

**United States House of Representatives
Select Committee on the Climate Crisis**

**Hearing on October 1, 2020
“Creating a Climate Resilient America:
Strengthening the U.S. Financial System and
Expanding Economic Opportunity”**

Questions for the Record

**Maggie Monast
Director of Working Lands
Environmental Defense Fund**

The Honorable Kathy Castor

- 1. In your testimony, you noted the importance of adopting conservation practices that improve soil health and build resilience. EDF’s recent report also identifies barriers to financing resilient agriculture. What are the barriers to loan products that are aligned with resilient farming practices? What would a loan product that supports resilience look like?**

Environmental Defense Fund (EDF) and multiple other organizations are working to quantify the farm budget impacts of conservation practices that build resilience. When evaluated as a multi-year investment, resilient agricultural practices such as no-till, cover crops, and extended crop rotations can generate significant financial benefits to farming operations in the form of cost savings, resilient crop yields, and diverse income streams. While some costs increase, in many cases they can be offset by other cost savings and yield benefits.ⁱ When farmers are able to attract additional revenue, the financial case is even stronger. However, despite the long-term benefits, the transition period may deter many farmers from adopting these practices — especially in economically challenging times.

The financial challenges farmers face in the transition to adopting more resilient practices are made more difficult due to the fact that farm loan products do not explicitly incorporate the value of resilient agriculture or support farmers through the transition.ⁱⁱ There are several ways in which current loan offerings do not align with the financial attributes of resilient farming practices, and therefore create challenges for farmer clients that use or are considering adopting more resilient practices:

- **Information gaps:** First, there is less data available to lenders on the return proposition of resilient practices than conventional farming practices, and many lenders are unaware of the data that does exist. This information gap disadvantages both farmers and lenders in developing reasonable projections of the financial impacts of the transition to resilient practices. Continued efforts to create locally

- relevant analyses of the finances of farms that use resilient practices can help fill that gap, as can lender efforts to educate themselves on the information that is available.
- **Short-term focus:** The annual nature of many crop cycles and associated business practices, including annual operating loans, compels farmers and their financial partners to focus on short-term cash flow rather than longer-term profitability and value.ⁱⁱⁱ This has the potential to create significant blind spots. For example, soil degradation or mining for nutrients can produce high yields in the short term, but over the long term such practices undermine crop productivity and the value of the land asset.^{iv} Similarly, excess water consumption for irrigation can lead to future water scarcity and the risk of crop failure.^v Last, extended crop rotations may also cause variability in revenue in the short term, but greater stability over the long term.^{vi} With risk and loan assessment conducted on a single-year basis, short-term risk is given more weight than long-term stability.^{vii} If success is only defined as the farmer's ability to repay his or her annual operating loan, farmers and lenders will miss opportunities to reduce risk and maximize long-term profitability.
 - **Loan terms do not value resilience:** While farmers who use crop insurance are able to access significantly better loan terms, farmers who utilize a production-system risk reduction strategy receive little or no benefits.^{viii} In addition, lenders do not provide short-term accommodations in loan terms for farmers who are transitioning to more resilient practices. Some lenders contend that if farmers increase their financial health and stability by using resilient practices, ultimately their lending terms will improve along with the farm's improved financial performance. However, this is a lagging indicator and does not support farmers in navigating the transition so that they can arrive at the better outcome. Farmers face an additional barrier to conservation adoption when they cannot partner with their lenders to plan for the transition period and take a multi-year view of conservation investments.

Agricultural lenders in the U.S. do not currently collect financial data specific to resilient practices, incorporate the risk-reduction potential of resilient farming practices into their risk ratings, or design programs or products to support farmers in managing the transition to practices that improve resilience. Some in the lending sector may ask why such changes are needed, when many farmers currently finance their conservation expenses with existing loan products. While this is true, it is also true that existing products were developed with conventional farming practices in mind and are not designed to support farmers in overcoming the unique financial characteristics of the adoption of resilient farming practices. As such, this places the onus of navigating the existing loan products and structures on the farmer who desires to increase resilience. This disconnect creates a structural disincentive to change, and contributes to persistently low conservation adoption levels. Ultimately, this results in sub-optimal outcomes both for farmers and for lenders seeking the best risk-adjusted return.

