



2019

Annual Report



North Central Regional Center for Rural Development



**Building a 21st
Century Economy**



**Sustainable
Community**



**Leadership
Development**



**Community Health
& wellness**



North Central Regional Center for Rural Development

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The North Central Regional Center for Rural Development (NCRCRD) is one of four regional centers in the United States that have worked to improve the quality of life in rural communities for nearly 40 years. With funding from the USDA National Institute of Food and Agriculture and the Land-Grant universities in our 12-state region, the NCRCRD helps Extension professionals, researchers and other partners address issues that affect rural areas across the region. The center provides leadership in rural development by linking research with education and community outreach to facilitate, integrate, link, and coordinate research and action for rural America.

This material is based on work supported by annual base funding through the National Institute of Food and Agriculture, U.S. Department of Agriculture. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture or other funders.

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Mission of the North Central Regional Center for Rural Development: Strengthening the ability of the Land-Grant university system to execute its rural development mission.

Key Partners

The NCRCRD's key partners provide financial and organizational support to our operations. Through the key partner network, the Center can access a wide array of technical expertise and on-the-ground knowledge.



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Mission Statement

The North Central Regional Center for Rural Development (NCRCRD) works with extension professionals, researchers, and their partners to enhance rural development outcomes in the twelve state north central region. The NCRCRD is jointly funded by the USDA and Land-Grant Universities in the twelve-state region. The NCRCRD is part of a group of four centers that together cover the entire United States. The four centers work collaboratively on issues that cross regional boundaries. The other three centers are:

[The Northeast Regional Center for Rural Development](#)

[The Southern Rural Development Center](#)

[The Western Rural Development Center](#)

The NCRCRD is Directed by a tenured faculty member at Michigan State University. The NCRCRD works to establish collaborative working relationships across the region to address emerging and continuing issues of interest to rural communities.

Message from Director



Dear NCRCRD Partners,

The NCRCRD had another active and productive year. I hope you find this year's annual report to be both informative and interesting. As I complete my five-year appointment as NCRCRD Director, I'd like to share a few thoughts about our work and what I've learned.

While I have always had a deep respect for my colleagues in the Land Grant system, my appreciation has only expanded these past several years. I am so impressed with their dedication and hard work in achieving the research and extension missions of the Land Grant system. It is clear to me that the end results of these efforts have been to serve people and improve the quality of life. I also have learned to appreciate the central role those of us in the Land Grant system in developing partnerships and networks, and leading state, regional, and national collaborations. This is hard but rewarding work that yields dividends over the long-run.

I also want to express my appreciation of the NCRCRD Board of Directors and Brent Elrod for their thoughtful guidance these past five years. Their fingerprints are on all the accomplishments attributable to the Center. I also express my appreciation for the Directors of the other three rural development centers (Northeast, Southern, and Western) for their comradery; we've partnered together to deliver several nationwide programs, and of course, their advice has been very much appreciated.

I will continue to serve in the Director role over the next year, until leadership transitions fully to the next Director. As for my next steps, I will return fully to my faculty role at Michigan State University in the capacity of Morris Chair in State and Local Government Finance and Policy. I will also go on sabbatical; plans are still forming but I have agreed to edit the "Handbook of the Economics of Natural Disasters", which will become of a part of Elgar's Handbook of Economics series.

Best regards,

Mark Skidmore
Director



New Board Members

This past year, Board Member Chris Caldwell completed his term on the NCRCRD Board. We thank Chris for all his contributions these past several years and wish him well as he continues to serve as Director of the Sustainable Development Institute at the College of Menominee Nation. We also wish him the best as he pursues a Ph.D. in Environmental Studies at the University of Wisconsin.

We also welcome Ms. Amber Marlow to the Board. Amber is the Dean of Continuing Education and Customized Training at Lac Courte Oreilles Ojibwe College in Hayward Wisconsin (LCOOC). An alumni of LCOOC, Amber was a recipient of the Dwight D. Eisenhower Transportation Fellowship Award. She also completed a BS degree in Transportation and Logistics Management from the University of Wisconsin – Superior. In her current role at the college, Amber oversees the Extension department and the 1994 land grant programs. Amber also oversees community education programs that serve over 1,500 participants annually on topics such as food sovereignty and gardening workshops, pre-college programs, regalia making, employability skills, entry-level road construction careers, exercising treaty rights, and natural resource management. Amber is a 1994 land grant representative on the North Central Region Water Network, the North Central Region Sustainable Agriculture Research Education (SARE) Administrative Council member, and the Vice-President of the First American Land Grant Consortium (FALCON).

Welcome Amber, and thank you, Chris!

Welcome Krystal Witt and Farewell Rosa Soliz!

After a productive multi-decade career at Michigan State University, including 10 years serving as NCRCRD administrative assistant, Ms. Rosa Soliz-McKelvey retired in November 2019.

Rosa was the glue that kept the Center hanging together...she was the oil that kept the cogs of machine well-lubricated.

Rosa was so effective at managing a wide range of duties, including but not limited to grants management, travel, preparation of documents, website management, and webinars. We miss her great work as well as her smile and caring personality. Rosa is busy spending time with family (especially her grandchildren), traveling, and getting caught up on home improvement projects.

Ms. Krystal Witt has stepped into the role without missing a beat, but she realizes she has big shoes to fill! She is very capable and is taking a variety of courses to learn the MSU systems required to manage the diverse set of Center activities. When Mark asked her for a quote on how things are going, she offered, "Thank you all for your very warm welcome to the NCRCRD. It has been a privilege to learn and become part of such a meaningful organization. The training I have gained in the last few months has strengthened my commitment to the Center, and I look forward to seeing where our collaborative efforts take us."

We extend our gratitude and best wishes to Rosa, and we welcome Krystal!

