicodemus, KS La Mujer Obrera, El Paso, TX Land Stewardship Project, Minneapolis, MN Mississippi Association of Cooperatives, Jackson, MS Missouri Rural Crisis Center, Columbia, MI Northeast Sustainable Agriculture Working Group, Kingston, NY Oklahoma Association of Conservation Districts, Oklahoma City, OK Oklahoma Black Historical Research Project, OK Operation Spring Plant, Oxnard, CA Organización in California de Lideres Campesinas, Oxnard, CA Rural Advancement Fund of the National Sharecroppers Fund, Orangeburg, SC Grupo Amor, Homestead, FL SanArte Healing and Cultura Clinic, San Antonio, TX Society of Folk Arts & Culture, Eutaw, AL World Farmers, Lancaster, MA

### **Works Cited**

- Ayazi, H., & Elsheikh, E. (2015). The US Farm Bill: Corporate Power and Structural Racialization in the United States Food System. Berkeley, CA: UC Berkeley Haas Institute.
- Bailey, C., Gopaul, A., Thompson, R., & Gunnoe, A. (2020). Taking Goldschmidt to the Woods Timberland Ownership and Quality of Life in Alabama. *Rural Sociology*. 86.
- Bonnie, R., Jones, L., & Harrell, M. (2020). *Climate 21 Project Transition Memo: Department of Agriculture.* climate21.org.
- fagundes, C., Picciano, L., Willard, T., Mleczko, J., Schwier, S., Hall, F., . . . Graddy-Lovelace, G. (2019). Ecological costs of discrimination: racism, red cedar and resilience in farm bill conservation policy in Oklahoma. *Renewable Agriculture and Food Systems*.

- Johnson, M. K. (2019). *INDIGENOUS AGRICULTURE KNOWLEDGE: BARRIERS, INTEGRATION, POLICY, AND OUTREACH.* University of Arizona: A Dissertation Submitted to the Faculty of the SCHOOL OF NATURAL RESOURCES AND THE ENVIRONMENT in Partial Fulfillment of the Requirements for the Degree of DOCTOR OF PHILOSOPHY WITH A MAJOR IN NATURAL RESOURCES in the Graduate College.
- Ross, L., Mittal, A., Johnson, N., & Word, J. (2014). *Down on the Farm Wall Street: America's New Farmer*. Oakland: The Oakland Institute.
- Simms Hipp, J. L., & Givens, M. (n.d.). A VISION FOR NATIVE FOOD AND AGRICULTURE INFRASTRUCTURE REBUILDING AND RECOVERY. Native American Agriculture Fund.