FOOD SOLUTIONS NEW ENGLAND
ISSUE BRIEF

FROM EXTRACTION TO REGENERATION:

A JUST TRANSITION APPROACH TO FINANCING CLIMATE RESILIENCE IN THE FOOD SYSTEM

food solutions new england

From Extraction to Regeneration: A Just Transition approach to Financing Climate Resilience in the Food System

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In 2016, global leaders, seeking to define uses of nature that benefit both biodiversity and societal well-being, recognized the concept of 'nature-based solutions' (NbS). NbS are "actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits." NbS are supported by various financial strategies, including carbon markets, conservation models like REDD+, Natural Asset Companies (NACs), and Payment for Ecosystem Services. Along with their promises to protect, these approaches aim to extract value from nature by assigning monetary values to the ecological assets they produce such as carbon sequestration or biodiversity benefits. Stakeholders engaged in these solutions stem from government to industry to international organizations and nonprofits.

One nature-based solution aiming to reduce greenhouse gas (GHG) emissions from agriculture is regenerative agriculture.[1] Regenerative agriculture has the potential to increase soil organic carbon stocks, support better water quality, and protect biodiversity crucial to the planet's sustainability, and because of these possibilities, financial institutions and governments worldwide are turning their attention towards regenerative agriculture. Investment in regenerative transitions support farmers shifting towards practices that restore and enhance soil health, biodiversity, and ecosystem resilience, while also improving livelihoods. The approach emphasizes sustainable methods such as crop rotation, cover cropping, reduced tillage, organic, agroforestry, and holistic grazing. Philanthropists and asset managers are designing regenerative portfolios, propelled by calls at the Regenerative Food System Investment Forum (RFSI) that "regenerative agriculture is the biggest investment opportunity, ever." As a concrete example, Mad Capital announced a $50 million program to scale up regenerative organic transitions for farmers, with support from the Builder's Vision, Rockefeller Foundation, and others.

However, without proper safeguards, these initiatives could lead to adverse outcomes, particularly for smallholder farmers. While capital is necessary to transition agricultural practices to more sustainable forms of land management, concerns arise that investment by corporate banks and funds could lead to consolidation of power, wealth, and control over farmland and its ecological assets. Some investment firms have even been accused of 'greenwashing' when they use nature-centric terms like "nature-based" or "ecosystem services" to describe efforts to monetize aspects of agroecological systems. To address these concerns, with the aim of determining whether this surge could promote justice or deepen inequities within the agricultural system, a critical approach to analyzing the emerging investment landscape in agriculture must be taken.

Drawing from Movement Generation's strategic framework for a Just Transition, we incorporate the concept of 'regenerative economy' and apply it to food systems. This represents a shift from an extractive economy to one that prioritizes ecological restoration, community resilience, and

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[1] Regenerative agriculture is an approach that extends beyond organic farming practices, emphasizing the creation of positive synergies between agricultural activities and the natural environment. While it can operate within or outside organic certification systems, regenerative agriculture lacks uniform standards and is often associated with efforts to address climate change through agricultural practices. This flexibility, while allowing for broader adoption, also raises concerns about potential co-optation in larger markets. (See Saunders and Hansen-Kuhn (2020) in the IATP Series Revisiting Crisis by Design.)

social equity. In this context, governance, not finance, is crucial in transitioning the economy from resource-depleting industrial practices to those that rebuild soil health, promote biodiversity, and create fair livelihoods.

Building upon the issue brief, 'A Just Transition in Agriculture and Soil Health for Regional Climate Resilience,' this issue brief advocates for building climate-resilient food systems in the New England region through a just transition, aiming to align scalable financial solutions with regional food system approaches that are grounded in the needs and wants of communities. We address two primary objectives:

1. To analyze the current landscape of financial and governmental support for climate resilience in food systems.
2. To develop a framework for building climate-resilient food systems through a just transition.

To do so, we draw from local-scale perspectives, sharing dialogues and discussions from two multi-stakeholder events hosted by Food Solutions New England (FSNE) and the Northeast Healthy Soil Network (NEHSN). We begin by examining how a largely self-regulated financial sector, historically entrenched in practices that exacerbate environmental and social challenges, might be capable of financing a just transition while highlighting several emerging programs that show promise. Then, we identify community-led solutions driven by shared governance models emerging in the Northeast. We demonstrate that investments in regional food systems (as opposed to scaling regenerative agriculture at any cost) will better support the creation of more sustainable and resilient food systems. Based on these insights, we recommend ways in which the financial sector might create the conditions necessary for more just transitions.

