Spiraling-Up through Drought Responses in Colorado’s Farming-Dependent Counties

Fueled by grant dollars, Colorado’s agricultural communities leverage local assets for climate resilience and community development.

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Research Questions
(1): What local assets do Colorado’s agricultural communities possess that could be mobilized for climate adaptation?
(2): Did agricultural communities draw from local assets in responding to recent drought? If so, how? If not, why?

Methods
(1): Index adaptive capacity in 15 farming-dependent counties
(2): Conduct qualitative interviews with local officials and community leaders in two farming-dependent counties

For Kit Carson and Conejos counties, semi-structured interviews were conducted with local officials and community leaders, who ranged from local business and nonprofit owners to pastors and health care providers (n = 17).

Results & Discussion

Community Assets in Kit Carson County
- Strong social capital: collaboration across organizations, strong community support systems, and a commitment to rural community empowerment
- Strong natural capital: a younger and more diversified agricultural sector than most other farming-dependent counties
- A demonstrated ability to draw from local resources for economic development

Key Suggestions
- Mobilize strong social resources to build access to mental health services,
- Work with cultural brokers to serve and include local Hispanic communities,
- Continue to leverage cultural and human resources for economic growth, and
- Engage the agricultural cooperatives’ leadership, CSU extension’s resources, and Kit Carson County’s strong agricultural identity to promote water conservation.

Community Assets in Conejos County
- Strong cultural capital: a unique lifestyle and rich historical identity that motivates residents to protect the future of the San Luis Valley.
- A disproportionately high number of historic places.
- Strong natural capital: abundant natural amenities, outdoor recreation opportunities, and a good climate for hemp and alfalfa production.
- Community engagement around issue of social, economic, and environmental justice.

Key Suggestions
- Build off strong grassroots engagement to outline a development strategy that respects Conejos County’s cultural identity and agricultural roots.
- Market natural amenities and the benefits of rural lifestyle to prospective businesses and would be employers.
- Develop infrastructure to better capture the San Luis Valley’s tourism and outdoor recreation dollars.
- Leverage the community’s commitment to food justice—and build off existing work to support local food systems—to advocate state and federal policies that support local agriculture.

Conclusion
- Social capital is a crucial resource for “close-knit” farming-dependent and non-metro communities.
- Collaboration and partnerships allow community groups to have outsized impact.
- Drought is a threat multiplier, and exacerbates challenges already facing rural communities.
- Drought responses are largely embedded within broader community development work.
- Initiatives combining local assets with grant dollars are effective catalysts for spiraling-up.

Citations

Data Sources: Colorado Outdoors, GoGo Rafting, GoGo Rafting, 2016 (with updates); American Community Survey, 2012-2016; Census of Agriculture, 2012; Opportunity Insights, Neighborhoods: Characteristics by County; Bureau of Economic Analysis, Protopex Gross Domestic Product by County, released 2018; Colorado Health Access Survey, 2014; Applied Population Lab, Net Migration Rate by County; National Park Service, National Park Service, National Heritage Area, National Registry of Historic Places.

For example, rafting in Browns Canyon National Monument. Our funding came from BLM; they funded us to go. Conservation Lands Foundation paid for me to go. GoGo Rafting was an important partner. We took out a fund from them for Abe to go, so we could have the staff. It was Wilderness Aware Rafting who came and picked us up, and took us with the outfitters. It was friends of Brown Canyon that initially introduced us to the whole idea. It’s BLM selling us and being like, okay, where’s this funding at, and how can we be a resource. It takes all of those people just to take, we took 16 kids rafting—all of our kids, and then Days and Girls Club took another eight. But for eight of our kids to go rafting it took all those resources, all those partnerships.

"Drought is absolutely devastating to an agricultural community. In so many ways, not just financially, but it’s social, emotional, physical — the whole nine yards. And so, our role in public health is to have prevention services in place to be able to address all of those medical, physical manifestations that come from the effect of long-term drought.

Leveraging Social Capital for Climate Resilience and Community Development

Social Capital
- Connections between people and organizations
- The social “glue”
- Effective leadership
- Community’s commitment to food justice
- Leverage the social cooperative’s leadership, CSU extension’s resources, and Kit Carson County’s strong agricultural identity to promote water conservation.

Human Capital
- Perceptions of risk; values surrounding what is important and risky
- Tangible cultural or historical resources

Political Capital
- Engagement in local decision-making
- Effective leadership
- Ability of a community to access external political power

Non-Human Capital
- Physical infrastructure

Natural Capital
- Location-specific resources, including water and agricultural resources
- Connection to place
- Skills and abilities of community members

Cultural Capital
- Values, language, social identity
- Perceptions of risk; values surrounding what is important and risky

Financial Capital
- Amount and distribution of financial resources
- Ability to financially support business development, entrepreneurship, civic and social activities

Literature
- Capacity-based frameworks center on a community’s agency and existing assets (McKnight and Kretzmann, 1990).
- Local assets include both economic and non-economic resources. Strategic investment in a community allows assets to build on each other, initiating a process of “spiraling-up.” (Emery and Flora, 2006).
- Adaptive capacity describes a community’s ability to effectively prepare for and respond to shocks.
- “Close-knit” communities possess that could be mobilized for climate adaptation.
- Relevance indicators are drawn from a systematic review of 158 determinants of adaptive capacity identified in prior research.
- Measures are standardized as a proportion of the range of values for Colorado’s 64 counties (so standardized scores are bound by zero and one). A county’s “score” for each community capital is the average of its scores for each related indicator, equally weighted.

Discussion
- The validity and feasibility of indexing adaptive capacity has been subject to significant debate, and there is little consensus on appropriate empirical methodologies (Siders, 2019).

Methods
(1): Index adaptive capacity in 15 farming-dependent counties
Relevant indicators are drawn from a systematic review of 158 determinants of adaptive capacity identified in prior research, compiled by Siders (2019). Indicators are grouped along the dimensions of the community capitals framework: social, financial, natural, human, political, cultural, and built (Emery & Flora, 2006). Measures are standardized as a proportion of the range of values for Colorado’s 64 counties (so standardized scores are bound by zero and one). A county’s “score” for each community capital is the average of its scores for each related indicator, equally weighted.

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