On the other hand, there are market opportunities for lenders who engage with their farmer clients who are interested in resilient practices and seek to meet their needs. There are several examples of existing lender initiatives and programs that can inform efforts to develop programming or products that support farmer adoption of resilient farming

practices. These include programs for Young, Beginning and Small Farmers^{ix} and recently launched organic transition loans.^x

Loan products that support resilience should be designed using the following five lessons, identified by EDF through extensive interviews with agricultural lenders and other experts:

- **Lesson 1: Understand the financial benefits of and barriers to resilient agricultural practices.** Lenders should understand the benefits of resilient agriculture so that they can effectively serve their current borrowers and don't let unfamiliarity with conservation practices discourage farmers or increase barriers to lending. Lenders should also improve their understanding of the return profile of transitions to resilient agriculture, including the benefits, barriers, and the transition timeframe in order to identify farmer needs or market gaps that could be addressed with new or modified loan products. Agricultural lenders do not currently collect information from farmer clients that gives them the level of detail needed to assess this, but organizations working to quantify the financial impact of conservation adoption on farm budgets can provide useful information on the type and magnitude of potential costs, savings and crop yield impacts. Lenders can collaborate with those organizations to provide feedback on the type of information needed to inform their decision-making.
- **Lesson 2: Design loan structures and requirements to correspond with the financial characteristics of the resilient practice(s).** Lenders may select a subset of resilient farming practices particularly suited to their region or desired by local farmers. Based on their understanding of the financial shift that is taking place (e.g. any upfront costs or yield impacts, how cost savings and yield benefits occur over time), they should consider how to shift the requirements of the loan to accommodate those expected changes. For example, lenders could consider modifying the length of the loan or utilizing a longer planning horizon with streamlined loan renewals, relaxing some credit standards in the first few years of the transition, or reducing the interest rate to encourage farmer uptake.
- **Lesson 3: Loan support may be needed to launch initial products and should be used to prove the financial case.** If it is difficult to make a loan product acceptable for the lender and meet the needs of the farmer at the outset due to insufficient data on the return proposition, then loan support can be used to bridge the gap. Loan support is when a partner (corporate partner, investor, philanthropic or public source) provides additional financial risk-sharing to make the overall loan package work for both the lender and the farmer. An important role for loan support is to create examples and track records to build on, and to support data collection in a product pilot phase in order to prove the financial hypothesis for the product to stand on its own. Loan support can take many different forms, including production contracts, loan guarantees, subordinated debt, and more.
- **Lesson 4: Collect data on financial and environmental performance to show results, fine-tune loans and adjust credit rating processes.** While external financial support may be necessary to launch new or modified loan programs for resilient agriculture, such support should be utilized to test a loan product that can ultimately stand on its own from a financial standpoint. For this to occur, data collection on both

the financial and environmental performance of the farm and the loan is essential. This is another area where collaboration can prove useful to the lender, whether it is with an environmental or agricultural organization that can advise on appropriate environmental metrics, or an agriculture technology provider that can assist in data collection and analysis. This data can enable a positive feedback loop for continuous improvement, both for individual farmers as well as the lenders' overall view of its portfolio and products. As lenders build a knowledgebase from empirical data around resilient practices and results, they can modify credit rating processes to incorporate this data. Ultimately, the objective is to accurately demonstrate the value of resilient farming practices and integrate these results into lender policies and pricing for farmers who implement practices that build resilience in their operations.

- **Lesson 5: Consider other forms of support farmers may need to ensure successful practice adoption – and avoid creating new burdens.** Additional support could take the form of financial arrangements, such as grain offtake agreements or cost-share for conservation expenses, or educational support, such as agronomic advice on how to incorporate new practices into farms' existing management systems. Some of these forms of support can be offered by lenders, while others may need to be part of a broader program with partners. For example, while some degree of trial and error will nearly always be required to integrate new practices to a farming operation, technical assistance and education can support farmers in moving up the learning curve. In addition, creating a financial plan for the transition can help both parties set realistic expectations and then continue to check in on whether changes to the farm's finances are occurring as planned. Finally, for a new or modified lending product to be used, it should avoid creating burdensome new requirements for farmers and should have terms that are competitive with other offerings in the market.