Barriers to Building Resilience from Field to Farm Gate

Family farms, which make up about 98% of all farms, face multiple financial, social, and environmental obstacles, preventing many from even considering a shift toward more regenerative agriculture practices. As per the 2024 USDA Farm Sector Income Forecast, farm sector income has steadily declined since 2022, with a projected decrease of 25.5% anticipated for 2024. Out of family farms, 88% are small farms with a gross cash income of less than $350,000. These farms often rely on off-farm income to support their households. Large-scale family farms, which make-up a smaller percentage, tend to be more economically stable. In 2022, the median household income for large-scale farm operators was $505,833, primarily from farming. Additionally, the National Farm Family Coalition states that current farmer debt loads are “unprecedented” due to compounding crises stemming from climate events and international market disruptions, and are forecasted to increase by 5% in 2024. This challenge, coupled with their limited ability to negotiate pay prices or contract terms when selling to corporations, commodity markets, or even local retailers often leaves farmers who do wish to shift their operations at the whims of those who have capital. In short, family farms need ongoing support to navigate economic pressures and transition to more resilient practices. However, they often find few low-cost sources of cash and grim prospects for increasing profits margins in an increasingly consolidated marketplace.

Farms that have managed to make the transition to regenerative practices have highlighted the

complex challenges that small regenerative farms face in financing transitions, even as they strive to contribute positively to the local food system and environmental sustainability (Box 1).

Risk management programs, especially through the USDA's Farm Service Agency program, like most agricultural loan products, are designed for larger-scale commodity crops and not those of small-scale farmers incorporating organic and regenerative practices. Meanwhile, crop insurance claims rose from $3 billion in 2002 to $19 billion in 2023. While the Farm Service Agency's (FSA) safety nets are designed to support farms with "Good Farming Practices (GFP)," farmers who shift to climate-smart and regenerative practices can become ineligible for FSA insurance programs because practices such as intercropping, typically adopted by regenerative farmers, are not qualified as GFP. Many small farms in the Northeast use transplants which are also not covered by FSA programs leaving the complicated Whole Farm Revenue Insurance program as the only viable option. In addition, many FSA loans require purchasing FSA insurance programs that are not well designed for small farms in New England leaving the region undersubscribed in these programs compared to their Midwestern counterparts. Small farms in New England were heavily impacted by flooding in the summer of 2023, but few received FSA support for their

BOX 1: KEY CHALLENGES OF REGENERATIVE FARMS

The Farm at April Hill, managed by Greenagers in South Egremont, Massachusetts, has faced several barriers in its efforts to implement and sustain regenerative practices:

1. Financial Constraints

As a small-scale operation focusing on hand-scale and low-till agricultural systems, the farm has struggled to secure sufficient funding. This has impacted their ability to invest in necessary infrastructure and expand their operations.

2. Market Access

Smaller farms often face challenges in accessing larger markets. The Farm distributes its produce within the local community, which can limit their revenue potential compared to larger farms that have access to broader markets. Premiums have yet to be realized to scale in regenerative markets.

3. Labor and Training

The farm employs local youth as Farm Crew members, providing them with hands-on experience in sustainable farming. While this is beneficial for community engagement and education, it also means that the farm relies heavily on a workforce that is still learning, which can slow down productivity and increase training costs.

4. Resource Limitations

Implementing regenerative practices such as rotational grazing and maintaining soil health with minimal external inputs requires significant knowledge and resources. The farm's commitment to these practices means they often need to find creative solutions to resource limitations.

claims. FSA reforms are being led by Administrator Zach Ducheneaux and locally advocated for by farmer advocacy groups such as the Northeast Organic Farming Association chapters. Yet, currently much of the financial risk of transitioning a farm operation towards more sustainable, regenerative practices is put on the farmers.

A Typology of Investments Supporting Regenerative Transitions

There is a diverse landscape of investments driving regenerative transitions in agriculture and land management. By understanding the range of funding mechanisms and policy initiatives, from public sector investments to private market approaches and philanthropic efforts, one can better assess the current investment landscape and identify opportunities for further supporting and accelerating regenerative transitions.

Public investments

Across the landscape of funds for resilient agriculture transitions, the public sector is making the most significant investments to date, de-risking the space for private investment. Several substantial public funding and policy initiatives are influencing the trajectory of the USDA's climate strategy and funding, with a main goal of building more climate smart agriculture, an approach being pursued to guide the transformation of agri-food systems towards green and climate-resilient practices. Among these investments are the Climate Smart Commodities Grants, Growing Climate Solutions Act, regional supply chain programs including USDA Regional Food Business Centers and Resilient Food Systems Infrastructure Program , and the Inflation Reduction Act (IRA) of 2022.