Over 10 years, NCRCRD Leverages \$3.5 Million in Core Funds to Generate \$12.3 million in External Grants

For the past 10 years, the NCRCRD has offered a range of sub-grants and small grants. This past year, a survey was administered to recipients of NCRCRD subgrants and small grants to learn more about the longer-term outcomes of the work they completed. In addition to the excellent outreach programming, training, research paper/articles, and cross-state collaborations, 19 of the recipients were successful in obtaining subsequent funding from entities such as the USDA, EDA, NSF, SAMHSA, state governments, and foundations to continue their work. For every dollar of grant funding the NCRCRD administered, an additional \$2.40 in grant dollars was subsequently generated for a total of \$4.79 million.

Over the last 10 years, the NCRCRD received a total of \$3.46 million in USDA core funding, which generated an additional \$7.53 million in direct grant funding from federal government sources.

For every \$1 of core funding, the NCRCRD generated an additional \$2 in supplemental grant dollars to engage in a range of activities in the rural development and health arenas.

In total, the \$3.46 million in core USDA funding helped to generate an additional \$12.32 million, which was used to support a diverse set of rural development activities in the North Central region and beyond. Every \$1 of core NCRCRD funds leveraged an additional \$3.56 in subsequent support.

This NCRCRD impact [infographic](#) summarizes sources and uses of funds in fiscal year 2018-2019, including funds leveraged during the period.

FY 19-20 NCRCRD SMALL GRANT AWARDS

Support Our Stores (SOS): Initiating Multi-State Response to Rural Grocery Store Crisis

PI: Kathy Draeger, University of Minnesota

Co-PIs: Jody Bruns, North Dakota State University; Ren Olive, University of Minnesota



Rural grocery stores, those located in communities with a population of 2,500 or less, are closing at unprecedented rates, the impact of which is being felt throughout rural communities nationwide. These closures are often permanent and new owners and stores are not replacing those that are shuttered.

The impact of these closures results in limited access to a full range of healthy grocery items, decreased Main Street businesses, reduced community assets, and vitality. This project seeks to identify, recruit, and orient Extension research and outreach to supporting the remaining grocery stores, piloting this in MN and ND. The goal of this project, Support Our Stores (SOS): Initiating Multi-State Response to Rural Grocery Store Crisis, is to develop a grant proposal to increase

land-grant university capacity to help stem the epidemic of rural grocery store closings in Minnesota and North Dakota and to provide a framework for other regions to address a similar problem.

This planning project will harness multi-state insight, experience, and expertise through the collaboration of the University of Minnesota (UMN) Extension and the North Dakota State University (NDSU) Extension services. The "SOS" planning team will: 1) conduct a Situation Assessment and identify available resources, 2) use project planning meetings with ND and MN to define goals and objectives, and, 3) complete a full grant proposal and budget.

Local Policymaker Perceptions of the Opioid Crisis and the Efficacy of Extension Communications

PI: Daniel Bergan, Michigan State University

Co-PI: Jody Bruns, North Dakota State University; Ren Olive, University of Minnesota



How accurate are local policymaker perceptions of the opiate epidemic in their communities? What types of evidence are most useful to local policymakers in making judgments about the severity of the opiate epidemic and the effectiveness of local policies meant to address opiate abuse? We plan to measure local policymaker perceptions and attitudes about the opiate epidemic in their communities, comparing policymaker responses to objective data about the local impacts of the opiate epidemic. We also plan to explore the impact of evidence about the opioid crisis on policymaker perceptions of the prevalence of opioid-related problems in their community, perceived importance of the issue, and support for potential policy solutions. To answer these questions, we will use a unique field experimental design and an online survey

of local policymakers in Michigan and Ohio. We will randomly assign policymakers to receive policy-relevant evidence, including locally tailored data on how the opiate epidemic affects their community, as well as reviews of the academic literature on the opiate policy as well as narrative evidence about the success or failures of a variety of local opiate-related policies in jurisdictions across the Midwest. We will follow-up with an online survey of policymaker perceptions and attitudes about substance abuse policy.

An Extension Guidebook to Help Communities Plan for Drought Using Scenario-Based Exercises

PI: Deborah Bathke, University of Nebraska-Lincoln

Co-PI: Peter Tomlinson, Kansas State University; Hans Schmitz, Purdue University; Tonya Bernadt, University of Nebraska-Lincoln



Droughts, with their prolonged absence of rain, can creep up on communities causing disastrous consequences to the economy, environment, and human health. Scenario-based exercises (e.g., workshops, tabletop exercises, and games) focused on drought offer an innovative way to bring people together to discuss drought planning and policy issues. Participants can collaborate with and learn from other community members, decision-makers, planners, and scientists. Rural communities, which often have limited fiscal resources and a lack of local government capacity may find these exercises especially

beneficial as they create a framework for helping the community to draw up their unique resources, such as their self-reliant nature, strong sense of community, tightly connected family networks, and knowledge of and ties to natural resources, to build resilience to drought and increase sustainability. This project translates existing research on how drought scenario exercises have been used to help communities better prepare for drought into an interactive Extension Guide designed to help Extension specialists and others working in community development educate communities about drought and the importance of planning; illustrate the use of scenario exercises as an innovative way to engage community members in the planning process; provide guidance for selecting appropriate scenario exercises to help start the planning process; and explore case studies based on the experiences of other communities and organizations.

Reducing Rural Young Adult Health Disparities through an Adaptive Mobile Relationship Intervention

PI: James Kale Monk, University of Missouri

Co-PIs: Amber Venum, Kansas State University; Elaine Johannes, Kansas State University



Due to the impact of intimate relationship quality and stability on mental and physical health, child outcomes, and the economy, the government instituted policy initiatives promoting healthy marriage through relationship education (RE). Many scholars recommend implementing RE with young adults given that early relationship dynamics while dating strongly predict later marital and health outcomes as individuals begin to focus on long-term committed unions during this key developmental period. Current RE initiatives are impaired by both limited resources to implement face-to-face classes, especially in rural areas, and the need for more adaptable, personalized content dissemination. The rapid development of mobile technologies provides opportunities for gathering information and delivering health interventions in real-time in rural

areas. Indeed, 65% of rural Americans own smartphones and many young adults use their smartphones to seek health information and relationship advice online. Unfortunately, the information available online is often anecdotal and maladaptive. Thus, along with the assistance of an interdisciplinary team of scholars, clinicians, educators, and software engineers (i.e., “Relevate”), we seek to respond to these limitations by providing a relationship-specific, individually tailored platform (i.e., “MyRelevate”) to share evidence-based curricula and content with the public. In order to equip Extension professionals with the tools needed to help rural young adults make healthy relationship and well-being decisions, we are requesting \$24,690 in financial support to finalize the development of the platform, create additional content, train Extension professionals in how to use MyRelevate, and support future grant submissions.

