

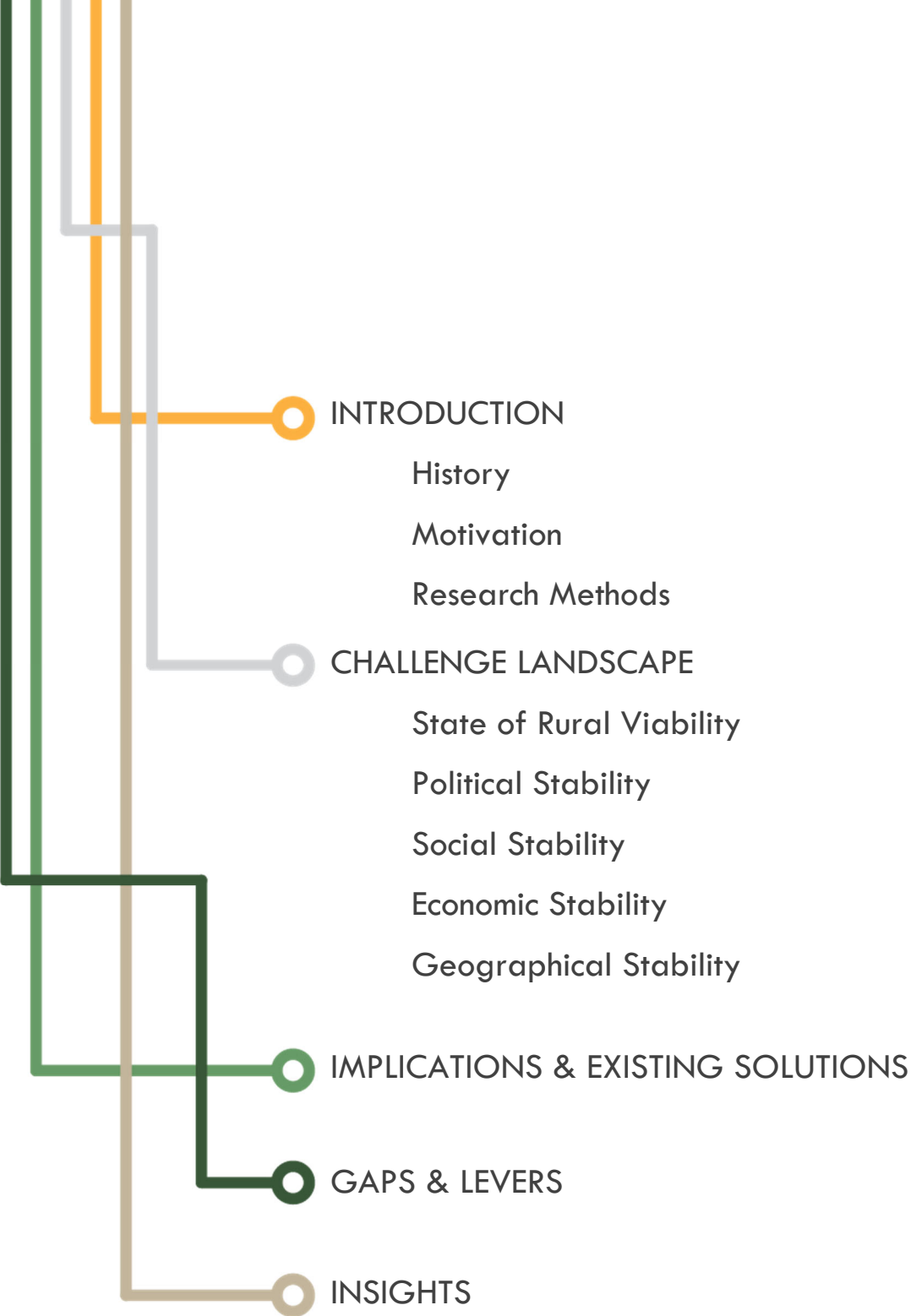


# Life on the Prairie

*Evaluating the Viability of  
Rural Communities in North Dakota*

Map the System – Research Summary

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# INTRODUCTION

The United States Census Bureau defines rural as: "any population, housing, or territory NOT in an urban area". [56][7] Nearly 97% of North Dakota's landmass is designated for rural or agricultural purposes. [R5] Yet, this majority of the landmass directly serves 19.3% of the total state population. [33] Factoring in communities and rural townships, the rural density of North Dakota represents 39.4% of the 779,094 residents. [R2][10] With each passing decade, rural citizens face deteriorating economic conditions, contributing to a vicious cycle of depopulation.