More information on these barriers and opportunities can be found in EDF's report, *Financing Resilient Agriculture: How agricultural lenders can reduce climate risk and help farmers build resilience*.

2. **Your testimony noted the gaps in information and data as a barrier to financing resilient agriculture. What should Congress do to bridge data gaps, and how can federal agencies like USDA do a better job coordinating their data collection and delivery to guide climate-smart finance in the agricultural sector?**

We agree with the House Select Committee on the Climate Crisis' Majority Staff Report, *Solving the Climate Crisis*, on its recommendation for Congress to incentivize standardized data collection to demonstrate the reduced risk and profitability benefits of conservation practices. While many studies analyze farmer budgets and other relevant data sources, there is a critical need to expand such analysis and connect it to the type of information required by agricultural lenders and crop insurers for decision-making and risk analysis. For example, farm-level data on conservation practice adoption, costs and profitability, crop yields and weather risk are all needed to better understand the financial benefits and barriers of resilient agriculture. However, numerous disparate systems (e.g., on-farm equipment vs. satellites) generate these data in non-standardized formats (e.g., survey, census, transactional records, market prices). Further, the data are managed by

different government agencies, universities, and private firms, who each have their own standards, definitions, and privacy guidelines. In many cases, researchers need permission and a pathway to access, interpret, and integrate disparate data from multiple systems.^{xi}

Environmental Defense Fund is a member of the AGree Economic and Environmental Risk Coalition, which includes researchers, academics, producers, former officers of the U.S. Department of Agriculture (USDA), and non-profit environmental and agricultural organizations.^{xiii} The AGree Coalition has found that increased integration and analysis of USDA's vast resource of agricultural data is a proven strategy for delivering key research insights needed to advance innovation in the food and agriculture sector. USDA has several opportunities to act to improve data innovation and research, both internally at the agency and externally with partners, but has not moved quickly without Congressional direction and support.

USDA has started this work by creating a system of internal data dashboards for USDA Mission Areas. This shared, internal USDA platform makes data available across office leadership to inform decision-making. This system has increased USDA's capacity to generate important insights, developed through analysis of robust data sets, across the agency. We ask that Congress support USDA to continue this work and extend it to all Mission Areas across the agency. Congress should encourage USDA to expand the scope of these data dashboards to incorporate more types of data for the purposes of research, in addition to organizational decision-making.

USDA can also support new and innovative research by land-grant universities using the agricultural data it collects. Section 1619 of the 2008 Farm Bill allows the sharing of USDA agricultural data with land grant institutions for the purposes of technical assistance. Congress should direct USDA to immediately begin establishing agreements with researchers to answer key research questions related to the agency's production and environmental goals. This expanded research capacity will help to create the strong scientific basis to drive innovation forward. These innovations in data sharing and analysis can be executed in a way that prioritizes data security and protects producers' personally identifiable information.

There are also opportunities to spur public-private collaboration in data interoperability – including data standardization and aggregation at scale, and crosscutting analyses that can deliver insights that each disparate set of data cannot on its own. For example, data collected by agricultural technology companies can be integrated with public data sources to enhance the decision-making of farmers, agricultural lenders, crop insurers, policymakers, and other key stakeholders. This broader data set could be analyzed by a publicly available analytics platform that could generate the same insights that private software providers offer behind pay walls.

An important point of caution in this area is to avoid relying entirely on data sources that exclude small farmers and farmers of color. For example, farm management software solutions are more commonly available to and used by large-scale farmers; small farmers

and farmers of color are not as likely to utilize this technology.^{xiii} The path forward to demonstrate the reduced risk and profitability benefits of resilient agriculture will require methods to assess the financial performance and resilience of farms of all types and sizes, and an openness to learn from a variety of different operations. An important role for Congress and the Administration is to support the advancement of data-driven decision-making capabilities that are critical to understanding and planning for climate resilient agriculture, in ways that are inclusive of the needs and expertise of small farmers and farmers of color.

