

STRENGTHENING INDIVIDUAL, FAMILY & COMMUNITY RESILIENCE

Economic, environmental, and social changes have altered rural America. Industries that historically provided the majority of employment opportunities, such as agriculture, natural resource-based businesses, and manufacturing, have steadily declined. Additionally, rural areas are experiencing aging populations, increasing ethnic diversity, outmigration, and changing family and household structures. Information on population trends is crucial to the decisions and judgments of local governments, businesses, utility providers, schools, hospitals, police, and others. With continued support and investment, the Land-grant University system is poised to strengthen individual, family, and community development and resilience.

RESEARCH PRIORITIES



Robust data about rural people and places



Cost-benefit analyses of policies



Models to analyze complex interactions between social, economic, and environmental drivers and consequences of rural changes



Programs that respond to emerging challenges and opportunities



Programs for underserved and diverse populations

CAPACITY & RESOURCES



Institutions in all 50 states and many U.S. territories with research sites representing diverse ecosystems, communities, and food systems



Interdisciplinary social sciences departments with skilled scientists, educators, students, and staff



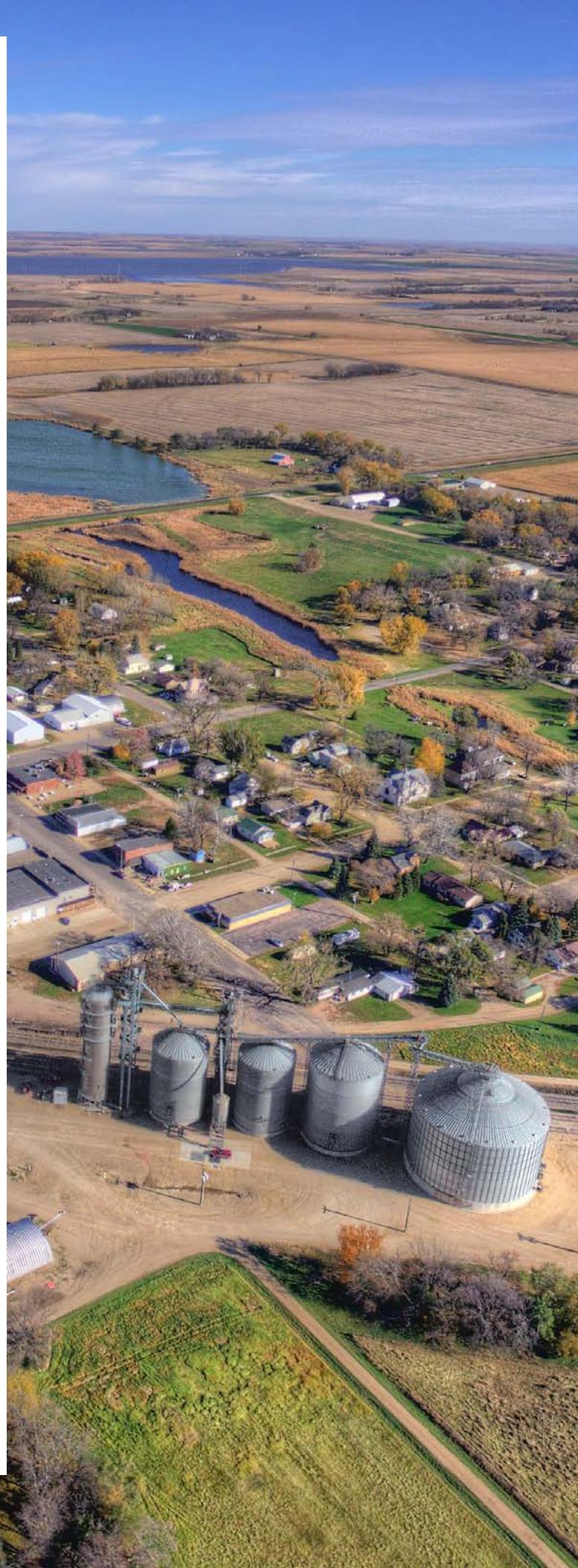
Impartial, peer-reviewed science, technology, and recommendations



Far-reaching Extension networks to work with and inform communities across the U.S.



Partnerships with government agencies, farm and commodity groups, and the private sector



SUCCESS STORIES

Research and Extension programs at Land-grant Universities have played a key role in guiding development of a revitalized, strong, prosperous, and resilient rural America. For example:

Land-grant University research showed that rural populations are shrinking due to outmigration of young adults, fewer births, increased mortality among working-age adults, and aging. These findings were included in the 2017 report of the President's Agricultural and Rural Prosperity Task Force, increasing the likelihood that policy and programs will reflect trends. This research also helped address home foreclosure in Minnesota and retain young adults in a Wisconsin county.

University of Wisconsin generated detailed net migration data and maps that have been accessed by more than

300,000 people.

University of Hawaii Extension programs helped immigrant farmers and farmers with limited English skills learn crop production, business planning, and marketing strategies that made their farms more viable.

17% greater farm revenues among rural counties that received USDA broadband loans. Research in **Oklahoma, Texas, and Mississippi** showed that broadband adoption drives higher rates of income growth, increases number of businesses, and lowers unemployment rates.

A **multistate** research team designed better septic systems and provided training opportunities and materials that have led to better septic system management, ensuring rural areas can rely on septic systems to safely treat wastewater and disperse it back into groundwater sources.

As Land-grant Universities dive deeper into controlled environment and precision agriculture, partnerships with the private sector are attracting new industries to the U.S. market.

8 businesses opened through **University of Arkansas** Extension's "Kickstart Cleveland County" action plan, increasing the number of businesses by **25%.**



Land-grant University research suggests green spaces and outdoor recreation are important factors in community health and resilience. To enable communities to turn contaminated lots into parks, gardens, and other common areas, a **multistate** team of researchers identified low-cost tools and strategies to test soil and reduce contamination.



Land-grant University research has shown that diversity and tolerance can lead to richer stores of social capital and economic prosperity. To meet diverse communities' needs, Land-grant Universities are trailblazing inclusive programs. For example, **University of Missouri** Extension launched mentorship and leadership programs that empower Hispanic children. Others developed bilingual websites to support Hispanic entrepreneurs and provide wellness information to families. Universities are also establishing toolkits for research and Extension that serves the LGBTQ community.



Nationwide, residents, businesses, and government agencies use Land-grant University research to guide disaster preparedness and recovery. Resources produced by **North Dakota State University** and **University of Minnesota** Extension helped family businesses recover from major flooding. Researchers also developed strategies that specifically help minority-owned businesses cope with natural disasters. A new tool developed by **Oregon State University** integrates detailed engineering models with economic models, providing better predictions of vulnerabilities and damage.

The Grand Challenges are part of the *Science Roadmap for Food and Agriculture* developed by the Experiment Station Committee on Organization and Policy (ESCOP) to guide food and agricultural research. A unit of the Association of Public and Land-grant Universities, ESCOP governs the research activities of Land-grant Universities and Agricultural Experiment Stations. Borne out of the Hatch Act of 1887 and the Evans-Allen Act of 1977, these premier institutions are supported by USDA NIFA and by collaborations across federal, regional, state, nonprofits, and private institutions. For more information:

- escop.info
- aplu.org

To learn about the research needs, resources, and success stories for other Grand Challenge areas, see the rest of this series: escop.info/roadmap



Experiment Station
Committee on Organization
and Policy (ESCOP)