Inflation Reduction Act of 2022

The Inflation Reduction Act (IRA), signed into law on August 16, 2022, stands out as the most substantial public investment in climate action, allocating $369 billion to combat the climate crisis and reduce carbon emissions by 40% by 2030. Within this historic legislation, nearly $40 billion is earmarked for the agriculture sector. Specifically, the IRA allocates $19.5 billion over five years for climate-smart agriculture and forestry (CSAF) activities aimed at mitigating GHG emissions and sequestering carbon. Along with significant funding for USDA conservation programs, it includes support for renewable energy infrastructure on farms and in rural communities. Additionally, the Act provides $2.2 billion in funding to compensate farmers previously subjected to discrimination within USDA programs, $3.1 billion in loan assistance for farmers in serious financial distress, and various other provisions to support agricultural education, equity, and technical assistance in the sector.

Partnerships for Climate Smart Commodities

With a total of $13.1 billion awarded in 2022 across 141 projects, the objective of the Climate Smart Commodities grants is to facilitate the shift to climate-smart agriculture. Notably, $2.8 billion supported 70 large projects, and $325 million was allocated for investment in 71 second round projects. These grants serve to mitigate risks of transitioning agribusiness' commodity supply chains as well as the scaling up of GHG mitigation programs. Major corporations such as Cargill, Tyson, Walmart, and Pepsico, received over $490 million as leading Climate Smart Commodities partners. This prompted critics to decry the program as "taxpayer-funded subsidies to Big Ag," emphasizing concerns about transparency and project data.

Growing Climate Solutions Act

The Growing Climate Solutions Act (GCSA) enacted several legislative directives designed to build traction for the adoption of carbon markets. Requirements included establishing a voluntary program registry for Greenhouse Gas Technical Assistance Providers and Third-Party Verifiers.

The USDA creation of the registry is an attempt to mitigate allegations of fraud and land grabbing, with the ultimate goal of providing standards and increasing integrity in these markets. A key deliverable of the Act is the production of the Assessment on Agriculture and Forestry in Carbon Markets, a report that essentially validates carbon markets as a means to reduce GHGes for corporations and generate additional revenue for farmers, foresters, and landowners. The Lexicon and Hudson Carbon highlighted their co-creation of the Ecological Benefits Framework during the FSNE USDA Investments Policy Solution webinar, as a Measurement Verification and Reporting framework that would need to meet the requirements of the Carbon Market Third-Party Verifiers registry.

Regional Supply Chain Programs

Regional, community-led programs support infrastructure vital for connecting smaller family farms to regional or newly established markets, developing new markets, or enabling farmers to establish vertically integrated businesses as an alternative to commodity or wholesale markets. The USDA's middle-of-the-supply chain, state-led Resilient Food System Infrastructure (RFSI) program and the 2023 Organic Market Development Program are designed to revitalize processing infrastructure and expand markets for new and existing organic (and non-organic) products. Complementing these efforts, the USDA Regional Food Business Centers provide localized assistance to small- and mid-sized producers and food businesses, offering technical support and capacity building to help them access local and regional supply chains and overcome barriers to market entry, with a particular focus on underserved farmers, ranchers, and food businesses.

However, regional programs are oversubscribed and underfunded, with only $2 million allocated for Vermont RFSI projects and limited to the current fiscal year, as an example in New England. Moreover, formidable barriers persist in applying for these funds including stringent eligibility criteria, limited capacity, and expertise required for drafting federal grant proposals, as well as challenges in accessing additional capital necessary to meet even reduced matching requirements for underserved populations. Securing permanence for such middle infrastructure programs could encourage investment in the supply chain and expand access to farmers rebuilding local processing, aggregation and distribution infrastructure.

The majority of public investment, thus, is creating a landscape conducive to the development of carbon markets as well as the prioritization of investments aimed at GHG mitigation of large corporations and commodities markets. This landscape includes: aligning existing or new programs and resources, technical assistance via the USDA's Natural Resources Conservation Service (NRCS), support for forest landowners, USDA Climate Hubs, and the USDA's Office of Environmental Markets. During the FSNE webinar, Abbie Corse of Corse Dairy Farm in Vermont critiqued this model and stressed the need for grassroots-led and community resources that bolster farmers' knowledge, build their relationships with the land they steward, and reward them for their intentional environmental stewardship. In her view, building a landscape for carbon markets bolsters the private sector, while undermining small scale, regional food systems.

Nature-Based Solutions Markets

The investment landscape for NbS is vast, diverse, and holds potentially great rewards for investors and great risk to farmers and other smallholders enrolling in these various programs. A recent Task Force on Nature Markets report reveals the emerging sector could be equivalent in size to the world's third largest economy. Nature-based markets, including agriculture, voluntary carbon credits, conservation projects, and nature-based solutions for carbon sequestration, could be worth more than $7 trillion a year, making them equivalent to 8.6% of global GDP. The financial solutions being developed in this landscape are many, but we'll highlight three: payments for ecosystem services, carbon markets, and natural asset companies and trusts.

