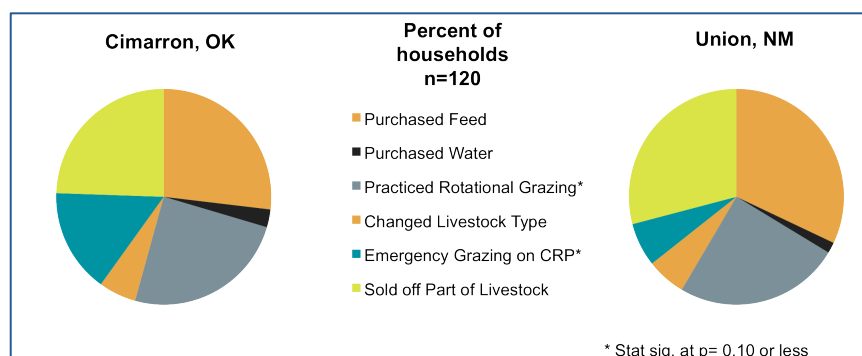


ADAPTATION TO DROUGHT IN CIMARRON COUNTY, OK & UNION COUNTY, NM

Ranching Adaptations



Survey results (n=120) reveal the adaptations that ranchers draw upon during times of drought, from purchasing feed, to selling off livestock, to even, in extreme instances, purchasing water. While the data reveal many similarities, they also reveal some key differences between the two counties.

Ranchers in Cimarron County are significantly more likely to practice rotational grazing (92% vs. 76% in Union County), while many ranchers in Union County are increasingly adopting yearling operations. Ranchers in Cimarron County also depend significantly more on the ability to access emergency grazing permits on CRP lands (58% vs. 20% in Union County). Although ranchers in both counties sold off part of their livestock due to drought (~90%), ranchers in Cimarron County liquidated a greater part of their herd due to drought (~2/3 aus) than ranchers in Union County (~1/2 aus).

In sum, the main adaptations of ranchers in both counties include selling off cattle and purchasing feed. Ranchers in both counties appear vulnerable to drought. However, differences between the counties in terms of herd sell off, cow-calf vs. yearling operations, and greater need to access emergency grazing rights on CRP land suggest that ranchers in Cimarron County may be even more vulnerable to drought.

About the Project:

On-going regional drought in the Southern High Plains presents challenges to the ways farmers and ranchers manage their land use and herds.

This study presents results from a comparative analysis of two adjacent counties, Cimarron County, OK and Union County, NM. Since 2000, both have experienced what the U.S. National Drought Mitigation Center classifies as a “severe” (D2) to “exceptional” (D4) drought¹. Our research explores the political, social, and environmental factors that influence socio-environmental vulnerability and resiliency to drought.

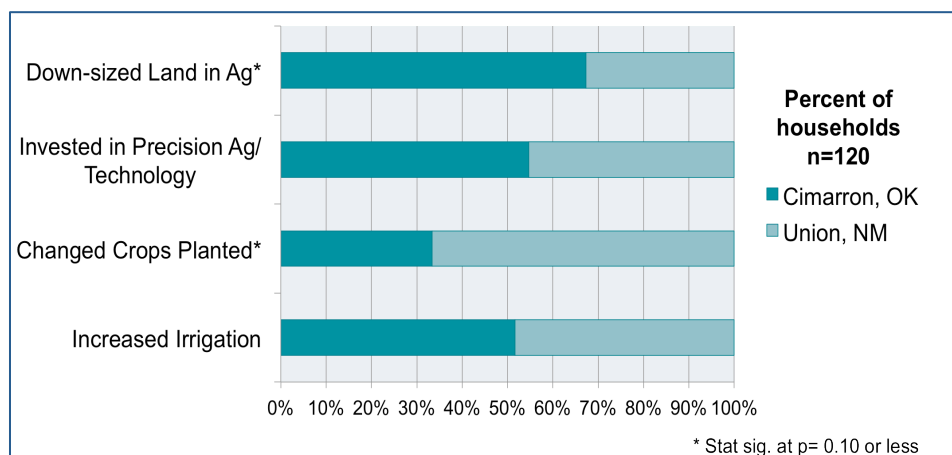
Methods:

- 120 household surveys selected from random geographic coordinates, geographically stratified to account for changes related to topography with 45 rural and 15 urban respondents per county
- Qualitative coding of drought data
- Statistics used to explore differences in adaptation by county
- Key informant interviews (n=40) with local stakeholders
- Oral histories with long term residents
- Remote sensing analysis and Geographic Information Systems (GIS)

Overall Lessons Learned

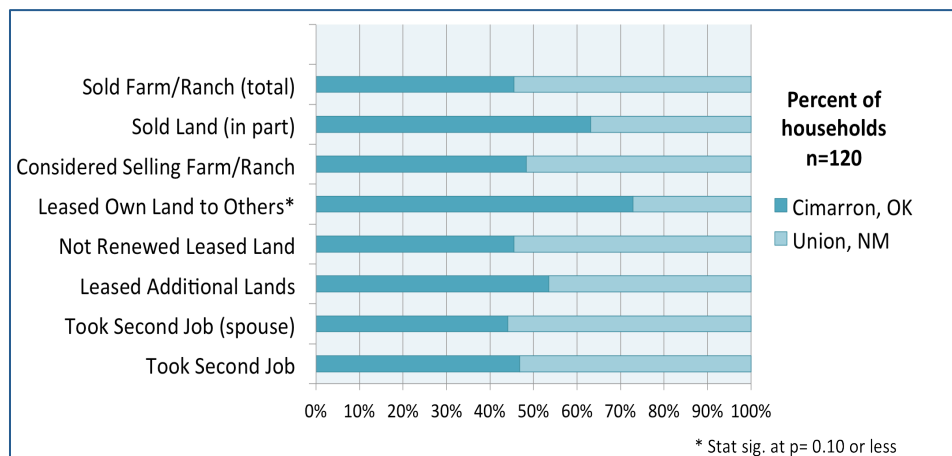
- Ranchers adapt to drought by buying feed, leasing more land, seeking emergency grazing rights on CRP land, to severely reducing herd size, and/or switching over to yearling operations.
- Farmers respond to drought by investing more heavily in precision agriculture technologies and CPI. Many farmers adjust the crops they plant as well.
- Ag households adapt to drought by one or both spouses taking on a second job as necessary. They also lease their own land to others and/or lease more land as needed.
- Many managers argue that holding debt (or not) has a major impact on their land management decisions. They express vulnerability due to bank loans, and the resulting lack of ability to make proper management decisions.

Farming Adaptations



Overall, farmers are increasingly investing in high-tech/precision agriculture technologies (~75%), and irrigation (~62%) to better adapt to drought. There are some significant differences, however. In Union County, farmers are significantly more likely to change the crops they plant during drought (80% vs. 40% in Cimarron County). In Cimarron County, where a greater number of farmers practice dryland agriculture, farmers are significantly more likely to downsize the area of land in cultivation during times of drought (33% vs. 16% in Union County).

Other Household Adaptations



In both counties, ~1/3rd of households reported either taking a second job, or their spouse taking a second job to better cope with the financial burden of drought. In both counties, households leased additional lands in order to compensate for the loss of productivity on their land during times of drought (~35%). Residents of Cimarron County were more likely to rent additional land either out of county or out of state, while residents of Union County were more likely to rent additional lands in their county, or in a neighboring county. Ranchers and farmers in Cimarron County are also significantly more likely to lease out their own land in times of drought (43% vs. 16% in Union County). For ranchers and farmers who cannot expand their operations during times of drought, or for those who heavily liquidate their herds or limited the area in cultivation, many see the ability to lease their land to others as a source of potential revenue.

Produced By:

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Collaborating Institutions:



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Project Website:

Please visit our project webpage for more information, including maps, and fact sheets:

<http://biosurvey.ou.edu/Grasslands/main.html>

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