

## ABSTRACT

**Objective:** There are profound barriers to digital inclusion for farmworkers which adversely affect health outcomes. Our applied research project asked eight research questions which included the accessibility of internet access and devices for farmworkers, the information and digital literacy levels of farmworkers and farmers, and to what extent do public libraries support or provide outreach to these communities and what barriers do they face?

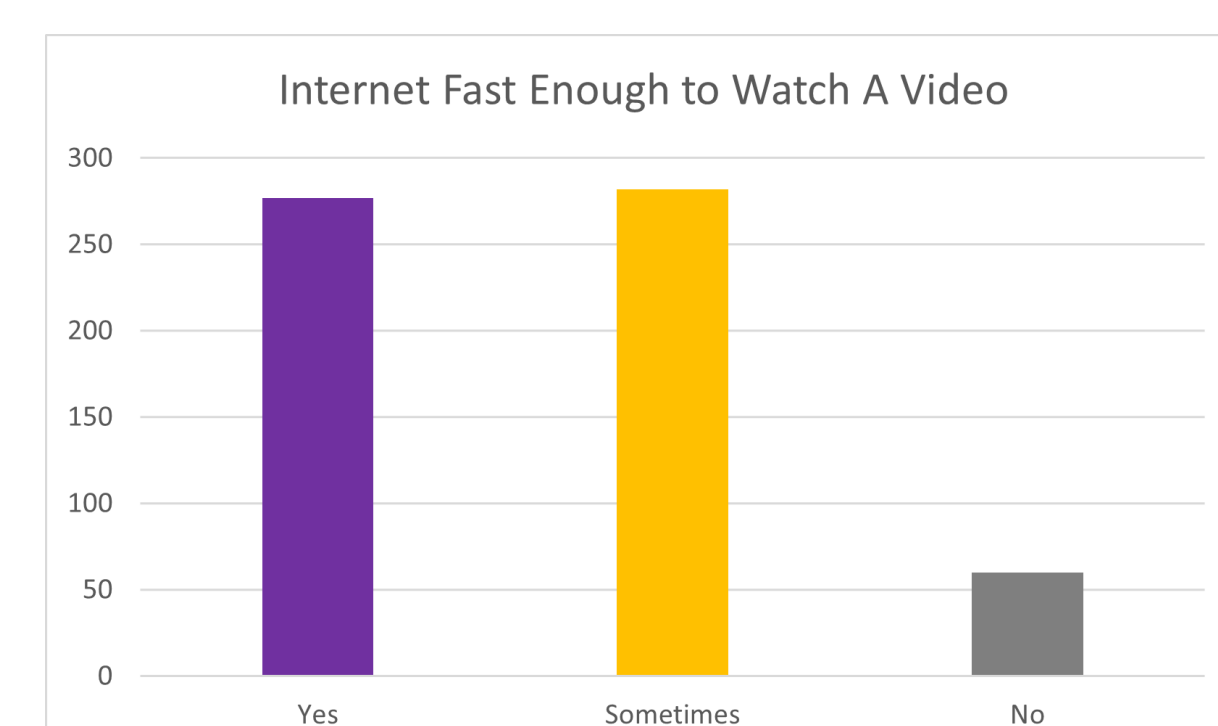
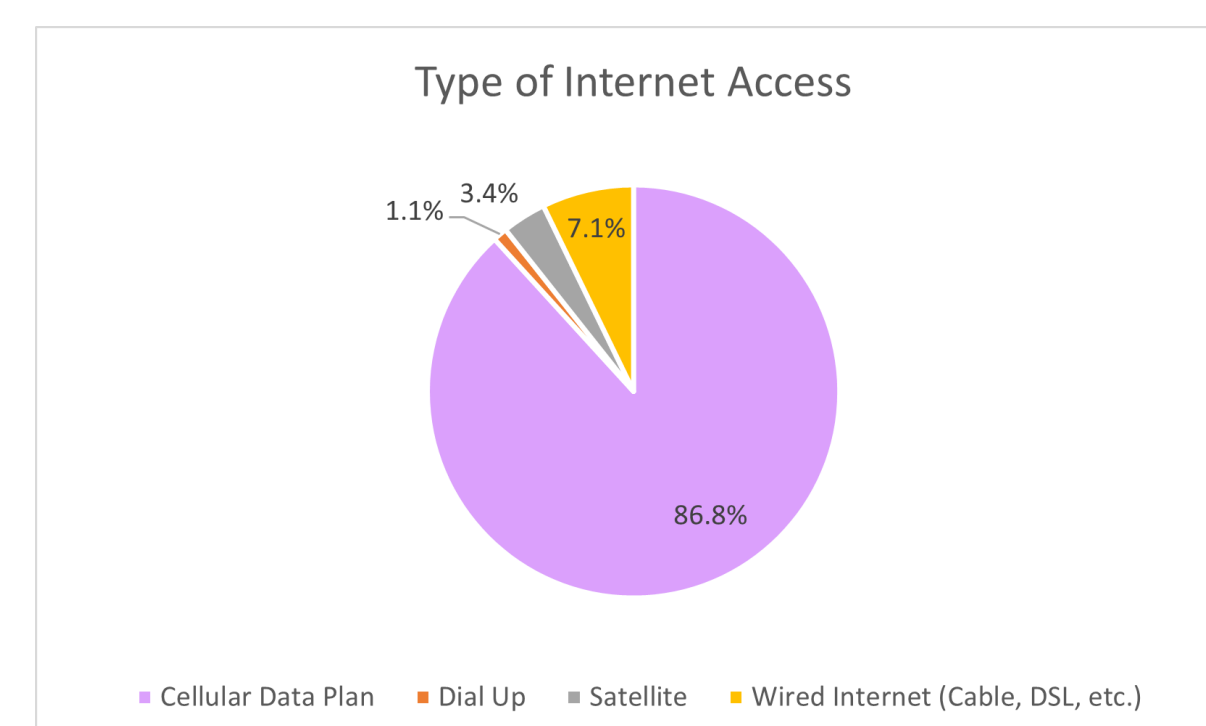
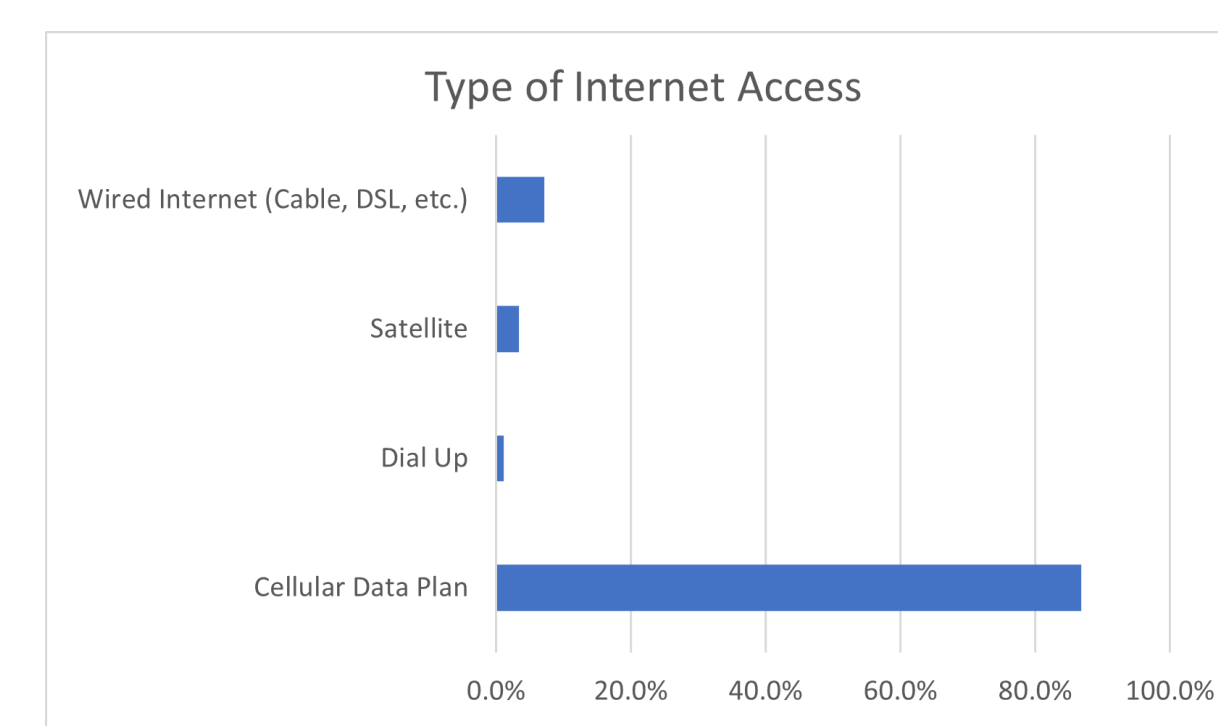
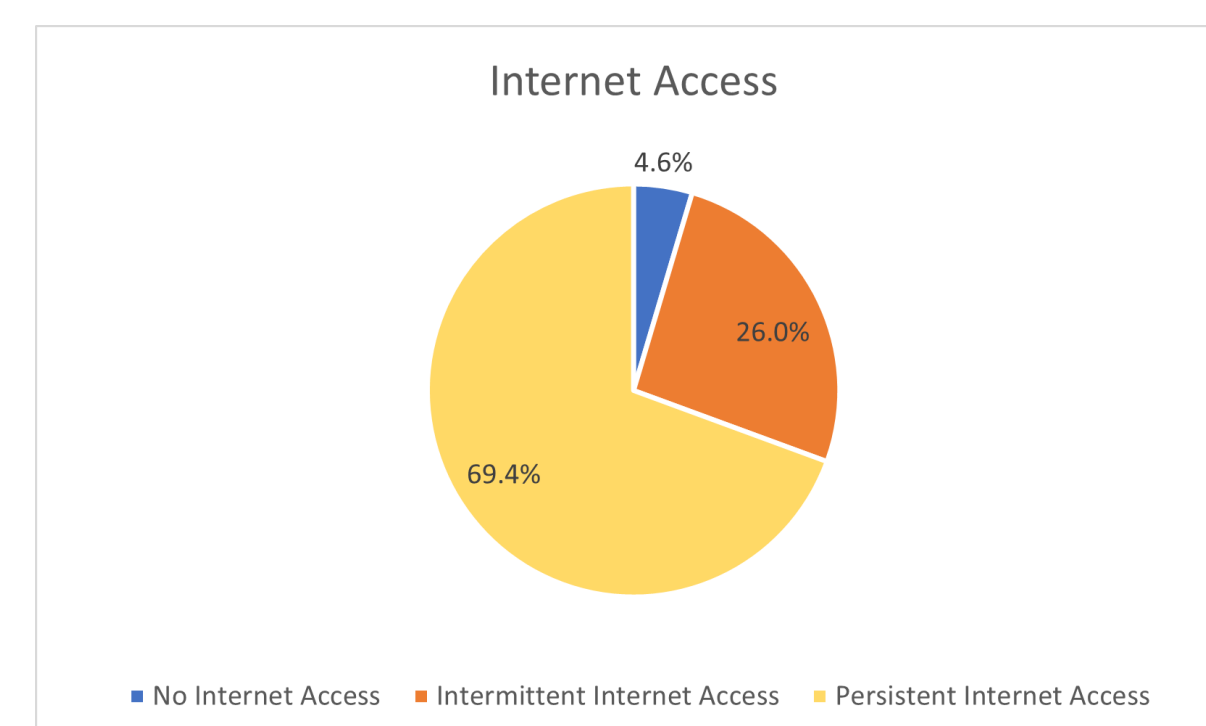