Homegrown: Entrepreneurship in your Community—An Entrepreneurial Ecosystem Curriculum

PI: Tessa Conroy, University of Wisconsin-Madison

Co-PI: Sarah A. Low, University of Missouri



Research and outreach on entrepreneurship in regional economic development indicates weak entrepreneurial networks in much of rural America. This problem is especially acute in regions that have traditionally relied on business attraction and retention as a rural economic development strategy, as have Wisconsin and Missouri. The proposed program aims to create a supportive network in rural areas so that when entrepreneurs are considering starting a business they get supportive signals from key community leaders. The principal output from this grant will be the development and piloting of an Extension curriculum, “Homegrown: Entrepreneurship in your Community.” The proposed Extension program taps the new and rapidly growing body of research on entrepreneurial ecosystems and uses it to create a customizable curriculum that aims to grow entrepreneurial networks in rural areas, and consequently, foster

rural economic development. A secondary output from this grant will be the development of a USDA NIFA AFRI integrated grant proposal to the “Innovation for Rural Entrepreneurs and Communities” program area, summer 2020. Our AFRI project will propose measuring entrepreneurial networks in rural communities and their impact on business ownership and performance. The policy question is whether there is a role for smaller communities to facilitate institutions that foster networking and social capital that enhances local entrepreneurship?

Updating Marketing Hometown America Curriculum and Expanding to Additional States

PI: Cheryl Burkhart-Kriesel, University of Nebraska-Lincoln

Co-Pi: Neil Linscheid, University of Minnesota; Peggy Schlechter, South Dakota State University; Jodi Burns, North Dakota State University; Abbie Gaffey, Iowa State University



This proposal seeks \$13,500 to update the award-winning “Marketing Hometown America” curriculum which is a community engagement process using study circles and action planning to help communities’ market themselves to new residents and businesses. This project will create a suite of resources to help local Extension staff initiate the program, recruit participants, and successfully conduct the program in their communities. The funds will be used for travel expenses to bring two Extension staff people from each of the five participating states to South Dakota State University for a two-day, facilitated innovation process in April of 2020. The refreshed curriculum will better address issues such as diversity and inclusion and better guidance on how to implement community priorities and projects to achieve their economic development and leadership goals. The revised curriculum will also incorporate the field research gained

from the first 52 communities to have completed this program with the scholarly research the program has thus far generated. This proposal also seeks the seed funding needed for an initial large print run of the new materials. The costs for the printing will be recovered through a nominal charge per booklet which will then pay for the on-going costs of reprinting materials. This keeps the cost of providing the program affordable for the small communities targeted by this program.

Impact of Small Grants

The NCRCD small grant has allowed me to.....

The project team is extremely grateful to NCRCD for funding this grant. It allowed us to hire a student researcher, gave us the ability to meet face-to-face to strategize about the direction of this study, and helped us develop a program that can be used to improve community development in rural communities by focusing on indicators that matter to rural communities. The process developed and the documents produced will be a valuable addition to the NCRCD’s programs available to member extension systems.

- Russell Medley, University of Illinois

The NCRCD small grant has allowed the University of Illinois and The Ohio State University teams to engage Extension professionals throughout the country to evaluate current practices and ascertain their needs and preferences for resources, which has resulted in the creation of new information concerning strategic planning practices within Extension, and has provided stimulus for organizational policy change.

- Anne Silvis, University of Illinois Extension

The NCRCD small grant has allowed me to 1) foster new relationships and establish new colleagues with interest in HSs; 2) bring together presidents, faculty, administrators and other stakeholder of HSIs in the Midwest to begin a conversation on the role of Hispanic Serving Institutions as community and economic development actors for the benefit of the Hispanic community; and 3) to adopt HSIs as a new topic of research in which I have begun to publish and in which I plan to pursue grant funding.

- Rene Rosenbaum, Michigan State University

“The NCRCD small grant has allowed me to better understand the actual impact of the pilot program resulting in valuable information that was in turn used to tweak the program. Thanks to the NCRCD, more communities could potentially benefit from this program.”

- Roberto Gallardo, Purdue University

National Behavioral Health Extension Network (NBH E-Net) Established



Opioid misuse, addiction, and overdose affect millions of Americans each year, causing immeasurable disruption and suffering in the lives of individuals, families and entire communities and draining billions of dollars from our economy. Overdoses are now the leading cause of death of Americans under the age of 50, the impacts of which are being felt in every region of the country, affecting both rural and urban places. The impetus of the crisis emerged in the mid-1990s, in part, because of false information about the degree to which opioid painkillers are addictive, which led to wide-scale use of opioid painkillers across the nation. Currently, about one in three American adults take prescription opioids during the course of a given year. (Han, et al., 2017). Prescription painkiller misuse has

now evolved into a growing illicit drug use problem nationwide. Vulnerability to addiction has multiple causes and includes genetic, epigenetic, psychological, developmental and contextual factors. Thus, effectively addressing the opioid crisis will require multiple types of solutions and interventions at multiple levels, across social contexts.