Depopulation refers to chronic population losses that prevent counties from returning to an earlier period of peak population size. [40] This systemic issue has grown since the 1940's, when the population density of North Dakota inverted to an urban majority. [42] From 1900 to 2010, 42 of 53 counties experienced a decrease in population- 23 lost greater than 10% of residents. [R3] From 2010 to 2020, 30 counties experienced an additional population decrease. [33] As time progresses, the challenges introduced by depopulation compounds and erodes the fundamental systems of support for a healthy rural community. This erosion upsets the complex balance of political, social, economic, and geographical factors that create a sustainable environment for a rural community to thrive. **This systems-mapping project defines the interactions of Political, Social, Economic, and Geographical stability and its correlation with the viability of rural communities in North Dakota.**

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[7] Burd, C., Holder, K., Fields, A., & Ratcliffe, M. (2016). Defining Rural at the U.S. Census Bureau

[R5] ND. Dept of Commerce – Census Applications

[33] 2020 Census - Population Change Summary

[R2] 2020 North Dakota Census

[10] Cromartie, J. (2018). Rural America At A Glance - 2018 Edition

[40] Johnson, K. M., & Lichter, D. T. (2019). Rural Depopulation: Growth and Decline Processes over the Past Century

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[R3] 2020 US Census Demographics Map

## HISTORY

North Dakota, founded formally in 1889, is the 39th state of The United States and is located centrally along the United States border with Canada. Originally inhabited by Indigenous communities, North Dakota's geographic territory has been recognized as the home of multiple Native American tribes, including the Mandan, Hidatsa, Arikara, Cree, Ojibwe, and affiliated Sioux Tribes. Due to the draw of westward expansionism and the burgeoning fur trapping industry, Native Americans were forcibly removed from their ancestral homes and relocated to reservation territories by European settlers in the 19th century. The Homestead Act of 1862, signed by Abraham Lincoln, declared the United States' intentions to incentivize the habitation of acquisitioned lands in the Midwest. Selected applicants would receive 160 acres (.65 sq km) of land in a designated territory. As a result, this legislation drove migrant Europeans to settle in the Midwest region. [9]

Recorded as having a 92.7% rural population in the 1900 Census, North Dakota was a prototypical rural territory that established a strong identity with agriculture and livestock production. Early 19th century industries also contributed to an expansion of homesteading- such as railroads and meatpacking. This expansion was so prolific, that the current distribution and layout of most rural towns lie along historic railways. [8] Spaced an average of seven miles apart, these towns were platted (planned and organized) by railroad companies to be ideal for grain delivery via railway. [1]

Reliance on a single industry would come to cripple rural North Dakota towns, however. Near the end of World War I, the prices of agricultural goods dropped, and farms were no longer able to sustain their operations. A series of railway consolidations in the 1920's, the Great Depression of 1929, and the "Dust Bowl" drought from 1932-1938 proved fatal to rural farms and communities. [2] As economic opportunities disappeared, rural residents migrated to the urban cities in search of economic stability. This demarcation point signaled the long decline of the rural community that continues today.

[9] Early Settlement of North Dakota. (2020). North Dakota State Historical Society.

[8] Burns, A. (2021). North Dakota Railroads In "The Peace Garden State".