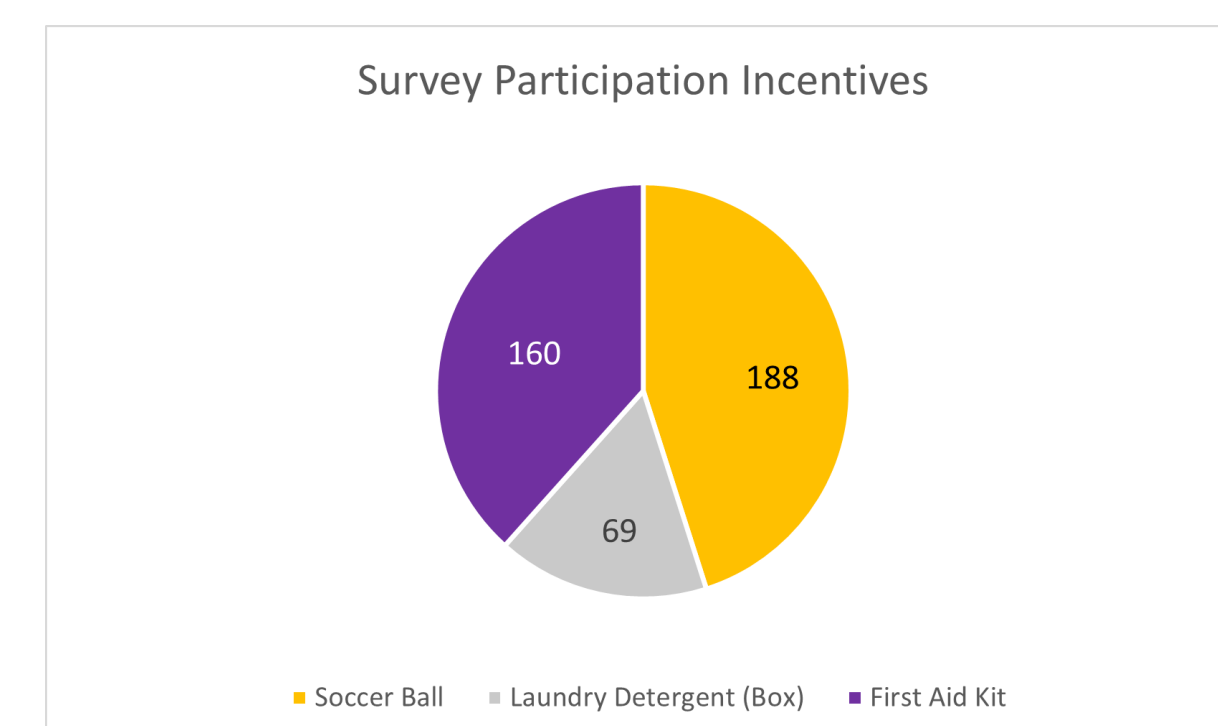
**Methods:** For Aim 1, surveys are being deployed by community health workers across the state to farmworkers. For Aim 2, three focus group discussions were held with farmers and up to fifteen interviews are being conducted with farmworkers. For Aim 3, a survey was distributed to NC Public Libraries.