At the request of the Extension Committee on Organization and Policy (ECOP), in 2017 the [Extension Opioid Crisis Response Workgroup](#) (EOCRW) was formed to develop a strategic framework to guide Extension activities related to addressing the crisis nationwide. The charge of the workgroup was to:

- » Identify existing activities and competency frameworks in the land-grant system and develop an [Opioid Response](#) website that could be used to make opioid-related resources available;
- » Identify potential needs/opportunities/funding sources across the nation where the land-grant system could help to address the crisis;
- » Develop a strategic framework that could be used to coordinate a system-wide effort;

Mark Skidmore served as Coordinator for the EOCRW, and workgroup members included knowledgeable extension and outreach specialists as well as researchers from the land-grant system. One of the recommendations in the [final report](#) was that a National Behavioral Health Extension Network (NBH E-Net) be established. With funding and support the Regional Rural Development Centers, ECOP, and eXtension, NBH E-Net has been established to help [build capacity among Land Grant University Extension and collaborator systems to support training, technical assistance and workforce development \(T/TA/WD\) for dissemination of science-based behavioral health resources](#). NBH E-Net is housed within the Partnerships in Prevention Science Institute (PPSI) at Iowa State University under the leadership of Dr. Richard Spoth who serves as Institute Director and Wendall Miller Senior Prevention Scientist. The NCRCD is pleased to provide support and to have helped lead this initiative. We look forward to the ongoing capacity-building work of NBH Net!

NCRCD Partners with Michigan State University Extension to Provide Farm Stress Training

Low commodity prices, rising land costs, international trade disruptions, high debt loads, and natural disasters have contributed to increasing financial distress among American farmers. Farm families may experience challenges in managing the stress and frustration associated with these difficult circumstances. In late 2018, the NCRCD partnered with Michigan State University Extension on a \$500,000 USDA grant to develop and deliver training to help Farm Service Agency (FSA) personnel more effectively identify and assist farmers experiencing distress. The curriculum was adapted from Michigan State University Extension's "Communicating with Farmers Under Stress", wherein we developed and administered web-based learning sessions coupled with in-person training.



As that training was being completed in September 2019, the Farm Credit Council (FCC), American Farm Bureau Federation (FB), and the National Farmers Union (NFU) approached the NCRCD/MSU Extension team to request that we develop and deliver a similar web-based training. The partnerships with FSA, FCC, FB, and NFU have resulted in hundreds of people being trained such that they have increased knowledge, skills, and techniques they can now use to more effectively work with and assist distressed farmers. Program evaluations show significant improvements in knowledge, confidence, and effectiveness in working with and serving distressed farmers. See below for representative comments from participants about the training:

"Thank you for all the hard work you put into the distressed farmer training. I thought it was very helpful and I feel more prepared to handle some of these difficult situations."

"All of the training was useful, especially the active listening as well as the coping strategy."

"This was great!"

The projects are also an excellent example of collaboration across Land Grant universities in the NC region—partners assisting with the training included farm stress experts from Kansas State University, Michigan State University, NCRCD, Ohio State University, South Dakota State University, University of Illinois, and the University of Wisconsin.

North Central Region Water Network and the NCRCD Partner to Fund Flood Resilience Project



In the aftermath of the severe flooding in the spring of 2019 that hit the North Central region especially hard, Land Grant universities throughout the region partnered with federal and state authorities to assist affected communities. To provide a sense of the scope of the flood challenges, 74 cities and 65 counties in Nebraska declared a State of Emergency. Most of the efforts were devoted to emergency response and recovery, and rightly so. However, North Central Region Water Network (NCRWN) Director Rebecca Power and Mark Skidmore believed that a focus on long-term planning, preparedness, and resilience was also appropriate—what steps might be taken to reduce the impacts flooding in the future? The NCRWN and the NCRCRD decided to collaborate in offering a joint funded project to:

- » Document current extension responses to long-term flood planning and preparedness across the North Central Region,
- » Assess long-term flood planning and preparedness needs for agriculture and communities that extension is best suited to address,
- » Document gaps in extension programs and the research foundations of extension programs, related to long-term flood planning and preparedness.
- » Develop recommendations for strengthening extension support for long-term flood planning and preparedness and reducing flood vulnerability in the North Central Region.

The two organizations committed \$50,000 to the project (\$15,000 for planning and \$25,000 for implementation), which funded the initiative “Assessment North Central Region Extension Capacity in Long-Term Flood Preparedness.” The project team is led by Laura Edwards of South Dakota State University Extension State Climatologist and includes Dan Downing (University of Missouri), Josh Gunn (Michigan State University), Joel Larson (University of Minnesota), Miranda Meehan (North Dakota State University), Lisa Merrifield (University of Illinois), Amanda Mosiman (Purdue University), Hans Schmitz (Purdue University), Charles V. Schwab (Iowa State University), and Peter Tomlinson (Kansas State University).

The team notes that there has been a long-term trend of increasing precipitation in the North Central region, which has led to repeated or chronic flooding.

The project will explore the role of Extension in the region and how Extension can help provide resources, support, and guidance to address long-term regional flooding. The team’s first step is to conduct an overall assessment and then based on the initial findings use supplemental funding to begin filling the gaps in extension programs and the research foundations of extension programs, related to long-term flood planning and preparedness.

A New NCRCRD Report on Trade Shocks and Youth Jobs

As the United States and China squared off in a trade dispute, it became clear that it would take time to renegotiate the trade agreements, and that the dispute could affect American farmers and workers. In light of these issues, the NCRCRD invited Professor Michael Olabisi of Michigan State University to examine historical changes in trade agreements to learn about how American workers might be affected by this round of trade renegotiations. The end result is a new report, which is available at https://www.canr.msu.edu/ncrcrd/publications/Olabisi+Working+Paper_updated.pdf. The paper examines how international trade affects American employment and particularly youth employment, which is probably the category of employment that is most sensitive to shocks.

The link between trade and youth employment is key for understanding the country’s future prospects, just as we learn lessons from the decline of manufacturing jobs in the past decades. As exports and imports command a greater share of the U.S. economy, there is much to learn about how trade will affect jobs in the coming years, and whether the jobs affected by trade are more likely to be the ones that have long-term impacts for youth.

The focus on youth employment is motivated by the fact that episodes of job-loss early in a career may leave long-lasting income ‘scars’ for individuals, as well as the fact that youth employment is skewed more towards some sectors than others.