[1] Hudson, J. C. (1982). Towns Of The Western Railroads

[2] Scheyder, E. (2014). Why a small North Dakota town is taking on Big Rail

## **MOTIVATION**

My family is the result of the Anglo-European migration in the late 19th century. Immigrants from Germany, Norway, Ireland, and England- they re-established a home in the Eastern North Dakota region known as the Red River Valley. Named for the northerly-flowing Red River of the North, this naturally flat and highly fertile landscape is revered for its agricultural potential. While I currently reside in an urbanized community, my family comes from rural environments. I have witnessed the decline of these communities and remain interested in the complex systems of support that impact this change.

## **RESEARCH METHODS**

In my research I use state and federal data gathered in reports and surveys to help convey the statistical shift in demographics for North Dakota. I use research papers to build an academic framework for the methods of identification of primary factors used in my system. Literary resources such as books and encyclopedias help develop the narrative framework for my presentation. Secondary-source interviews, whitepapers, and opinion publications apply local perceptions and opinions into my reporting. News and journalistic pieces depict current events and help demonstrate the identified factors of my system.

# CHALLENGE LANDSCAPE

## STATE OF RURAL VIABILITY

Recent estimations define 39.4% of North Dakota’s population as rural. [11] Studies created at Texas A&M University define a viable community as one that can succeed by using available physical and human resources to provide for the economic, social, and physical needs of community members. [46] With current statistics, one out of every three North Dakotans face the question of community viability in the coming decades. [3][4] The challenge of rural development is so significant that the United Nations (UN) identified it as one of the primary goals for improvement. The UN had declared that “sustainable rural development is vital to the economic, social, and environmental viability of nations.” [49]

There are four primary metropolitan areas in North Dakota that demonstrate continual growth. [15] As these communities continue to capitalize from urbanization, it raises the question of how rural identity fits into a sustainable growth model. If a rural community becomes too large, it becomes urbanized – destroying its rural identity. If it stagnates, however, it becomes economically nonviable. [6] How can a rural community remain viable without losing its rural identity?

[11] Cicha, J. (2017). Defining Rural Population. Growing ND by the Numbers

[46] Beardon, C., Cruz, N., Heinsohn, H., Kuzaro, J., Norton, K., Richardson, W., & Wood, M. (2020). Rural Viability Index

[3] Love, H., & Powe, M. (2020b). Rural Main Streets can’t achieve true economic revival without bridging social divides

[4] Love, H., & Powe, M. (2020c). Rural small businesses need local solutions to survive

[49] Report on the 17th session of CSD. (2009). UN Sustainable Development Goals

[15] Rathge, R., Clemenson, M., & Danielson, R. (2002). North Dakota Population Projections: 2005-2020.

[6] Bednarikova, Z. (2022). WHY DO PEOPLE IN THE NORTH CENTRAL REGION LEAVE THEIR RURAL COMMUNITIES?

## POLITICAL STABILITY

Political representation of the rural demographic is imperative to its long-term growth and development. [16] Much of the rural economy is reliant on federal programs and state subsidies. The most direct way to affect change upon a rural demographic is to ensure that there is adequate political representation for these programs. [5]

The polarization of the American political system feeds into this reliance by capitalizing upon the urban-rural divide. The United States Electoral College, established in 1787, was created with the intention to balance the power divide between urban and rural states- with regards to equal representation. [58] On a per-person basis, the rural United States has greater influence on the elected representatives from their districts. [60] This has given disproportional power to the rural minority and has stirred questions about the Electoral College's role in modern politics.

Distrust and disaffection toward the political system is endemic to the rural United States. Historical patterns of economic exploitation of rural communities, political abandonment of the rural demographic by Centrist and Left-leaning political parties, and the homogeneity of media depictions of rural issues compounds the inability to affect progressive political change. [59]

Achieving Political Stability is the first of four primary factors toward achieving viability. Through civic engagement, residents elect representatives that share their political ideals and beliefs. These shared ideals indirectly lead to policies and laws that benefit the community. Political discourse is a counterbalance that enables rural voices to be considered in policy revisions and re-elections. When a rural community achieves political stability, community engagement benefits and directly impacts social and geographical stability. With supportive policies, rural communities gain investment and funding for programs that uplift the rural economy. [61]

[16] Henderson, T. (2021). Shrinking Rural America Faces State Power Struggle.

