

Sustainable Agricultural Land Tenure and Risk Management for Extreme Climatic Events: A Look at Farmers and Landowners in the face of 2012-2014 Extreme Weather
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INTRODUCTION

Climate scientists predict global warming will cause increasingly extreme weather events. In 2012, 2013, and 2014 Iowa experienced historic droughts, rains, and extreme temperatures. This weather created many problems on Iowa farms. This pilot project attempted to capture the issues these events caused for both farmers and landowners on rented Iowa farm land. The research team identified and interviewed 18 people involved in Iowa agriculture. These individuals represent landowners, operators, and farm managers. Production includes row crop corn and soybeans, livestock, forages, small grains, specialty crops, and USDA programs— Conservation Reserve Program (CRP), Conservation Stewardship Program (CSP), and Environmental Quality Incentive Program (EQIP). The research team was very interested in identifying how landowners and farmers are working to improve conservation on the land and to protect productivity, soil health, and water quality while facing extreme weather. The conversation between farmers and landowners is only beginning. This project points to future research questions rather than to definitive answers regarding how non-operator landowners (NOLOs) and their tenants can work together to safeguard the land and its productivity.

DATA and DISCUSSION

The research suggests Iowa NOLOs and Iowa farmers renting land, have a variety of views about the effects of extreme weather. While both agreed Iowa has experienced more extreme weather in recent years, the perceived effects of those extremes ranged from very little to very serious. Of those who participated in the study, most were concerned with increasing extreme weather, rather than simply taking it in stride or dismissing it. Most of those interviewed shared a growing concern about how the extreme weather of: droughts, heavy rains, flooding, high temperatures, and increased storm events including wind and hail, were decreasing the short term productivity of their land via yields and the long term productivity due to decreases in soil health and increases in soil erosion.

Interviewees generally expressed a high level of responsibility for managing the conservation on the land they owned or farmed. In other words, they believed they were doing a good job. Interestingly, they showed some skepticism about the accompanying party to the lease. Doubting whether they would be able to appreciate or understand how they themselves were caring for the land. In several cases, the subject being interviewed was even concerned about the other party gaining too much control in the relationship. True to this form, the two land managers were skeptical of both the landowner and the tenant. In other words, they felt they, as farm managers, play an important role in helping both parties do a better job. Much of this mirrors what is already known about conservation on leased land in general. It can be easy to see degradation on properties where someone is not involved and much more difficult to identify shortfalls on the property he or she owns or farms.

Though it isn't explicitly states, the research clearly suggests that the most robust approaches to safeguard the productivity of rented Iowa farmland is to have both the NOLO and the operator working together toward their goal. Although this may seem obvious in the abstract, the interviews suggest a great need for developing strategies to encourage a greater partnership between the parties to the lease. If extreme weather events continue, and predictions are they

will, this need is likely to become even more acute. The discussions with the 18 stakeholders point to three specific challenges that need to be addressed in order to get the parties working together: sociological, legal, and policy problems.

The sociological challenge is to develop a greater ethic encouraging partnership and communication. At the same time Iowa farmers were experiencing increased extreme weather, they were also experiencing historically high commodity prices. Nearly all of the interviewees mentioned that prices were a greater challenge for stewardship than was the extreme weather. While this is an oversimplification, landowners tended to be concerned that operators were incentivized to push their land for short-term profit over long-term stewardship. Farmers also tended to feel landowners were more concerned with maintaining a balance between rents and high commodity prices rather than investing in conservation. Financial competition on the land seemed to be more important than weather. Extreme weather creates a necessity for NOLOs and farmers to identify ways to share the costs, responsibilities, and benefits of maintaining the productivity and health of the farm. There is a sociological challenge to overcome some traditional tension between the NOLO and the farmer. This challenge is exacerbated by recent high prices and further complicated by price volatility and as extreme weather continues it will require a new level of cooperation to keep Iowa farmland as productive as possible.

The legal challenge is to identify and develop better language, approaches, and tools in lease agreements to reflect these shared costs, responsibilities, and benefits. Tillage, residue, and diversity are important strategies for keeping more carbon in the soil to combat climate change and to keep the land more resilient to extreme weather. Cover crops were frequently mentioned as a strategy to deal with extreme weather. While these practices can be very effective in the long-term, they have an immediate cost in the short-term. Identifying, quantifying, and assigning these costs and benefits in the lease will continue to be more important as droughts, heavy rains, extreme temperatures, and severe storms become more common. Structures such as waterways and terraces will increasingly be damaged, destroyed, and far more difficult to build or repair because of extreme weather. NOLOs and operators will need to work with the legal community to develop lease agreements which make these costs, responsibilities, and benefits transparent and fair.

Finally, there are policy challenges as both NOLOs and farmers look for affective risk management tools. Crop insurance is becoming more important and the interviews clearly show a lack of communication between NOLOs and farmers regarding crop insurance and other important tools. In addition to prices, mentioned above as a sociological challenge, crop insurance was also discussed by the interviewees as a subject not frequently discussed between NOLOs and farmers. The 2014 Farm Bill introduced several new insurance products and expanded the disaster programs. These programs translate into dollars and unless better communication becomes part of the culture of the lease arrangement for rented farm ground, federal risk management tools could create greater mistrust between owners and operators rather than provide tools for the two parties to jointly employ to safeguard the resource. Further, the commodity programs in the 2014 Farm Bill require NOLOs and operators to work together in ways they had not previously done. The policy challenges are new and developing, complicated, and probably the least understood of the three challenges by those dealing with rented farm ground in Iowa.