The effects of trade on jobs are magnified when considering the networked nature of production, or simply put, the supply chain effects of trade. While a 1% change in import exposure for a sector is expected to yield a 0.01% decrease in employment, based on pre-Recession data, the same change in import exposure for downstream sectors – the industries buying the sectors’ output, is expected to lead to a four-fold relative decline in jobs, at 0.04%. This means that while imports of cars may lead to a loss of car-assembly jobs for example, the impact of car-imports is four times greater on average, for the industries making windshields and other components supplied to the auto-assembly sector. These results are expected to change over time, as the structure of US employment changes, but the pattern of larger employment effects on youth is expected to persist.

The analysis shows that increasing imports over the past decades affected employment across age-groups in non-uniform fashion. Increased imports are more closely associated with job losses for young workers. For each percentage increase in US import exposure between 2000 and 2007, before the Great Recession, the estimated percentage change in employment is about 0.005% for the 35–44 and 45–54 age groups, while it is roughly 0.009% for youths below the age of 25, almost double the effect for the older age group.

The estimates also suggest that increasing exports create more job opportunities for youth, relative to the rest of the US population. These findings are consistent with previous articles that indicate greater employment volatility for youth, while calling for further inquiry into how the long-term adverse effects of the ‘scar’ of youth unemployment could be avoided.

These findings are particularly relevant to the economy of the US Midwest, which has a relatively larger share of US manufacturing, and which is connected through buyer-supplier linkages to some of the largest employers in the US economy. The region’s agricultural sector is linked to some of the largest food manufacturers, just as the region’s metals and materials production serves many of the largest manufacturing operations in the country. Wholesale trade and other supply chain operations also account for a notable share of the region’s output, which effectively links its employment to the jobs and imports of other sectors around the United States.

The findings also call for further inquiry into the long-term effects of the ongoing trade-war. Specifically, there is the need to ask how the new tariffs and retaliation from the country’s trade partners impact youth employment, and whether the impacts are large enough to create significant long-run consequences.

Post-doc Quan Sun Assesses Flood Impacts and Recovery in the North Central Region



Dr. Quan Sun is currently serving as a Postdoctoral Research Associate at the North Central Regional Center for Rural Development, where he is focusing his efforts on helping to address impacts and resilience to flooding in Nebraska and the surrounding flood-impacted areas in the North Central region. A primary goal is to enhance resilience of communities for the future severe flood events. Currently, Dr. Sun is conducting research to assess the scope of economic and social impacts of flooding in the affected areas, which includes the analysis of long-term impacts on local economies, local government revenues/expenditures, and the efficiency of different recovery efforts/policies. This quantitative analysis is coupled with qualitative work in specific flood-affected communities. He and the broader team of Extension specialists and researcher are working to identify appropriate policy prescriptions to improve flood response and the resiliency of local economies to future flooding events. Dr. Sun is located at

the University of Nebraska where he is working with a flood response team.

Graduate Assistant Scott Knowles Examines the Efficacy of Cloud Seeding Reduce Hail Damage



NCRCRD Graduate Assistant Scott Knowles has been working on various projects for the NCRCRD since 2018. However, the research component of his work focused on evaluating the effectiveness of weather modification as a crop hail damage reduction agent. His research evaluates whether cloud seeding in the summer – when hail is most pernicious – reduces hail damage to small grain crops (wheat, barley, and oats) in North Dakota. In order to “seed” clouds, meteorologists and pilots work together to target possible hail-producing clouds, send aircraft underneath or into those clouds, and then release silver iodide or dry ice into the cloud in order to shrink the size of the hailstones that form. The North Dakota Cloud Modification Project (NDCMP) has been using aircraft to seed clouds since 1961 and is funded via a state-county cost share program (where the county pays 2/3 of the program costs each year). Using crop, insurance, and weather data from the USDA, NOAA, and NDCMP, Scott’s research suggests that counties

that participate in North Dakota’s cloud seeding program experience improved small grain crop yields due to reduced crop losses. Based on his analysis, the program’s 2017 benefit-cost ratio was approximately 20:1. As concerns regarding the changing climate and prevalence of extreme weather continue to grow, Scott’s research offers a useful evaluation of a potentially effective adaptation mitigating with crop loss due to hail. Scott will be graduating with his master’s degree in environmental economics this May.

Addressing Power Asymmetries in Community Development



Former NCRCRD postdoctoral scholar Annabel Ipsen has been studying power structures in communities across the globe. During her time with the NCRCRD, she examined the role of power asymmetry in the process of community development. The end result is a new NCRCRD working paper “Addressing Power Asymmetries in Community Development” (<https://www.canr.msu.edu/ncrcrd/uploads/Working%20Paper%20IpsenPowerComDev.pdf>)

In earlier work, Annabel examined the case of transnational agribusiness firms and their relationships with local governments and communities, where she found that communities with broader advocacy networks, lower unemployment levels, and more diversified economies tend to fare better in negotiating with firms than those who lack those characteristics. People often turn to her for advice on how communities can strengthen their position in situations of unequal power. In part, this previous research

is what motivated the present work on power asymmetries in community development that began when she was a postdoctoral scholar at the North Central Regional Center for Rural Development.

In this paper, she examines how communities can level the playing field with outside powerful actors in the development process. Will a “cut-and-paste” development model work for all communities, or can we offer strategies that are more reflective of specific local realities? This question is particularly important as communities with different assets seek to participate more fully in the development of their communities. At the same time, the current regulatory climate poses challenges to communities seeking to proactively establish policies and guidelines to shape what development looks like at the local level since state and federal governments do not always agree on which tasks communities are able to take on locally and which ones are preempted by higher authorities. This tension intensifies when powerful outside actors are present and do not share a similar vision of development.

This paper examines the ways that power inequalities shape community development strategies and outcomes. Annabel convincingly makes the case that practitioners and scholars must consider not only the needs and assets within communities when building development strategies, but also the broader sociopolitical and historical context in which communities are situated. Power and place are central components of development. Annabel brings together asset mapping and a power-sensitive version of commodity chain analysis to illustrate how communities with different levels of assets and place-based economic development have more or less power to negotiate the shape that development takes in their communities. Annabel develops a conceptual framework that outlines four types of local power, drawing on examples to show what kinds of strategies are most effective for building participatory development in communities with each type of power. This framework helps community leaders/members analyze themselves as well as the role that powerful actors play in molding development.