- Payment for Ecosystem Services is an incentive-based approach on a landscape-level that places economic value on ecosystem services and provides payments to the people that provide these services. The term "ecosystem services" refers to the diverse benefits that are derived from the natural environment including supply of food, water and timber (provisioning services); the regulation of air quality, climate and flood risk (regulating services); opportunities for recreation, tourism and education (cultural services); and essential underlying functions such as soil formation and nutrient cycling (supporting services). These arrangements can include subsidies or market payments for services such as watershed protection, forest conservation, carbon sequestration, and landscape beauty.

- Carbon Markets are trading systems in which carbon credits or offsets are sold. The money should be used to fund action somewhere in the world that removes the same amount of carbon out of the air that is being produced by the buyer, or to prevent carbon emissions. Carbon credits generally represent a reduction in GHG emissions, whereas carbon offsets can represent GHG removal. Carbon credits are typically associated with cap-and-trade systems in which governments limit the carbon emissions that specific industries can release. Companies exceeding their allowances must buy new credits to increase their cap. On the other hand, carbon offsets are traded on the voluntary market and include carbon sequestering efforts, renewable energy, and other projects that remove GHGses from the atmosphere.

- Natural Asset Companies (NACs) and Trusts are a type of enterprise designed to manage and monetize the ecological value of natural assets. NACs represent a new approach to integrating environmental sustainability with economic markets by: assigning financial value

> to ecosystem services (eg. carbon sequestration, water purification, biodiversity conservation); holding rights to the productivity and ecological benefits of natural assets like forests, marine areas, and farmland; and managing these assets to enhance their ecological value. A NAC's equity represents a new class of security designed to incorporate the value of nature and the vital ecosystem services nature produces into the enterprise value of the company. These companies hold the rights to the productivity and ecological benefits of natural assets like forests, marine areas, and farmland. They manage these assets to enhance their ecological value. NACs can be publicly traded on stock exchanges, allowing investors to support and benefit from sustainable management practices. Their value is based on the ecosystem services they provide, rather than resource extraction. This includes benefits like carbon storage, water filtration, and habitat preservation. NACs are a voluntary, market-based solution to incorporate nature's value into the enterprise value of companies.

Despite the great promise of investment in agriculture NbSes to support shifts towards more resilient, regenerative farming systems, there are concerns about tradeoffs, especially for farmers. Now, proponents of NbS advocate for the adoption of NACs as an alternative to investments traditionally made by the private banking and insurance sector in the fossil fuel industry, which is widely recognized for its significant contribution to fueling biodiversity loss and the climate crisis. But in January 2024, the New York Stock Exchange (NYSE) withdrew its request to establish NACs. The Treasury Office of Utah declared NACs as "one of the greatest threats to rural communities in the history of our country." Echoing similar concerns, a conservative ranching publication warns of the dangers posed by NACs controlling ecological rights, potentially under the influence of special interest groups. There are concerns that relying too heavily on private organizations to dictate sustainability rules for land-based production, rather than through the democratic processes of local governments, could lead to negative consequences including:

- Property rights being transferred away from local stewards to financial interests like hedge funds, inhibiting stewards' ability to maintain their social and ecological connections to the land.
- Natural resources being commodified for private profit rather than preserved for the public good.
- A lack of public oversight and scrutiny of the relationships between conservation organizations and financial interests.

In the North Country of New Hampshire, the Connecticut Headwaters property, protected under a federally funded conservation easement for timber harvesting and recreation, was acquired by Aurora Sustainable Lands to generate carbon credits. Established in 2021, Aurora, formerly known as Blue Source Sustainable Forests Company, operates as a joint venture between Anew Climate and a group of equity investors led by Oak Hill Advisors, including AB CarVal, EIG, and GenZero, among other prominent financial sponsors. The acquisition has left elected officials, local municipalities, and foresters scrambling, as the corporation has terminated timber contracts, stripping foresters of their livelihoods and threatening to erode more than half of the communities' tax base. Despite the project's potential GHG reductions, the program faces challenges in ensuring equitable civic participation and fair distribution of benefits to local communities.

In 2020 in Vermont, Ambata Capital, a private, international investment firm sought to create an Ecological Asset Trust pilot program that would eventually become a Natural Asset Company on the New York Stock Exchange (once approved by the SEC). Their work would support the creation of a regional food network called Vermont's Regenerative Food Network (RFN). With Ambata's capital over three years, RFN opened a local processing facility, established a network of regenerative farms, and laid out plans for marketing their products to regional buyers. Yet, difficulties attracting investors and delays in the NYSE establishing a natural asset class prompted Ambata's swift divestment, leaving local stakeholders to bear the consequences and costs.