**Results:** In Aim 1, 29% of survey respondents reported sometimes having internet access, 5.2% reported no internet access, and 65.8% reported having internet access. 43.9% reported the internet was sometimes fast enough to watch a video. In Aim 2, farmers expressed lack of access to internet and 5G. Some felt confident in their online search skills and others wanted further training. In Aim 3, 37.9% of librarians have participated in providing outreach to agricultural communities. 5 respondents out of 58 had provided outreach to farmworkers. 11 respondents had already participated in county broadband internet planning or implementation and 15 had not.

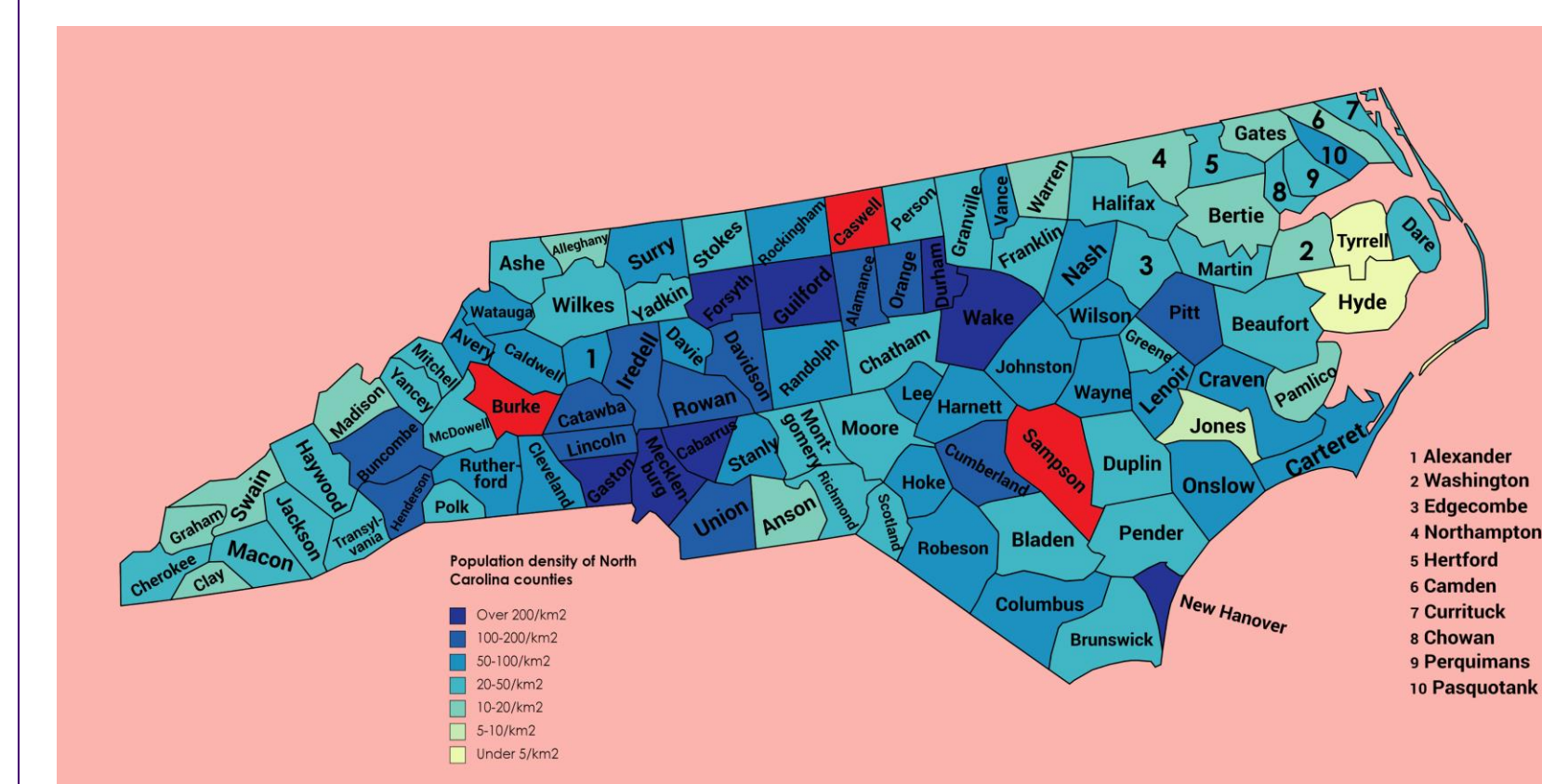
**Conclusions:** A need for internet or mobile service persists for both farmworkers and farmers in the state of North Carolina. Several barriers for public libraries to outreach include lack of personnel/time, lack of advocacy skillset, and lack of budget or funding.