CONCLUSION

Rented farm ground in Iowa is threatened by extreme weather events. Climate scientists predict the extreme weather is going to continue and even get worse throughout this century. Both NOLOs and their operators have a stake in safeguarding the productivity of the land. They will need to work together to develop strategies to protect soil health and fertility, hold soil on the farm, and better cycle water. It is in Iowa's interest to develop sociological, legal, and policy strategies that bring NOLOs and farmers together as partners in order to combat the damage being done by extreme weather.

Extreme weather provides a rich and underexplored opportunity for further research about Iowa agriculture. Iowa's farmers and landowners can play an enormous role in helping the world adapt to and mitigate climate change. The challenge is bringing the two parties together on the same piece of ground.

RESULTS

a. Achieved objectives:

- Based on the interviews, conversations between landowners and tenants are at the earliest stages of addressing extreme weather. The objective was to develop a comprehensive understanding of farmer and landowner perceptions of climate change while measuring the impact of extreme weather events on farmland tenure arrangements was pursued; however, there was no pattern apparent in the interviews pointing to how land tenure was being affected.
- State and federal policy makers are starting to address the challenges of extreme weather. As policies like the federal Livestock Forage Program and the state NRS continue to develop, there will be a growing need for operators and landowners to be engaged. The new commodity programs in the 2014 Farm Bill are good examples of how the roles of landowners and farmers will need to be better defined and greater communication between the two groups will be increasingly important.
- The research did not identify any subjects focused on improving the capacity of their tenure agreement to deal with extreme weather. Also, there were no novel examples of cost sharing among NOLOs and their farmers to deal with the consequences of a changing climate. However, the research does confirm a growing need to help mitigate disparities in public risk management tools, to aid landowners in ensuring risk management tools used by tenants do not increase incentives for adverse land use decisions, and to empower operators to identify and communicate the costs of best caring for the landowners property.

b. The results indicate a serious need for educating landowners and farmers about how they need to work together to best manage the farm they share. Clearly, the best results for protecting productivity, soil health, and water quality in the face of extreme weather will happen when both parties are sharing the costs and responsibilities. There is ample need for additional research, outreach to landowners and farmers, and creative approaches to policy in order to incentivize the two parties to partner to a greater extent.

c. How the results can be used:

- Iowans involved in agriculture, particularly farmers and landowners, can use this research to identify strategies and tools for putting more resilient farming systems into their operation and onto their land through intentional and strategic lease agreements.
- This research suggests both farmers and landowners will play important roles as Iowans develop farm based responses to extreme weather and innovations for agricultural solutions to climate change. While each party could act on their own, clearly the most effective responses will be when farmers and landowners work together to share costs and responsibilities.
- This pilot project suggests significant research needs to continue about Iowa agriculture and climate change. Groups can use these resources as a starting point for important research into, not just adaptive, but also mitigation strategies for Iowa farmland.

PROJECT DESIGN, METHODS, AND MATERIALS

Objective 1. Develop a comprehensive understanding of farmer and landowner perceptions of climate change and measure the impact of extreme weather events on farmland tenure arrangements.

Strategy: Interviews were conducted with NOLOs and farmers from across Iowa representing a wide variety of agricultural practices including corn, soybean, small grains, livestock, and specialty crop production. The initial outreach focused on three counties to represent different socio-economic characteristics, levels of agricultural productivity, operational characteristics, and typical land tenure arrangements found throughout the state. In the second year of the study, additional outreach expanded statewide to identify a larger representation of land tenure relationships and farming practices among the interviewees. Interviews identified issues relating to the 2012 and 2013 droughts as well as extreme heat and extreme rainfall events in 2013 and 2014. Interviews also focused on existing risk management elements included in such arrangements and extracted long-term landowner and farmer concerns about future extreme weather events.

Eighteen interviews with NOLOs, owner operators, tenant farmers, farm management companies, and a public entity were conducted with respect to the issues. Interviewees were identified and recruited through existing networks with professionals and agencies including the Soil and Water Conservation Districts (SWCD), Natural Resources Conservation Service (NRCS), Farm Service Agency (FSA), WFAN, several Iowa county Farm Bureaus, and Practical Farmers of Iowa. Interviews were done over the phone, then recorded, transcribed, and evaluated to identify themes and issues created by extreme weather and the strategies farmers and landowners are developing to address the ensuing conservation challenges.

Objective 2. Determine the interplay between federal and state policy, extreme weather events, and land tenure trends and arrangements. The impact of extreme weather events on ownership and other tenure arrangements is largely dependent on public policy.

Strategy: Questions addressing the existence and extent of use of public risk management tools for extreme weather events were asked in the interviews. Legal research focused on:

- publicly subsidized insurance programs
- rules for modification of existing program contracts

- rules allowing additional assistance and program participation in disaster areas
- loan programs
- debt management and foreclosure laws.

For each of these areas, the research examined eligibility criteria, regulatory distinctions between different programs and their effectiveness in addressing climate variations, and availability for and current policy regarding adjustments for land with increased susceptibility to weather extremes.

Objective 3. Improve the capacity of land tenure arrangements to address extreme weather events and equitably distribute the risk from such events. Specifically, provisions for lease agreements were developed to (1) help mitigate disparities in public risk management tools, (2) aid landowners in ensuring risk management tools used by tenants do not increase incentives for adverse land use decisions, and (3) empower operators to identify and communicate the costs of best caring for the landowners property.

Strategy: Analysis of information obtained from the legal research and the NOLO and farmer interviews was used to determine the needs of landowners, farmers, and the land, to develop land tenure arrangements that address the impacts of extreme weather events, and to inform public policy.

Participants were chosen to include a diverse range of tenure arrangements and farming operations. Sample lease provisions were developed that not only mitigate the impact of the operation on the climate, but also improve the resiliency of the farm operation.