Some of the red flags (Box 2) of NbS's are being raised by local farmer advocates. Jennifer Byrne of the White River Conservation District and Caroline Gordon of Rural Vermont argued that initiatives that force a shift in land management toward conservation, like the 30x30 Conservation Initiative[2], could unintentionally facilitate a transfer of land rights to third parties in a way that runs counter to conservation principles and the public trust. Furthermore, the speakers at the NEHSN panel expressed concerns about the potential over reliance on controversial carbon markets to finance conservation efforts, which could lead to the commodification of nature without delivering real benefits to farmers or the environment. Programs that are highly transparent about pricing, liability, profit to each party, contract terms, data management and governance, have the potential for being safer bets for farmers, the community and investors.

However, on this last point, it is important to highlight that many of the platforms being designed to enroll farmers in carbon programs are also profiting from the commodification of farmer's data, which can lead to data consolidation, loss of control over data, economic disadvantages, and inequitable distribution of profits. Dorn Cox, a founder of Open Team, spoke about this during the FSNE USDA Investments Policy Solution webinar, emphasizing the need to build trust amongst stakeholders regarding data management processes through the alignment of business models, social contracts, and legal and technical requirements. Data governance, including determining what data are collected or not collected, often prioritizes satisfying funders' needs and national agendas, while also enabling data platforms to aggregate and profit from farmer information without proper compensation or consideration of the data's usefulness or cultural appropriateness for the farmers themselves.

Aside from the smaller firms that collaborate at the regional scale, most financial institutions remain aloof to farmers' real financial constraints and (at times) detrimental to the continuity of sustainable farming. This illustrates the need for a slower approach to financing regenerative transitions, one that empowers farmers to determine and design financial models to bolster and support their long-term goals.

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[2] The 30x30 Conservation Initiative is a response to President Biden's executive order to conserve 30% of our nation's lands and waters by 2030. In June 2023, Vermont Governor Phil Scott brought forward the The Community Resilience and Biodiversity Protection Act, which would permanently conserve 30% of all land in Vermont by 2030 and 50% of all land by 2050. Scott's bill incorporates ecological and biological preservation as well as regenerative agriculture and forestry lands.

BOX 2: RED FLAGS IN CLIMATE FINANCIAL SOLUTIONS

- Lack of transparency and regulation of Nature-based Solutions markets.
- Confusing risk and profit distribution between program managers and farmer stewards.
- Regulatory complexity.
- Risk provisions for buyers and traders shifting liability and risk to the farmer if contract targets are not met.
- Multiple and diverse contract provisions from program to program.
- Binding confidentiality clauses prohibiting public disclosure or legal action.
- Predatory farmer recruiting processes.
- Little evaluation of socioeconomic outcomes or on other land use activities (leakage).
- Reduces the need for real action and conservation measures from the biggest polluters.
- Perpetuates an inequality-driven, investor-led model that commodifies the protection of nature.
- Encourages land grabbing by non-local investors and corporations resulting in the loss of livelihood for local communities.

Corporate Supply Chains

Corporations, in response to consumer, investor, and corporate board pressure are seeking ways to support more sustainable practices on farms within their supply chains. These efforts address Scope 3 emissions, which stem from activities not directly owned or controlled by the corporation, but that are indirectly affected by its operations throughout the supply chain, including upstream and downstream activities. In the case of agrifood companies like General Mills and Organic Valley, reducing their GHG emissions across farms sourced by their products supports reductions in Scope 3 emissions. Because this is such a large percentage of total corporate emissions, there is a great deal of investment, marketing, and focus on reducing Scope 3, which impacts farmers' production practices, but arguably not their bottom lines. Advocates argue that integrating Environmental, Social, and Governance (ESG) criteria, described as "stakeholder capitalism," enhances food security and reduces environmental impact in agricultural supply chains.

However, the SEC's ruling on Scope 3 emissions reduction efforts in March 2024, citing compliance costs and data reliability concerns, raises doubts among climate advocates about the sincerity of corporate climate targets, particularly in the food and agriculture sector. This move reinforces accusations of greenwashing by critics, as Scope 3 emissions are crucial performance indicators for ESG measures in corporate supply chains.

During the NEHSN Symposium, corporate supply consultant Gina Nagel further elaborated on the challenges faced by corporate supply chains when sourcing from regenerative farmers employing practices conducive to reducing their Scope 3 emissions. A key issue is the mismatch between corporate efficiency goals and the needs of regenerative farmers. Nagel spoke about this mismatch in relation to scalability, volume management, and maximizing the utilization of whole carcasses by meat processors to minimize waste and enhance value. The demands of larger companies (even those aiming to be 'regenerative' like Applegate or 4PFoods) emphasize consistency in scale and uniformity of product instead of availability based on external (ecological) conditions of producers. Consequently, the development of regional processing facilities (vastly absent across the Northeast) and supply chains becomes imperative to accommodate sourcing from smaller-scale, organic and regenerative, or climate-smart farms. However, this "missing middle" development is not happening at a scale or speed that is needed.

