WORKSHOP NOTES: WHY GEOGRAPHY MATTERS
June 4, 2021

Geography and fiscal policy shape the extent to which different places are able to fund and finance climate change adaptations. In the second workshop for the RISA Fiscal Policy & Adaptation working group, we focused on the opportunities and constraints facing rural geographies.

We think rural areas deserve attention for several reasons:
- Rural adaptation has an outsized impact on metro resilience.
- Rural areas have unique attributes and economic constraints.
- Given these differences, rural communities need different solutions.

"Why rural matters" workshop recording: https://vimeo.com/573170914/a710ba10dc

This summary uses "rural" as a general term to discuss places with smaller populations, greater geographic isolation, and often more narrow and specialized economies. We recognize that rural areas are diverse. More research is needed to understand how opportunities and constraints to climate change adaptation vary between and within rural regions.

Topics covered in this summary:
1. Presentation highlights
2. Discussion highlights
3. References

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1. Presentation highlights

Why are rural regions important for climate change adaptation?
Most of the land and water resources in the U.S. can be referred to as "rural." As a result, rural regions have an outsized impact on our ability to adapt to climate change. Many urban areas are relying on rural places to host adaptation and mitigation projects.

For instance, the Iowa Watershed Approach is a regional rural water storage initiative that uses farmlands to reduce flood risk downstream and adapt to climate change. This project is largely funded by HUD. Farmers are paid to implement flood water storage projects.

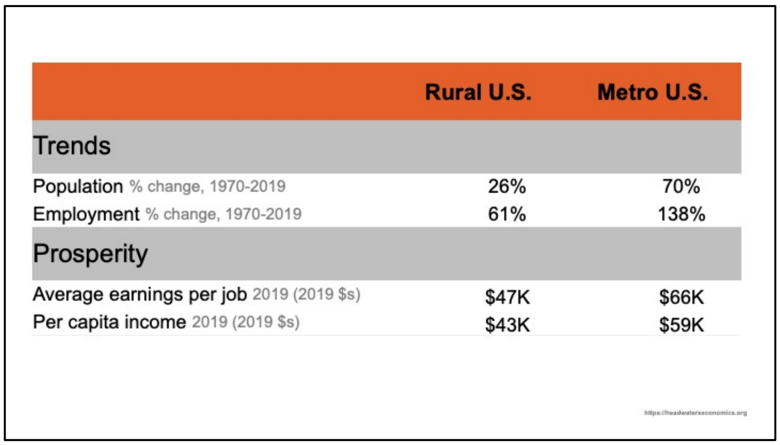
Another example is from the Central Arkansas Water utility. The utility posted a $30.6 million green bond to protect the water quality and reduce flood risk in seven counties surrounding the city of Little Rock.

These examples demonstrate the opportunity to bring metro and rural areas together to implement adaptation projects. More work is needed to reduce barriers and understand what can be done to bring these types of rural solutions to scale.

How are rural places different?

The majority of people (86%) in the U.S. live in metro areas, while the rest (14%) of people are spread across vast amounts of space. Lower population densities and larger spaces make infrastructure investments – like those that will be needed for climate change adaptation – more expensive for rural places. Further, rural communities may not have the time, capacity, funding, and/or access to expertise to plan, fund, build, and maintain large adaptation projects.

> *"Lack of capacity, expertise, and funding are consistently cited by municipalities as reasons why they are not able to address their climate risks."*
> – Maine Climate Action Plan 2020

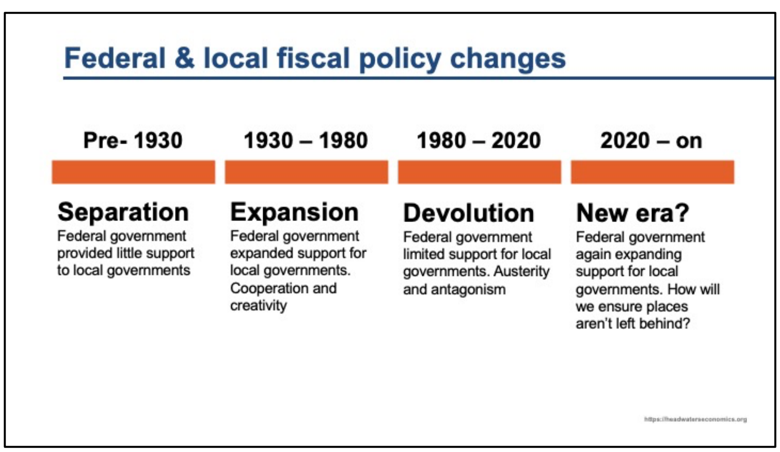


	Rural U.S.	Metro U.S.
Trends		
Population % change, 1970-2019	26%	70%
Employment % change, 1970-2019	61%	138%
Prosperity		
Average earnings per job 2019 (2019 $s)	$47K	$66K
Per capita income 2019 (2019 $s)	$43K	$59K

In the past 50 years, the lack of economic diversity in rural areas has led to:

- slower population growth
- slower job growth
- lower earnings, and
- lower income levels

The extent to which the federal government provides financial support to local governments is an important issue for rural areas, which tend to have more specialized economies and limited options for raising revenue. The fiscal relationship between the federal government and local governments has changed over time (Pagano and Hoene 2018). For instance, the General Revenue Sharing program was established in 1972 during a period of expanding federal support for local governments. The program provided more than $4.5 million in direct monetary transfers to cities and local governments. It ended in 1986 during a period of federal government retraction and devolution.