[5] Love, H., & Powe, M. (2020a). Building resilient rural places: Strategies from local leaders to strengthen rural assets, diversity, and dynamism.

[58] Badger, E. (2019). How the Rural-Urban Divide Became America's Political Fault Line

[60] Parker, K., Menasce Horowitz, J., Brown, A., Fry, R., Cohn, D. v., & Igielnik, R. (2018). WHAT UNITES AND DIVIDES URBAN, SUBURBAN AND RURAL...

[59] Molinaro, J., & Spjeldnes, S. (2021). The Electoral College and the Rural-Urban Divide

[61] Rodden, J. A. (2019). Why Cites Lose.

## SOCIAL STABILITY

Determining the structure of social stability of a rural community begins with analyzing the structure itself, the community. A community is defined as a unified body of individuals with common interests living in a particular area [62]. Community engagement shapes the internal perception, in this case: attractiveness, of a rural environment. The measure of attractiveness or likeability determines the personal and social reinvestment that citizens contribute. If a locale is attractive, it incentivizes population stability and familial growth. In turn, this growth provides a steady population of residents and future opportunity. [63]

The opposite can be attributed to this same rationale. If there is avoidance in a rural environment, the resulting decrease in population leads to a lack of future opportunities. By removing future opportunity, you increase the avoidance factor. This feeds back into further population decrease and continues until no population is left, thus creating a vicious cycle. [19]

External intervention is necessary to counteract the effects of this vicious cycle by utilizing tourism and building up the social perceptions of rural inhabitants. The introduction of tourism increases the likeliness of external investments, which builds upon the access to equity and capital. The balance is created through reinvestment efforts that bolster the social perceptions of the rural community. By counteracting the avoidance factor, communities balance the natural decline of population with stimulated attractiveness through investment.

Finally, to maintain a healthy and stable population, access to education and health services are vital. [13] By affording access to education, a community builds future opportunity and long-term reinvestment. Access to healthcare ensures that citizens maintain high quality of life standards. [31] Both factors of education and healthcare are supported by state and federal investment via policy enactment. [50][18] All social components are mutually beneficial to the economic health of the rural community by providing workforce and reinvestment opportunities.

[62] Definition of Community. Merriam-Webster

[63] Runch, M. (2020). Rural attractiveness – a holistic, place based approach

[19] Johnson, K., & Lichter, D. (2019). Rural Depopulation in a Rapidly Urbanizing America

[13] Nissen, K. (2022). North Dakota Rural Health Guide

[31] Schroeder, S., Bauman, S., Quinn, R., & Dickson, L. (2019). Rural OUD Programs, Policies, Needs

[50] Gibbens, B. (2021). Understanding Rural Communities: What Makes them Unique and Why It Matters

[18] Farquhar, D. (2019). Rural Populations Growing, Slowly



## ECONOMIC STABILITY

By providing a stable economic environment, the long-term inhabitation of residents and re-investment toward community growth is reinforced. [14] Re-investment is characterized by economic stability. State and federal support is derived from political stability. External and private support is supported by social stability.

Establishing financial security is the primary goal of a rural resident. Through economic security, rural inhabitants build self-reliance, drive entrepreneurship, increase innovation, and gain further access to equity and capital. [23] Contributions to innovation drive market growth and establish a healthy job economy. [20][29][30] This positive reinforcement cycle generates a healthy, competition-driven market. Lack of innovation generates a vicious cycle of stagnation, which depletes a market of growth and competition. [21] Market growth also drives efficiencies in supply chain distribution, food, and resource access, and contributes to the free-market cycle. The free market is driven by supply and demand, balanced by itself without external interference. [65] A free market is vital to the economic stability and job access of a rural community. [51]

[14] Rathge, R. W. (2001). The Changing Population Profile of the Great Plains

[23] Mercer, M. (2017). Vision West North Dakota

[20] Small Business Resource Guide for North Dakota. (2015)

[29] Project Tundra. (2022)

