**Towards a National Community Learning Network: A New Role for Cooperative Extension   
Farm Bill Proposal**

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**February 9, 2021**

Communities, especially small and rural ones, need to take advantage of and leverage new techniques for collecting and analyzing data to better serve their residents. Here’s a plan to help them succeed. We propose to energetically deploy a data-driven community engagement process, *Community Learning through Data Driven Discovery* **(CLD3***),* across the U.S*.* The outcome will be the creation of data science partnerships between communities, that capitalizes on the expertise of our land-grant and public universities and the U.S. Cooperative Extension System.

The key innovation in CLD3 is, as its name suggests, data informed community-based research where the community participates in asking and answering the questions that drive data gathering and the creation of data insights relevant to program or policy decisions. We have successfully tested the model in several communities in three states - Virginia, Iowa, and Oregon. Two complementary pilot efforts demonstrated that the Cooperative Extension System (CES) is well positioned to build data science capacity in communities, including often overlooked rural places. The two pilot programs are:

The ***Community Learning through Data Driven Discovery*** process. The outside wheel represents continuous interaction throughout the process lifecycle. The middle wheel is the data-driven learning process. The frontier between the outer and middle wheels connotes active collaboration between all stakeholders. The inner circle codifies the rigorous research framework to guide the data science applications.



* ***Towards a National Community Learning Network*** ­– $1M funded by the Bill & Melinda Gates Foundation to pilot the use of data science to unravel complex, community challenges and advance economic mobility across Virginia, Iowa, and Oregon.
* ***Three-State Data Science for the Public Good Coordination Innovation Network*** – $1M funded by US Department of Agriculture, National Institute of Food and Agriculture, Agriculture and Food Research Institute, Food and Agriculture Cyberinformatics Tools program in the three states.

The pilot demonstrations led to the creation of two notable public goods that can be scaled nationally:

1. equipping Cooperative Extension with the skills and knowledge to effectively enhance their engagement with communities in identifying and applying data-driven insights to community problems through CLD3; and
2. developing a data commons infrastructure to accelerate the advancement of these community-based projects and Cooperative Extension programming.

*See the pilot project site for CLD3 exemplars*: <https://datascienceforthepublicgood.org/economic-mobility>.

Data science research partnerships with Cooperative Extension contribute to the shaping and placement of data insights into the hands of local decision makers and promotes civic engagement among a diverse group of Cooperative Extension, universities, and national stakeholders. These partnerships, as demonstrated through the pilot, enable communities to ***walk the last data mile***, in a similar way as bringing broadband access to the last mile, linking data and opportunities that promote their economic well-being.

**New Role for Cooperative Extension Service**

Cooperative Extension professionals know how to work with communities and how to involve university researchers in community-based research through engaged scholarship. Communities across the country collect a wide range of data but are experiencing difficulties in accessing their own data along with other relevant open data to gain insights to problems they are experiencing. Several extension programs across the country are experimenting with different models of engagement around *Community Learning through Data Driven Discovery* (CLD3) but these remain disconnected and uncoordinated.

A new authorization for Cooperative Extension System (CES) is needed to provide for this enhanced role and to authorize new funding to support the initiative. The expanded role envisioned is to:

* **Create a *CLD3* *Community of Practice*** – connect CES with local government officials and civil servants through a community learning data-drive discovery process and collaborate with university data science researchers through engaged scholarship.
* **Evolve a *National Data Commons*** *–* enhance current CES situation analyses and programming reports through use of local administrative data and social media; and capture and curate processes to support data discovery, sharing, access, analytics, and evaluation for data-drive decision making.

To enable this new role, land-grant universities would work collaboratively to develop, deploy, and curate data science processes and establish communities of practice. CES agents and specialists would convene with communities to leverage university research in response to the identified problems of local and state governments. An additional benefit of this new role would be development of the local and state government workforce with data analytics capacity and experience.

**Key Considerations**

The National Agricultural Research, Extension and Teaching Policy Act of 1977 (NARETPA) established that one of the eight purposes of USDA’s research and educational programs is to:

“support agricultural research and extension to promote economic opportunity in rural communities and to meet the increasing demand for information and technology transfer throughout the United States agriculture industry.”

As the data revolution has transformed the way that universities, businesses and government work and interact, this purpose is still relevant and an important role for land-grant universities working through Cooperative Extension. What has changed is the ability to harness the data through the CLD3 process and provide evidence-based insights into community infrastructure, (e.g., operations, resilience, sustainability), environmental conditions, (e.g., water quality, air quality, noise), and people, (e.g., economic conditions activities, health).

Cooperative Extension, working with their land-grant and public university researchers, can address community problems in new ways using CLD3*.* Additional resources will be needed to bring this data revolution and CLD3 to these communities. These partnerships will empower communities of all sizes to harness, integrate, and leverage insight from their own data flows to and form a new evidence-based foundation for democracy.