NC1100 Innovations in Agriculture Project Generates \$1 Million in SBIR Awards



The “Innovations in Agriculture and Rural Development” project reached a new milestone in 2019. Dr. John Mann’s newly developed pilot program providing Small Business Innovation Research (SBIR) coaching guided a disabled-veteran-owned agri-business through the phase II proposal process winning \$650,000 in 2019 for the establishment, StartUp Food Biz. The SBIR coaching program was designed to help innovative rural and agricultural small businesses develop SBIR proposals under USDA topics, and was borne out of the SBIR extension and outreach effort led by the Western Rural Development Center in 2017 and 2018. The new establishment, StartUp Food Biz, agreed to pilot the coaching program and, in total, received nearly \$1 million (combined phase I and II grants and state matching program dollars). Two other highlights included featured innovations from the University of Missouri and South Dakota State University. Dr. Chung-Ho Lin’s (University of Missouri) innovation uses novel carbon-based technology to

remove contaminants, such as atrazine, from drinking water sources including wells, groundwater aquifers and surface water. The technology also has important applications for restoring watersheds as well as in use by municipal water treatment plants. Dr. Qiquan Qiao’s (South Dakota State University) technology advances precision agriculture in soybean production. The innovation uses a combination of novel sensors and networks to map in real time the improvements in porosity, water flow, potential nutrient stresses, and yield potential throughout the soybean plant’s development. Working closely with Dr. Mann, Dr. Qiao’s developed a new SBIR phase I proposal targeting USDA’s Small and Midsized Farms topic area. Award notifications from USDA will occur in late spring 2020.

New research related to rural innovations and the SBIR program is also being developed by Dr. Mann and colleagues. Matching SBIR data to USDA’s Rural Establishment Innovation and the National Extension Time Series (NETS) data, two new research articles are in preparation for the American Journal of Agricultural Economics and Economic Development Quarterly. The first article shows evidence that the SBIR program can lead to innovation creation for firms operating in rural regions. The second compares the job growth of rural and urban firms after receiving SBIR awards. Combined, the implications are that the SBIR program can inspire innovation creation, leading to job growth in rural regions and in a range of industries. The research team is also developing several other research concepts regarding rural innovation and the SBIR program, most notably a method to evaluate the economic impacts of funded USDA topics with those from other agencies.

Tribal College/1862 Land Grant Institution Matching Program Results in \$500,000 Award

Working closely with Dr. John Phillips, of the American Indian Higher Education Consortium and Executive Director of the First Americans Land-Grant Consortium (FALCON), Dr. Mann continued the effort to facilitate new collaborations between researchers at 1994 and 1862 Land Grant institutions. One result of this effort was a new collaboration with faculty at the College of the Menomonee Nation and Michigan State University. The collaboration includes research, extension and outreach related to broadband use and business development in rural and tribal areas. The team made two presentations at the 2019 Annual Southern Regional Science Association Conference and an invited presentation at Upjohn Institute in Kalamazoo, MI. The collaboration also included a new \$500,000 NIFA grant application developed during the summer of 2019, which the team just received notification of winning the award.

2019 WEBINARS

Integrating and Sustaining Financial Capability Services in Rural Healthcare Delivery

Presented by: J. Michael Collins (University of Wisconsin), Elizabeth Kiss (Kansas State University) and Suzanne Bartholomae (Iowa State University)

Making Sense of Incentives: Taming Business Incentives to Promote Prosperity

Presented by: Timothy J Bartik (Upjohn Institute)

Will Local Foods and Technical Change Alter the Urban Form?

Presented by: Scott Loveridge, John Mann & Spencer Thompson (Michigan State University)

POLYFACE The Farm of Many Faces

Presented by: Joel Salatin

The Impact of Naloxone Access Laws on Opioid Overdose Deaths in the U.S.

Presented by: Elham Erfanian (West Virginia University)

Using Community Supported Enterprises to Address Shrinking Markets in Rural Areas

Presented by Norman Walzer (Northern Illinois University) and David Ivan (Michigan State University)

NC Region Aging Network: A Multi-State Collaboration to Enhance Aging-Related Extension Outreach

Presented by: Erin Yelland (Kansas State University), James Bates (The Ohio State University) and Jacquelyn Benson (University of Missouri)

NSF IUCRC: Center for Solid-State Green Electric Power Generation and Storage

Presented by: Qiquan Qiao (South Dakota State University)

Precision Agriculture Sensing Systems

Dr. Qiquan Qiao (South Dakota State University)

Removing Emerging Contaminants in the Drinking Water by a Novel Carbon-based Enzymatic Reactor

Dr. Chung-Ho Lin (University of Missouri)

The Relationship Between Opioid Prescriptions and Child Removals

Troy Quast (University of South Florida)

The Impact of the Opioid Crisis on Hospitals: A Nurse's Perspective from the Bedside

Nicole Adams, PhD., RN, CEN, Purdue University

The Midwest Big Data Hub: advancing the data ecosystem, projects and partnerships

Melissa Cragin and Alice Delage (University of Illinois)

Understanding Stress and Depression in Farmers and Ranchers

Andrea Bjornestad (South Dakota State University) and Courtney Cuthbertson (Michigan State University)

Results of Virtual Focus Groups on Small Businesses and Rural Communities

Craig Carpenter & Anders Van Sandt (TAMU); Linda Niehm & Steven McKinney (Iowa State University); Scott Loveridge (Michigan State University)

Hispanic Serving Institutions (HSIs) and Emerging HSIs in the Midwest

Rene Rosenbaum (Michigan State University) and Stephen Jeanetta (University of Missouri)

Mental Health Promotion: An Opportunity for Opioid Overdose Prevention

Laura Schwab-Reese (Purdue University)

Reconceptualizing Quality, Affordable Childcare as Public Utility: Family, Child, and Economic Development Perspectives