[30] Peck, W. (2021). North Dakota CarbonSAFE

[21] Udem, R. (2020). Launching a vision for rural North Dakota

[65] Cullum Clark, J. H. (2019). Why America's Free Market Economy Works Better in Some Places than Others

[51] Flage, L., Goreham, G. A., Tweeten, K., Taylor, C. E., & Fier, B. (2017). Beginning Again North Dakota: An Asset-based Development Program

Beyond job access and capital gains, a rural community must have access to housing, services, utilities, goods, and resources. Goods and resources access is driven already by the free-market competition and can be directly influenced by infrastructure to support supply chain distribution. [47] The inherent physical distance of rural communities has a negative correlation to the efficiency of these supply chains. However, the distance is positively correlated to the access of affordable housing opportunities, which increases the access to equity and capital for rural inhabitants. [48] Finally, access to services and utilities are negatively correlated with the increased distance factor. Services such as ambulance and emergency response lack immediacy due to the increased travel burden. Utilities such as water and electrical access have been refined in the past century to create affordable access via co-operative or cost sharing ventures. Modern utilities such as internet are a new field of interest in rural development planning. [39]

Agriculture is the dominant industry for rural communities due to the immediate access to land, which is essential to agricultural success. Through geographical stability, a community gains consistent access to land equity, which serves as a baseline for agricultural economic production. Consistent production contributes to the supply of goods and resources which perpetuates the free market and generates economic stability.

[47] Smart Growth in Small Towns and Rural Communities. (2020).

[48] Davis, K., & Shepard, R. (2016). Recommendations for Thriving Rural Communities

[39] Thieme, N. (2018). How Did North Dakota Become the Crown Jewel of the Internet in the Midwest?

## GEOGRAPHICAL STABILITY

Pride of place is the final and greatest contributing factor to a viable rural community. By establishing a communal commitment to the stewardship of the geographic region, a rural community secures its physical presence. Civic pride is the expression of how a community promotes and defends local identity and autonomy. [66] The two factors that reinforce civic pride are conservationism and rural identity. Conservation is the stewardship of the surrounding environment. By ensuring the continuity of the physical geography, a community reinforces its existence. This existence, in the face of urbanization and deterioration, is what builds rural identity. Rooted in self-reliant sustainability and cooperative social capital development, rural communities demonstrate larger society on a microcosmic scale. Rural communities must maintain an equilibrium: too big and they become urbanized, too small and they disappear.