Investing in sustainable practices ensures long-term viability, reduces risks, and enhances transparency and trust. To this end, corporations have a responsibility to defray the costs of climate mitigation practices for farmers in their supply chains due to moral obligations, economic sustainability, and accountability. Additionally, a specific tax on corporations to fund government grants can ensure more equitable and efficient distribution of resources, providing stable funding and allowing for strategic, long-term planning. This approach promotes environmental sustainability, public health, and social welfare, addressing disparities and supporting small and marginalized farmers more effectively than corporate-led ESG programs alone.

Philanthropy

There is growing scrutiny over the nonprofit sector's ability to shift dynamics in the food systems as well. Philanthropy is a complex, structured approach to funding charitable activities, often characterized by large-scale organizations with complex bureaucracies. This model typically involves significant financial resources, professional staff, and strategic initiatives aimed at addressing social issues. While it can lead to impactful programs, it may also be criticized for being top-down, prioritizing donor interests, and creating dependency rather than empowering communities. This model often mirrors corporate practices in its operations, emphasizing efficiency, scalability, and measurable outcomes. Some have called this model of philanthropy the non-profit industrial complex (NPIC).

The NPIC has received intense criticism in recent years for using philanthropy as a tax shelter for generational wealth accumulation, perpetuating capitalist interests, setting up nonprofits to monitor and control social justice movements, and encouraging conformity to capitalist structures. Foundations, under the guise of doing good for society, are required by federal law to give away 5% of their assets annually, yet the remaining 95% of tax-deductible funds may be invested in the stock market to support further wealth accumulation. Moreover, wealthy individuals often control decisions about the direction of and motives of foundation spending. As a result, many nonprofits are beholden to the decisional processes of a small number of people, reducing their ability to work democratically and in ways that challenge systemic inequities. So, while foundation spending has the potential to shift policy, de-risk investment for venture capitalists, and transform the shape of our food system, those engaging in this work with sincerity are few.

To shift philanthropic capital away from extractive and unequal systems requires a paradigm shift towards a post-capitalist model. Philanthropists operating within a post-capitalist paradigm advocate for moving away from the non-profit industrial model and reforming charitable contribution governance and allocation.

Innovative foundation leaders are starting to acknowledge the extractive origins of their wealth and are supporting projects that foster social capital, shared governance, and equitable access, especially for underserved populations. Abandoning traditional charity, Lankelly Chase redistributed funds to communities and organizations seen as better stewards, while acknowledging that how they accumulated their wealth was based on extractive models of colonialism. There are alternative models of philanthropy emerging funding projects in the northeast such as Earth Regeneration Fund, Kinship Earth Flow Fund, and Co-Creating Funding Ecosystems for Regeneration (CoFundEco) that use a decentralized approach to flow resources through relational structures in bioregions. Regenerative funding governance, a term used by Ben Roberts of CoFundEco, is viewed as essential social infrastructure needed to ensure regenerative outcomes are achieved at systemic levels. “We’re inspired by the possibility that the process of gathering and allocating funding can shift from being an extractive to a regenerative one for all participants and that this is also the best way to support regenerative (and) transformational outcomes from the work being funded.” Since CoFundEco’s launch in June

2023, Roberts, who lives in Connecticut, has co-stewarded a growing community that spans the globe, with participants spanning from New England to Africa and the Middle East, as illustrated on the public map of their ecosystem.

Such initiatives offer an alternative role for philanthropy, enabling them to experiment with new models of governance. This contrasts with two prevalent approaches in philanthropy: de-risking private investment, which fails to alter the current power dynamics, and centralized, bureaucratic processes that create access barriers and lack of input from those directly engaged in and impacted by the work. By decentralizing the grant-making process, these new funding governance models, are delegating decision-making authority to community members who are actively and most affected, thereby addressing inequities and power imbalances. It recognizes that local voices, rather than funders, are more likely to possess the best solutions and more importantly trust they are capable of implementing thus not requiring onerous reporting requirements.

Emerging Opportunities in Regenerative Finance to Support a Just Transition

Access to capital remains a critical, yet elusive, leverage point for building resilient and equitable food systems. Despite the blossoming interest in nature-based solutions, there remains a $711 billion financing gap to reach specific Rio targets. According to World Wildlife Federation, "The overwhelming majority of capital allocated to climate and nature is directed toward energy, transport and infrastructure - food systems receive only 4%. Underinvestment in agriculture, especially in the transition of global food systems toward regenerative and nature-positive production practices, stands out given the sector's profound impact on nature. Agricultural production and food systems are the main drivers of biodiversity loss, deforestation, conversion of natural habitats, and topsoil loss. They consume 70% of freshwater and generate one-third of global GHG emissions."