Bradford Wiles & Jessie Piper (Kansas State University), Holly Hatton-Bowers (University of Nebraska-Lincoln), Alison Brennan (Michigan State University)

Growing Lavender: A Curriculum for Growers

Presented by: Seven Mattes and Wynne Wright (Michigan State University)

Publications

Alvayay, C., Paredes, D., and Skidmore, M. 2020. Housing Demolition and Property Tax Delinquency: Evidence from Detroit, *Journal of Urban Affairs*, DOI: [10.1080/07352166.2019.1697183](https://doi.org/10.1080/07352166.2019.1697183)

Aryal, G., Mann, J., Loveridge, S., and Joshi, S. 2020. Drivers of Difference in Inventiveness across Urban and Rural Regions, *Journal of Urban Affairs*, DOI: [10.1080/07352166.2020.1712151](https://doi.org/10.1080/07352166.2020.1712151)

Bourdreaux, C., Escaleras, M., and Skidmore, M. 2019. Natural Disasters and Entrepreneurship Activity, *Economics Letters*, 182: 82–85.

Carpenter, C., and Loveridge, S. 2019. Factors Associated with Latino-Owned Business Survival in the United States. *Review of Regional Studies*. 49(1):73–97.

Dobis, E., Stephens, H., Skidmore, M., and Goetz, S. 2019. Explaining the Spatial Variation in American Life Expectancy, *Social Science and Medicine*, 246: doi.org/10.1016/j.socscimed.2019.112759, 2020.

Inwood, S., Becot, F., Bjornestad, A., Henning-Smith, C., and Alberth A. 2019. Farmer Mental Health Programs in the Extension North Central Region. *Journal of Extension*, 57 (6): 6rb1.

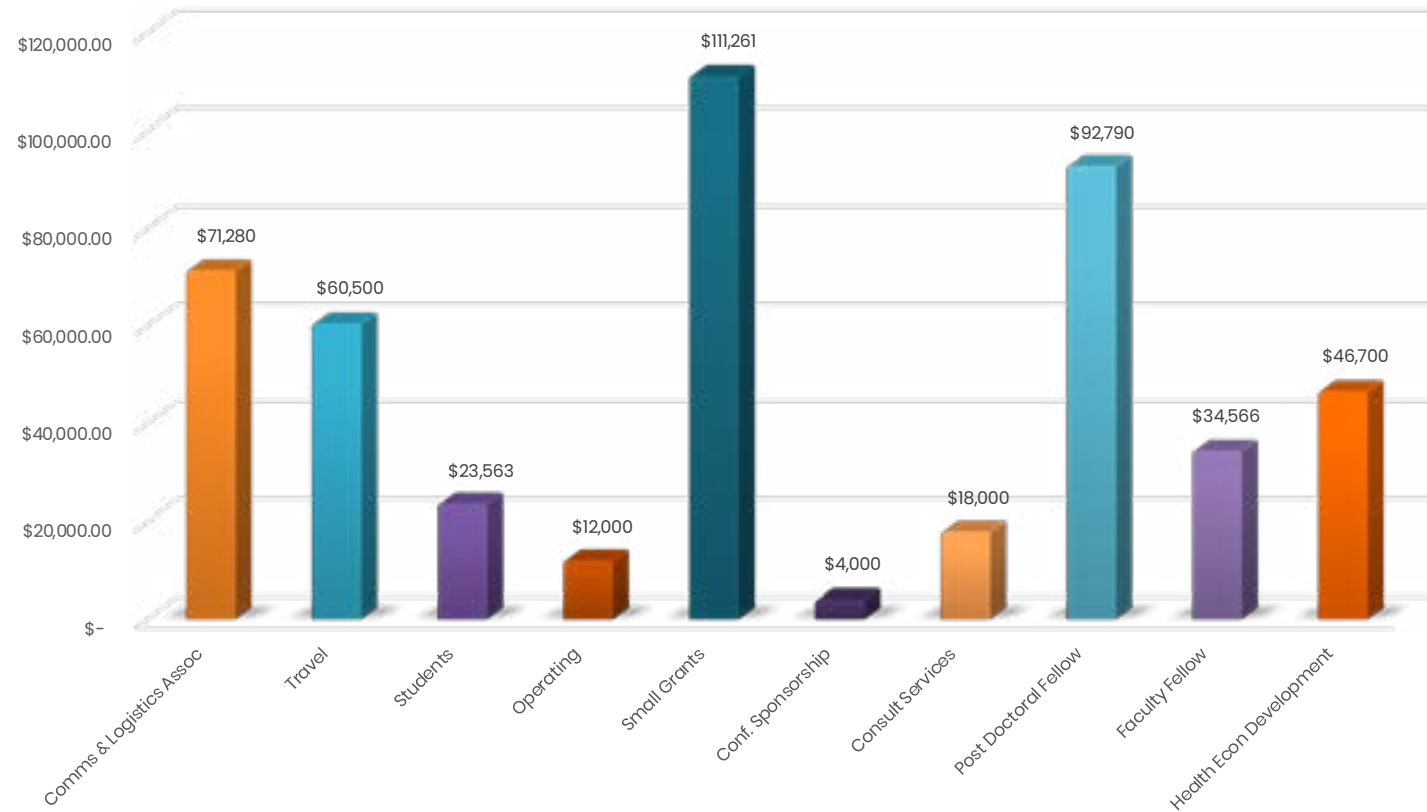
Gemmell, N., Grimes, A., and Skidmore, M. 2019. Do Local Property Taxes Affect New Building Development? Results from a Quasi-Natural Experiment in New Zealand, *Journal of Real Estate Finance and Economics*, 58 (2): 310–333.