## AIM 1: Internet Access for Farmworkers in NC

Utilizing feedback from Community Health Workers and the Advisory Panel, the Aim 1 Team developed a survey codebook to create a survey to be administered to selected groups of farmworkers across North Carolina. The survey focused on the availability and cost of Internet for farmworkers. The survey was also professionally translated into Spanish to be used as needed. Site specific survey questions were added based on Community Health Worker feedback. After pilot testing, IRB training, and registration in the ECU IRB, twenty-one data collectors using iPads administered 619 surveys at eight sites across North Carolina as of September 27, 2023. The survey is ongoing, and we hope to reach 1,000 surveys; final data analysis should begin in December. We will use the data to help inform planning and policies around the need for hotspots and inclusion of agricultural workers in broadband efforts.



## AIM 2: Information & Digital Literacy Needs



Three counties in North Carolina where focus group discussions with growers/producers took place in 2023.

### Preliminary Results from Grower/Producer Focus Group Discussions

#### Access to internet:

"I have to drive about five miles up the road to be able to do my job."  
 "I've tried dial-up. We've tried satellite dishes. None of them work well enough really when you start sending a lot of data."  
 "From my home I'm fortunate enough to have an AT&T line with DSL but it's sporadic."  
 "We first got Century Link and now it's been bought by Brightspeed, and it is completely useless because it is so slow."  
 "We're out and about on the farm trying to do transactions across the farm, and we don't have the signals to go to the back of the farm or without the landlines I guess."