There is a well-recognized need to establish and quantify risk and conservation practices at scale and incorporate them into policy, insurance, lending, and conservation programs.^{xiv} The advances in data coordination and analysis described above would represent important progress towards equipping researchers, government agencies and the private sector to do so.

References Page

ⁱ Monast, Maggie and KCoe Isom AgKnowledge. (2018.) Farm Finance and Conservation: How stewardship generates value for farmers, lenders, insurers and landowners. Retrieved from: <https://edf.org/farm-finance>

ⁱⁱ Monast, Maggie. (2020). Financing Resilient Agriculture: How agricultural lenders can reduce climate risk and help farmers build resilience. Retrieved from: <https://edf.org/aglending>

ⁱⁱⁱ Personal communication, agricultural lender PD, October 2019

^{iv} Eswaran, H., R. Lal and P.F. Reich. 2001. Land degradation: an overview. In: Bridges, E.M., I.D. Hannam, L.R. Oldeman, F.W.T. Pening de Vries, S.J. Scherr, and S. Sompatpanit (eds.). Responses to Land Degradation. Proc. 2nd. International Conference on Land Degradation and Desertification, Khon Kaen, Thailand. Oxford Press, New Delhi, India. Accessed at: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/use/?cid=nrcs142p2_054028

^v Council for Agricultural Science and Technology (CAST). (2019.) Aquifer Depletion and Potential Impacts on Long-term Irrigated Agricultural Productivity. Issue Paper 63. CAST, Ames, Iowa. Retrieved from <https://www.cast-science.org/wp-content/uploads/2019/02/CAST-IP63-Aquifer-Depletion.pdf>

^{vi} Bowles et al. Long-Term Evidence Shows that Crop-Rotation Diversification Increases Agricultural Resilience to Adverse Growing Conditions in North America. *One Earth* 2, 284–293, March 20, 2020

^{vii} Personal communication, Scott Marlow, Long Rows Consulting. July 2020.

^{viii} Woodard, J. & Marlow, S. (2017, April). Crop Insurance, Credit, and Conservation. The AGree Economic and Environmental Risk Coalition. Retrieved From: <https://foodandagpolicy.org/wp-content/uploads/sites/4/2019/09/2017-April-Crop-Insurance-Credit-and-Conservation.pdf>

^{ix} Pellett, Nancy. (2007, August 10.) Revised Bookletter 040 - Providing Sound and Constructive Credit to Young, Beginning, and Small Farmers, Ranchers, and Producers or Harvesters of Aquatic Products. Retrieved from: <https://www3.fca.gov/readingrm/Handbook/layouts/15/WopiFrame.aspx?sourcedoc={788991C0-7E8B-43AC-ADB4-55C500B85A94}&file=BL-040%20REVISED.docx&action=default>

^x Rabo AgriFinance. (2019, October 24.)“Rabo AgriFinance Designs Industry’s First Organic Transition Loan Offering.” Retrieved from: <https://www.raboag.com/news/rabo-agrifinance-designs-industrys-first-organic-transition-loan-offering-54>

^{xi} Woodard, J. et al. (2019). Harnessing the Power of Data to Improve Agricultural Policy and Conservation Outcomes. *Choices*, 34(3), 1-7. Retrieved from: https://foodandagpolicy.org/wp-content/uploads/sites/4/2019/10/cmsarticle_706.pdf

^{xii} AGree Economic and Environmental Risk Coalition. Retrieved from: <https://foodandagpolicy.org/>

^{xiii} McDonald, J., Korb, P., Hoppe, R. (2013, August.) Farm Size and the Organization of U.S. Crop Farming. U.S. Department of Agriculture Economic Research Service. Retrieved from:
http://www.ers.usda.gov/webdocs/publications/45108/39359_err152.pdf

^{xiv} Woodward et al. 2019.