Green, B., Jones, K., Lyerla, R., Dyar, W., and Skidmore, M. 2020. Stigma and Behavioral Health Literacy among Individuals with Proximity to Mental Health or Substance Use Conditions, *Journal of Mental Health*, DOI: [10.1080/09638237.2020.1713998](https://doi.org/10.1080/09638237.2020.1713998)

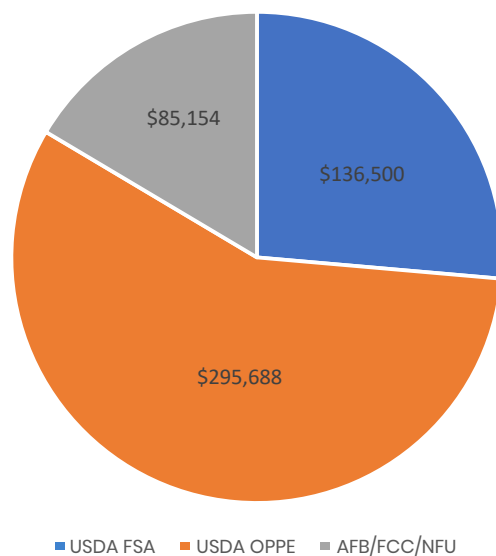
Lim, J. and Skidmore, M. 2020. Natural Disasters and their Impact on Cities,” forthcoming in *Oxford Bibliographies in Urban Studies*. Ed. Richardson Dilworth. New York: Oxford University Press.

2019 NCRCRD Funding

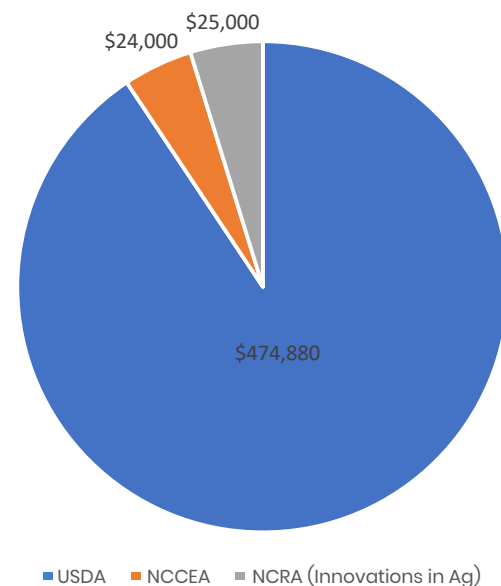
Core Budget Allocations



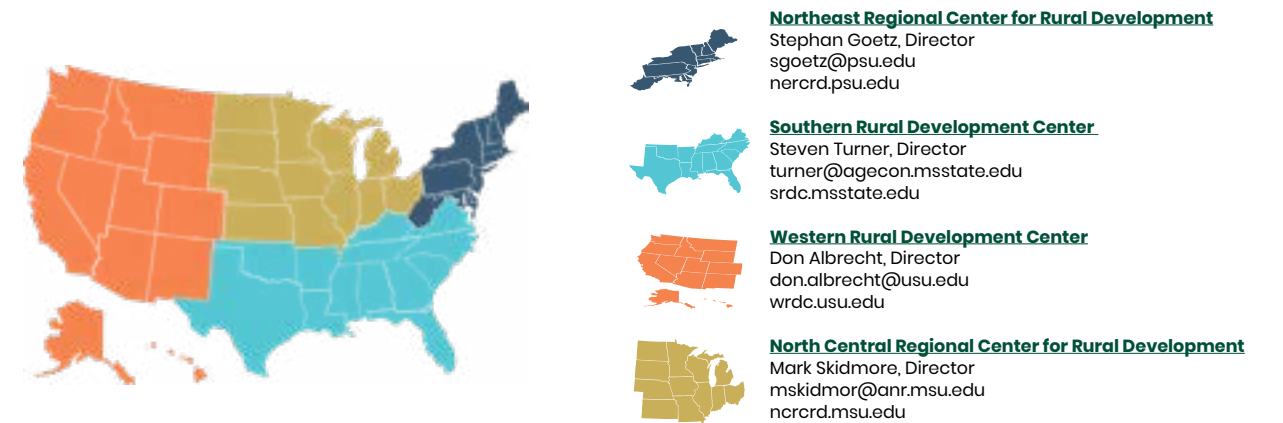
External Funding



Core Funding



The NCRCRD is one of four USDA-funded Regional Rural Development Centers. The Centers work within their respective regions and collectively on national projects.



North Central Land-Grant Colleges and Universities

Original 1862 Land-Grant Institutions

- Iowa State University
- North Dakota State University
- South Dakota State University
- University of Missouri
- Kansas State University
- The Ohio State University
- University of Illinois
- University of Nebraska
- Michigan State University
- Purdue University
- University of Minnesota
- University of Wisconsin

1890 Historically Black Institutions

- Lincoln University
- Central State University

1994 Native American Tribally Controlled Institutions

- Bay Mills Community College, Brimley, MI
- Cankdeska Cikana Community College, Fort Totten, ND
- College of Menominee Nation, Keshena, WI
- Fond du Lac Tribal and Community College, Cloquet, MN
- Fort Berthold Community College, New Town, ND
- Haskell Indian Nations University, Lawrence, KS
- Keweenaw Bay Ojibwa Community College, Baraga, MI
- Lac Courte Oreilles Ojibwa Community College, Hayward, WI
- Leech Lake Tribal College, Cass Lake, MN
- Little Priest Tribal College, Winnebago, NE
- Nebraska Indian Community College, Macy, NE
- Oglala Lakota College, Kyle, SD
- Saginaw Chippewa Tribal College, Mt. Pleasant, MI
- Sinte Gleska University, Mission, SD
- Sisseton Wahpeton Community College, Agency Village, SD
- Si Tanka/Huron University, Eagle Butte
- Sitting Bull College, Fort Yates, ND
- Turtle Mountain Community College, Belcourt, ND
- United Tribes Technical College, Bismarck, ND
- White Earth Tribal and Community College, Mahanomen, MN

Hispanic-Serving Institutions

The center is eager to serve federally designated Hispanic-Serving Institutions (HSI) wishing to pursue rural-development activities. The HSI status depends on an enrollment threshold of 25 percent or more Hispanic students, so qualifying institutions may vary from year to year.



NCRCRD

**North Central Regional Center
for Rural Development**

Contact

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