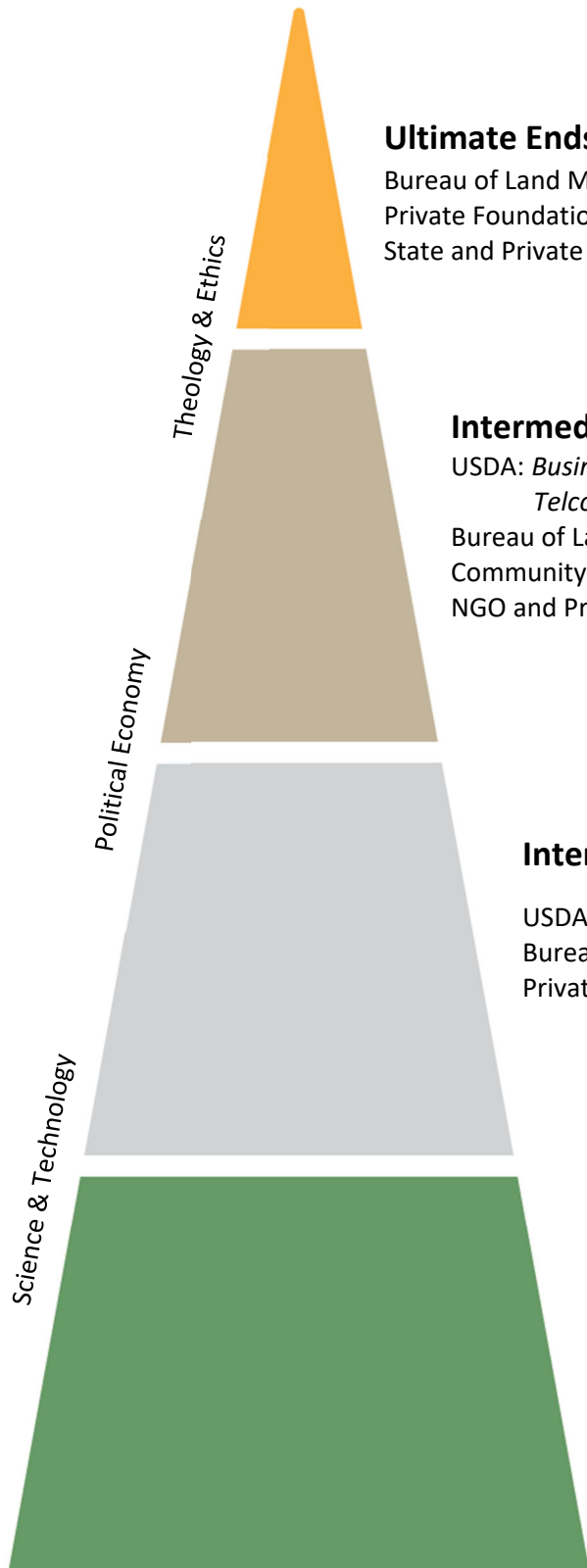
As rural communities in North Dakota represent 97% of the state's landmass, conservation of the land ensures the stability of agriculture and land production practices. [R5] State programs in North Dakota provide subsidies to landowners that commit to conservation-focused practices. These policies and programs incentivize the sustainability of wildlife and the natural production of the state's ecological resources. [53] Federal land stewardship programs maintain critical land habitats purely for the purpose of conservation. [41] Partnerships between private landowners and federal agencies ensures the continued progression of land development for future generations of rural inhabitants.

Rural identity is the self-reflective attribution that impacts all components of this system. It contributes to self-reliance, which in-turn impacts the economic stability of a rural community. It also directs the civic pride and civic engagement which drives policy and social reinvestment. A firm rural identity is the last piece to a well-balanced and viable rural community.

## SOCIAL CAPITAL

Social Capital can be measured by connecting all pieces of this cycle: political, social, economic, and geographical stability. Social capital is an instantiated informal norm that promotes cooperation between two or more individuals. [67] Through civic pride and engagement, inhabitants form communal connection and establish community social engagement. These community partnerships build future cooperative opportunities that re-invest in their shared financial securities. This security generates self-reliance and reinforces rural identity. The cycle continues and forms long standing traditions and cultural norms. This process requires time, effort, and intention to succeed. Social capital also serves as a safety net to shelter rural communities from external forces such as global crisis and financial uncertainty. Any change that is expected to generate long-term solutions must factor in social capital development to be successful.

# IMPLICATIONS & EXISTING SOLUTIONS



## Ultimate Ends – *Well-Being*

Bureau of Land Management: *Cultural Heritage Preservation*  
Private Foundation Funding: *Social Welfare and Community Impact Investment*  
State and Private Education: *Knowledge Investments & Proliferation*

## Intermediate Ends – *Human and Social Capital*

USDA: *Business and Rural CARES Act Assistance, Economic Impact Initiative, Telcom Infrastructure Loans*  
Bureau of Land Management: *Paleontology, Recreation and Tourism*  
Community Aid: *Food, Transport, Shelter, Healthcare, Volunteerism*  
NGO and Private Political Action: *Legislation and Policy Development*

## Intermediate Means – *Built and Human Capital*

USDA: *Meat & Poultry Expansion, On-Farm Labor Housing Loans*  
Bureau of Land Management: *Natural Resource Maintenance*  
Private Industry: *Job Development and Economic Opportunity*