While conventional financing often falls short in supporting regenerative agriculture, innovative approaches are emerging to bridge the gap between farmers' needs and available capital (Box 3). Regenerative-focused funds and alternative banking models offer promising pathways for sustainable agriculture, pioneering a shift from extractive capital models to a more regenerative investment paradigm in the near term. Mutual banks, like Walden Mutual, led by founder Charley Cummings, advocate for mutual banking principles that prioritize long-term community impact over short-term profits, provide a local alternative to corporate bank products, and create an opportunity for consumers to invest their dollars in local food system projects. Mad Capital provides innovative loan terms for a broader array of operation needs for transitioning farm funding while equity funds like Terra Regenerative Capital brings equity to farmer-founded projects focused on the regional scale such as Tree Range Farms and Timeless Seeds Inc.

Regulatory measures aimed at addressing the creation of money upfront within banking systems can bolster philanthropic endeavors and economic opportunities, thereby promoting a more level playing field. The role of banking needs to be redesigned to local forms of governance like public banking initiatives versus global corporation banks.

BOX 3: INNOVATIVE FINANCING MODELS

Financing Models	Operational Impact
Mad Capital provides specialized, patient capital tailored specifically for farmers transitioning to regenerative organic practices.	→ Mad Capital has attracted commitments from notable foundations and investors, including Builders Vision, The Rockefeller Foundation, and the Schmidt Family Foundation, among others.
Slow Money aims to redirect capital towards local food systems by connecting investors with opportunities in their communities.	→ Slow Money is hosting "A Call to Farms – a public conversation about food, money, community and peace" in Providence, Rhode Island.
Terra Regenerative Capital invests in middle-of-the-supply-chain infrastructure,	→ Terra Regenerative Capital supports Tree Range Farms, a silvopasture model for poultry and nut production.
Public Banks, like Bank of North Dakota, expands farmers' access to credit, providing long-term, low-interest credit options.	→ Massachusetts Public Banking Act (H.975) enables financing for land purchases by working with municipalities or land trusts and through participation loans alongside community banks or credit unions.
Walden Mutual Bank, led by Charley Cummings, advocates for mutual banking principles.	→ Walden Mutual offers local alternatives for consumers to invest in food system projects in New England and New York.
Kinship Earth Flow Fund, Bioregional Finance Facilities of BioFi, Bloom Network, and Earth Regeneration Fund	→ These emerging models work outside the dominant system to employ decentralized governance models to move resources including money, knowledge, and tools from highly concentrated pools of wealth and power to flow directly to the people and communities stewarding the land.

Originating in North Dakota in 1919, the state public bank was established to counter foreclosures by conventional banks on farmers. Efforts such as the Massachusetts Public Banking Act (H.975) underscore ongoing attempts to institutionalize public banking solutions and combat inequalities perpetuated by corporate banking in food systems. Expanding public banking initiatives, as an alternative to corporate banking and private investments, can address finance barriers for smallholding and underserved farmers and facilitate divestment from extractive funds, such as those linked to fossil fuels, towards locally supported funds, presents a viable avenue for redirecting financial resources toward community empowerment.

These initiatives seek outcomes beyond mere financial returns, challenging the status quo by prioritizing long-term community impact. While private investment remains crucial for funding privately owned businesses and brands across all scales, the role of large corporate investment funds in the funding of public land in communities worldwide should be carefully considered and balanced with local interests and needs.

Integrated Solutions for Resilient Regional Food Systems

The challenges facing our food systems—from climate change to economic inequity—demand an integrated, systemic response rooted in regional frameworks and centered on equity. Addressing the historical marginalization of certain communities in agriculture must be at the forefront of our efforts to transform the food system. We propose implementing programs and policy shifts specifically designed for small-scale and minority farmers within regional food systems. This includes supporting food justice initiatives that address regional inequities and enacting zoning regulations to limit corporate takeover of agricultural lands.

This transformation calls for democratizing, decentralizing, and diversifying economic activity while redistributing resources and power, with a particular focus on empowering historically underserved communities. This approach requires analyzing and reimagining access to capital, nature-based solutions, philanthropy, and corporate responsibility through an equity lens, revealing a complex landscape that necessitates a fundamental shift towards a regenerative and just economy. By embracing the principles of a regenerative economy, centering community and grassroots solutions, and consistently prioritizing equity, we can create a nourishing food system that addresses long-standing inequities and serves all members of society.

Rebuilding regional food systems offers a comprehensive and equitable approach that integrates multiple benefits for all communities and the environment. This strategy boosts local economies, enhances food security, reduces environmental impact, and fosters stronger consumer-producer connections, all while prioritizing the needs and voices of marginalized groups. The following integrated solutions are designed with this equity-centered approach in mind, aiming to create lasting, positive change in our regional food systems.

Inequitable access to capital and resources has long been a barrier for many farmers, particularly those from underserved communities. To tackle this, we propose ensuring equitable distribution of 'climate smart' transitions funding, with an emphasis on community-led programs. This should be coupled with structuring investments to provide direct equity, profit-sharing, and cooperative models that ensure mutual benefit within regional contexts.