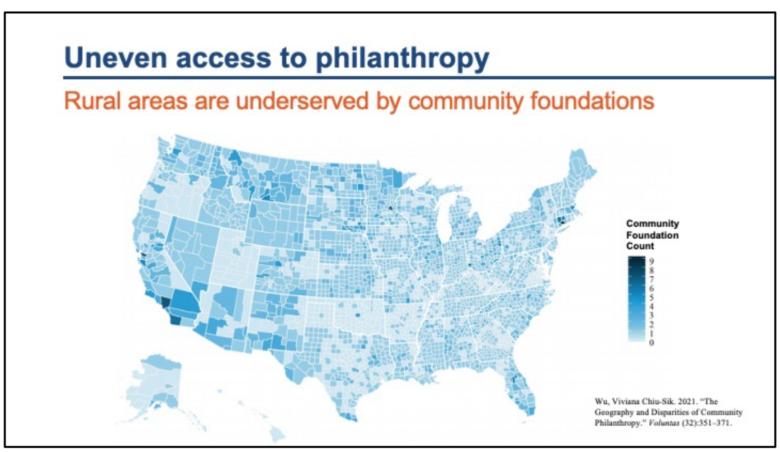
In 2021, the American Rescue Plan made historic investments in local and state governments. The long-term impacts of these windfall investments are unclear.

What are the fiscal barriers facing rural places?

Rural communities often struggle to access resources and capital, which makes it challenging for them to adapt to climate change. Eligibility requirements, scoring criteria, cost-benefit analyses, and other parameters often disadvantage places with lower property values and/or population densities (Pipa and Geismar 2021). Competitive grants (as opposed to direct, guaranteed allocations) disadvantage rural communities that may not have capacity or expertise to navigate complex federal funding or apply for grants. Below are several examples of funding barriers.

HUD's Community Development Block Grants are an example of a federal funding source that has barriers for rural communities. While 214 metro counties receive guaranteed funding from the program, rural counties must apply for funds through competitive processes.

Cost-effectiveness requirements can disadvantage lower-income and rural communities. In [Richwood, WV](), a severe flood in 2016 destroyed 80 homes and damaged 100. Prior to the flood, three studies by the USDA and the Army Corps failed to demonstrate that the benefits of mitigation would outweigh the costs, and thus the city did not secure the funding.



Rural areas also face barriers to accessing philanthropic resources. A 2019 study by Viviana Chiu-Sik Wu found that while the number of community foundations in the U.S. has more than doubled over the past two decades, the foundations have been concentrated in urban, white-dominated communities.

Many states and local governments have tax and expenditure limit policies that constrain how governments are able to raise, save and spend, and diversify revenue (Pagano and Hoene 2018, Wen et al. 2020, PEW Charitable Trusts 2021). These policies are particularly problematic for rural areas that have specialized economies and volatile revenues. Local fiscal flexibility is critical for rural communities to be able to respond to short- and long-term disruptions.

Forty-two states have property tax limits. These types of fiscal policies limit local governments' abilities to raise revenue to fund things like climate change adaptation.

Finally, rural development is spread over 400 federal programs, 13 departments, 10 agencies, and 50 offices and subagencies (Pipa and Geismar 2020, USDA 2020). Funding is often piecemeal and short term. Communities have to navigate this complexity just to understand the funding and technical assistance available.

There are increasingly calls to develop a cohesive national strategy for rural development and to establish a rural development corporation to coordinate efforts (e.g., Ajilore and Willingham 2020, Haggerty 2020, Pipa and Geismar 2021).

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2. Discussion Highlights

Research questions identified and discussed by workshop participants

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During the workshop, Patty and Kris ended their presentations by identifying four opportunities where more research is needed. Then workshop participants offered other ideas for future research projects, which are included below.

Discussion summary: We want to work more strategically in rural places. To do that, we need to understand geographic differences, fiscal barriers, and key stakeholders. We also need to identify and share existing creative solutions and case studies.

Geographic differences
- How do rural places vary? (e.g., by official federal definitions, by economic geographies, by ability to access funding for adaptation, etc.)
- How do different land ownership regimes intersect with fiscal policy and adaptation in rural areas?

Fiscal barriers
- How can we help rural areas access federal funding?
- What are the sequences of barriers that are preventing rural regions from accessing funding and finance for climate change adaptation?
- What are the policy conversations already happening related to fiscal policy, adaptation, and rural issues? What data do they need?

Stakeholders
- What existing stakeholders and institutions could be leveraged to do more climate change adaptation work? (e.g., higher education institutions, large anchor organizations and institutions, the faith community, etc.)
- When rural areas do not have the revenue they need for adaptation, who steps up?

Creative solutions & case studies
Regional adaptation projects that link rural and urban needs and goals:
- Iowa Watershed Approach: Large-scale, rural water storage on farmlands in Iowa to reduce flood risk on agricultural lands and nearby communities.
- Central Arkansas Utility: Posted a $30.6 million green bond to protect the water quality and reduce flood risk in seven counties surrounding the city of Little Rock.
- Puget Sound restoration and revolving loan fund proposal: Proposed project to fund shoreline restoration program to help buffer impacts from sea level rise. A revolving loan fund would provide low-interest loans to landowners to implement projects.
- Upper Neuse Clean Water Initiative, North Carolina: Uses a payment-for-watershed-services model to acquire, protect, and manage forests to improve water quality for downstream users

Creative partnerships to leverage funding
- City of Williston, Williams County, and Williston State College in North Dakota collaborate to provide 400 childcare spots (childcare is a key adaptation need)
- Shared services and/or positions – like a shared resilience officer (could be between communities or between city and county)
- Anthropocene Alliance – Non-profit bridging organization aiming to help 30 rural and lower-capacity communities access federal funding by 2025.
- Juneau, Alaska – Danielle Meeker researched how much federal funding is coming into tribal communities in Alaska and how much is being used for adaptation.

3. References

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