## Ultimate Means – *Natural Capital*

USDA: *Distributed Generation Energy Project Financing, Renewable Energy Assistance Grants*  
Bureau of Land Management: *Natural Land Conservation*  
Army Corps: *Waterway Development & Energy Production*  
Game & Fish: *Waterway Maintenance, Wildlife Maintenance*  
Grassroots: *Ecological Conservationism*  
Federal, State, & Private: *Scientific Research and Discovery*

[46]

# GAPS & LEVERS

## GAPS

### **Lack of Understanding or Access to Federalized Programs**

Building a comprehensive awareness campaign regarding all options available to struggling residents would direct funding to areas with the greatest need. [38]

### **Preemptive Emergency Spending for Unforeseen Circumstances**

Recent developments of the COVID-19 Pandemic and the war in Ukraine have highlighted the fragility of rural markets in North Dakota. [34] The shift to distance learning proved challenging for rural North Dakota school districts, but existing internet service infrastructure mitigated the anticipated challenges. The war in Ukraine has impacted North Dakota's expected contributions to the global production of grains, such as wheat. [27] With an expected downturn in global production, demand for future wheat contracts is gaining interest in regions of the Midwest. [26]

### **Healthcare Inaccessibility**

Rural Healthcare was strained during the COVID-19 Pandemic and showed critical vulnerabilities. Re-affirming federal, state, and private investment in healthcare infrastructure in rural North Dakota will provide long-term support for future inhabitants. [38]

[34] Garrett, G. (2020). The Post-COVID-19 World Will Be Less Global and Less Urban

[27] Aarup, S. A., & Wanat, Z. (2022). Ukraine: The food factor

[26] Geijer, T. (2022). The impact of the Ukraine war on food and agriculture is becoming apparent

[38] 2019 Economic Impact Report - North Dakota Community Health Centers

# LEVERS

## Cost of Living

The lower cost of living and equitable access to affordable housing is the primary driver for future economic success. Coupled with consistent economic opportunity through job creation and remote working access, affordability provides a direct infusion to the depopulation issue. [37][42]

## Infrastructure

Reliable access to modern services and utilities is the second layer of support needed to reinforce a permanent population growth. Providing food, water, electrical, and internet access will sustain any gains made to a rural population. [35]

## Political and Private Investment

Attracting private industry back into the rural economy will provide a stable source of economic growth. Attention should be made to diversifying the industries to avoid relying on a singular source of revenue. Political incentivization would provide sufficient motivation for private industry to consider this move. [36]

## Social and Informational Education Campaign

Grow the public perception of the rural community to build attractiveness, stoke interest in tourism, and provide a narrative to encourage migration into the rural community. [35]

## Entrepreneurial Opportunity and Trickle-Down Success

Provide an investment structure in fostering and supporting entrepreneurial efforts to generate grassroots innovation in a rural economy. By creating innovation, markets become competitive, generate greater job potential, and bolster access to equity and capital for future re-investment. [64]

[37] Deurbanization or the great reshuffle? (2021)

[42] Hodur, N., Bangsund, D., Olson, K., Ndembe, E., & Simanovic, T. (2016). 2016 North Dakota Statewide Housing Needs Assessment

[35] Schneider, J., & Rathge, R. (2012). North Dakota 2.0

[36] ND - Legacy Fund. (2022). State of North Dakota.

[64] Johnson, T. G., Bryden, J. M., Refsgaard, K., & Alva Lizarraga, S. (2008, 01/30-02/01/2008). A SYSTEM DYNAMICS MODEL OF AGRICULTURE AND RURAL DEVELOPMENT

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## INSIGHTS

The single industry dependence generated the decline of rural communities in 1940's North Dakota. With the heavy reliance on agriculture, there continues a need to diversify rural industries. Recognizing social capital in a solution framework will provide long-term viability in an area that values tradition, intention, and community in all solutions. Without building the necessary social capital, any proposed action will only provide temporary solutions to a more permanent problem.

With additional access to modern utilities, rural communities in North Dakota can provide low-cost living options, valuable equity building opportunities, and future investment incentives for small businesses and entrepreneurs. Rural towns do not face an ultimatum to urbanize or disappear- they hold a unique position as stewards of land and resources.