The lack of infrastructure in the "missing middle" of regional food systems hinders their development and resilience. Addressing this requires targeted investments to strengthen these crucial links, supporting local food markets that prioritize small-scale and minority producers. We can build upon and expand existing initiatives like the USDA Regional Food Systems Partnership program and Regional Food Business Centers, and the Community Development Block Program of the U.S. Department of Housing and Urban Development, enhancing their funding and reach to provide more substantial support for regional food system coordination, development, and technical assistance.

Additionally, we should encourage the adoption and scaling of innovative financing models. These could include blended funding structures with first-loss pools, public banking initiatives that expand credit access for farmers, and impact investment funds focused on the "missing middle" of regenerative agriculture supply chains and new models of financing emerging to build more equity through alternative governing structures. By leveraging these diverse approaches, we can create a robust ecosystem of support for the critical infrastructure needed in regional food systems, ensuring investments align with local community needs and values.

As we navigate the emerging landscape of ecosystem services payments and carbon markets, we must address the inadequate oversight and inequitable governance structures that have allowed for the consolidation of power in our food systems. To counter this, we advocate for a multi-faceted approach. We must prioritize initiatives and solutions that prioritize transparency, regulation, and equity ensuring they are rooted in local empowerment with robust governance and fair profit-sharing that keeps benefits within regional communities. This should be coupled with implementing comprehensive, regularly updated antitrust laws to support regional food system resilience and prevent the transfer of ecological asset ownership to non-local and privately held domains. Additionally, promoting land trusts and agricultural cooperatives within regional contexts will help maintain local control and benefit. Finally, establishing dedicated agencies to monitor compliance with anti-corporate farming laws and ensure NBSs are implemented ethically and equitably is crucial. By integrating these strategies, we can safeguard against potential exploitation, support regional food system resilience, and ensure that the benefits of ecological stewardship remain within local communities.

Current models of philanthropy and corporate responsibility often fall short in truly empowering communities. We advocate for evolving these models to prioritize genuine support for regenerative, organic, and agroecological practices within regional food systems. Within the prevailing system, the patient capital and flexible terms provided by Terra Regenerative Capital and Mad Capital, tailored for farmers transitioning to regenerative organic practices, illustrate how financial mechanisms are evolving to support agricultural enterprises and food businesses during these transition periods, as well as the necessary enabling infrastructure. Both funds have been instrumental in supporting leaders within the regenerative organic sector. However, these approaches could also be interpreted as mechanisms for controlling capital and ownership, reflecting more of an adjustment or reformative approach to regenerative finance rather than a transformative one. These examples illustrate how investors can go beyond traditional financing, but may not fundamentally address systemic issues. These funds, despite their more accommodating terms, do not fundamentally change the conditions and systemic issues that

contribute to wealth extraction from our communities and food systems. Nascent models in alignment with just transition principles are emerging and include flow funding and bioregional finance facilities. The Earth Regeneration Fund exemplifies this shift by supporting bioregionalism, which emphasizes local capacity building and ecological stewardship. Such initiatives are attempting to offer alternatives to traditional forms of finance and NbS, drive systemic change, and create a robust support system for regenerative agriculture, ensuring that investments produce lasting positive change in regional food systems.

Data rights and governance present another critical issue. To address this, we propose implementing robust data governance policies and farmer-controlled data systems at the regional level. Katharine Pistor recommends that there lies an opportunity to provide "data producers a claim to the economic returns not on their individual data, but on the database in a prorated fashion." Additionally, Pistor advocates for treating data producers as joint-venturers, thereby enabling them to benefit from the monetization of their data rather than merely holding ownership of their data. This approach, if implemented, would further advance the impact of projects like Open Team, championed by Dorn Cox, by going beyond mere attribution to farmers. By considering them joint-venturers, they are entitled to a share of the profits generated by the corporations and project developers using data contributed to platforms on an aggregated level. Additionally, we must recognize and support indigenous data sovereignty, ensuring that indigenous farming communities have the right to control the collection, ownership, and application of their own data. This holistic approach to data governance includes protecting and financially rewarding farmers for their data rights, fostering independence and resilience in agricultural communities. By prioritizing farmer-controlled and culturally appropriate data systems, we can ensure that the benefits of agricultural data remain within the communities that generate it, supporting more equitable and sustainable regional food systems.

To ensure the long-term success of these initiatives, we must foster collaboration and knowledge sharing. This involves promoting agroecology education and community-led initiatives within regional contexts, conducting public awareness campaigns about the importance of preserving family farms and regional food systems, and educating consumers about the benefits of regional food systems. By addressing these challenges through integrated, regionally-focused solutions, we can create a more just, resilient, and sustainable food system.