

Pathway to Prime Through Strategic Resource Groups

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Background and Problem Identification

Farmers and ranchers confront a suite of interconnected grand challenges that threaten food and fiber production, resilience, and rural livelihoods. For example, water scarcity and quality, extreme weather events, and soil degradation undermine yields, while pests, diseases, and biodiversity loss compound production risks. Economic pressures from market volatility, rising input costs, supply-chain disruptions, limited access to capital, and land-tenure pressures strain profitability and succession planning. Labor shortages, technological and data-integration hurdles, regulatory uncertainty, and shifting consumer demands for sustainability and traceability add operational complexity. Social challenges, including mental-health stresses, further threaten community viability. Addressing these wicked problems requires systems-based, locally tailored, cross-disciplinary solutions that integrate disciplines such as plant and soil science, animal science, ecology, engineering, economics, sociology, policy, and stakeholder engagement.

Cross-disciplinary research is essential for Colleges of Agricultural Sciences and Natural Resources (and equivalent) to accelerate innovation, expand external funding, and solve grand challenges for agriculture, renewable resources, and landscapes. By integrating expertise across disciplines, faculty can address complex, large-scale challenges with more rigorous, impactful solutions that attract federal grants, industry partnerships, and citation-rich publications. Collaborative teams enhance translational outcomes and stakeholder engagement, produce scalable tools and policy-relevant outputs, and better prepare students for interdisciplinary careers—collectively strengthening metrics that universities and ranking bodies value, including research productivity, external support, and societal impact.

The Project

Grand challenges require bold thinking, and approaches that rely solely on disciplinary research, teaching, or outreach programs will have limited ability to affect change. Davis College has adopted a strategic priority approach that focuses on areas of critical needs that cut across disciplines and mission areas to achieve maximum impact. These priority

areas center around two broad themes - “Sustainable Food, Fiber, and Thriving Communities” and “One Health”, both key strategic priorities for Texas Tech University, which interlock and drive the specific priority areas for Davis College. Undergirding all the priority areas is the commitment to achieving national food security, greater resilience and adaptability, effective communication with all stakeholders, translating and transferring knowledge that promotes adoption of best practices, and the global impact of our mission areas.

The Davis College long-term strategic visioning process, Pursuit of Prime, identified key strategic areas of excellence (see figure) to prepare Davis College to solve grand challenges in Sustainable Food, Fiber, and Thriving Communities and One Health. The process involved bringing faculty together from across the college (departments, centers, and institutes) to identify our current areas of excellence, areas of potential strength, gaps, and areas that we should consider for sunset. The focus was placed on solving grand challenges for our semi-arid ecosystem, keeping in mind the principle of “act local, think global”. From the think-tank session, subsequent meetings were convened to ensure buy-in, and the eight strategic priority areas were developed.



NATIONAL FOOD SECURITY, RESILIENCE & ADAPTABILITY IN SEMI-ARID ENVIRONMENTS, EFFECTIVE COMMUNICATION, GLOBAL IMPACT

A Prime Grand Challenges Catalyst Grant competition, funded through the generous support of a major donor, provided the opportunity to create capacity to answer these challenges through **translational**, **transdisciplinary**, and **transformational** research focused on these strategic priorities. Grand challenge themes were to be significant in scope; result from complex causes; and solved only by innovative, interdisciplinary approaches. Two types of support were made available through the Grand Challenges Catalyst Competition:

Planning grants: Proposals in this category allow faculty to establish a team to coalesce around one or more of Davis College's strategic priority areas and develop a big idea. An expected outcome for an interdisciplinary team receiving a planning

grant is that they prepare a catalyst award proposal, or proposal to an external funding agency. Planning grant proposals were funded for a project period of no more than 12 months.

Catalyst awards: Proposals in this category were intended for the development and implementation of a goal-based, outcomes-driven project in response to one or more of the Davis College strategic priority areas. The expected outcome for a cross-disciplinary team receiving a catalyst award was that they demonstrate measurable progress toward their goals and project sustainability through external funding resources. Catalyst award proposals were funded for a project period of up to three years.

All proposals submitted to the Prime Grand Challenges Catalyst Competition were required to be cross-disciplinary and outcomes-driven. Project goals were to be specific, measurable, aspirational (for planning subsequent grant proposals) or venturesome (for catalyst award proposals), adequately resourced with funds beyond the catalyst grant, and completed (or sustained beyond) the one (planning) or three-year (catalyst) limit. Project goals are intended to be bold and catalytic. Proposals aimed at incremental advancement of existing work were not considered. In addition, proposals that did not have a ***clearly defined plan for submission for federal or other external funding*** were not considered.

Outcomes and Future Plans

Eight Planning Grants and Six Catalyst Grants have been awarded since the beginning of the program. Two catalyst proposals have resulted in collaborative USDA grant submissions, and several other related proposals have been submitted by PIs engaged with the teams. The Davis College Catalyst Grants program completed its third year and has brought teams of collaborators together to solve grand challenges in our strategic priority areas. From that perspective, the program has been very successful and served its purpose. Challenges have involved the timeliness of reporting, and some teams have relied too heavily on the college investment to sustain their program, setting unreal expectations. As the objective was to build teams around our eight strategic priority areas, we have evolved the Catalyst Grant Program moving forward. Rather than a fixed submission period, submissions are being accepted on a rolling basis. All support requests originate from one of the strategic resource groups (SRGs) and must support the development of external funding proposals that address strategic resource priorities defined by the SRGs. The SRGs are

teams that have coalesced around our strategic priority areas. We now offer three types of funding requests: (1) support for generating preliminary data to enhance the competitiveness of external funding proposals; (2) grant-writing support to develop large, multi-disciplinary external funding proposals; and (3) support to develop and deliver outreach or engagement programming aimed at providing evidence of outreach/engagement work to strengthen a proposal. Applicants are encouraged, but not required, to work through SRGs to develop programming that addresses the strategic priority areas of Davis College.

What I Gained from FSLI

The Food Systems Leadership Institute (FSLI) models leadership tailored to complex food and agricultural systems. Emphasis on personal development, relationship-building, and systems-thinking strategies has allowed me to grow as a leader. I have improved my core leadership skills, including self-awareness, emotional intelligence, and facilitation, which has improved my ability to enhance my team's performance and stakeholder engagement. Trust-building is key: FSLI taught me the importance of active listening, transparent communication, intentional coalition-building, and mechanisms for decision-making that accelerate collaboration across the college, which has been essential for this project. Strategic thinking and change management techniques, including adaptive planning, stakeholder co-creation, clear metrics, and attention to organizational culture, are helping me translate strategy into sustained practice. FSLI has been a tremendous asset to my leadership journey. Thank you, FSLI!