#### Ability to find information online:

"We use a lot of YouTube to look up that stuff and try to fix your own equipment."  
 "I use Google advance search and I try to teach all my producers to do that because you can designate the domain."  
 "I'm ordering stuff, parts, seeds, a lot of things. Amazon, eBay, whatever. Craigslist. Looking for implements or parts, something that I need."  
 "No, I don't have enough skills...I don't have anyone who has just learned this stuff, and things have changed, and I wasn't shown these things. So, I've had to learn them on my own. And I'm trying to take a course right now at the library and see what they can help me with."

#### Libraries:

"It takes me twenty minutes to get from my house to the library so that is a bit of a haul to just go - if I was just going to use it for the internet that would be pointless."  
 "Well if you get internet, the library comes to you. You no longer need to go to the library."  
 "I use NClive.org for research."  
 "If they had classes...certain business programs or marketing. Some kind of local advertising."  
 "It's not necessarily accessible. It's...on a back street that's really a parking lot. So, it's not accessible."

### Preliminary Results from Farmworker Interviews

#### Access to internet:

"I always have my cell phone with me and when I need something, I look it up on my cell phone."  
 "It's not good. In this area we have almost no internet access, I mean, this area is very - - It has very little signal."  
 "It's difficult to talk and send text messages."

#### Ability to find information online:

"I do it myself by Googling...For example, if I have, like, pain or something, I go to look for pain or something like that. There I look for things like which medicine to buy."  
 "I look for different information sites. I mean, I don't just kind of stick to one. I try to look at different and kind of - - how should I put it? Like try to compare and see if it's something similar."

#### Barriers to using the internet more:

"No. We usually don't have much time...Something to learn English? We find it difficult to speak...Not enough time."  
 "It's just that we don't have the time or the means here to find that elsewhere because we have almost no access to anything."

#### Libraries:

"Well, sometimes we have to work, or it's not open anymore, so we can't go."  
 "I would like learning with an English book here for the spare time I have."



Student Action with Farmworkers interns who helped recruit interview participants in 2023. Durham, NC



Some of the grant PIs: Roger Russell and Jamie Bloss, top photo. Joseph Lee and Leslie Cofie, directly above.

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## AIM 3: Rural Libraries and Outreach

Questions	Responses (%) N = 58
1 Role	<ul style="list-style-type: none"> <li>Library administrator: 23.40%</li> <li>Public service librarian: 61.70%</li> </ul>
2 Library hrs. per week	<ul style="list-style-type: none"> <li>21-40 hrs.: 14.89%</li> <li>41-60 hrs.: 55.32%</li> <li>&gt;60 hrs.: 27.66%</li> </ul>
3 Type of library where you work	<ul style="list-style-type: none"> <li>Public library: 85%</li> <li>Academic/community college: 14.61%</li> </ul>
4a Library participated in outreach to agricultural communities and rural areas	<ul style="list-style-type: none"> <li>Yes: 50%</li> </ul>
4b Personally participated in providing any type of outreach to migrant and seasonal farmworkers	<ul style="list-style-type: none"> <li>Yes: 11.36%</li> </ul>
4c If not personal participated, what is your level of motivation	<ul style="list-style-type: none"> <li>Extremely interested: 3%</li> <li>Very interested: 45.45%</li> <li>Moderately interested: 33.33%</li> </ul>
4d If you are interested, what are your needs in moving forward	<ul style="list-style-type: none"> <li>Funding/budget: 48.28%</li> <li>Personnel/time: 79.31%</li> <li>Knowledge of how best to work with communities: 79.31%</li> <li>Data to prove need: 48.28%</li> </ul>
4e Biggest barriers in moving forward with this work	<ul style="list-style-type: none"> <li>Lack of funding/budget - 33.33%</li> <li>Lack of personnel/time - 70%</li> <li>Lack of knowledge of how best to work with communities: 70%</li> <li>Lack of data to prove need - 30%</li> </ul>
4f If not interested in participating in providing any type of outreach for agricultural communities of rural areas, why	<ul style="list-style-type: none"> <li>Not a priority of my administrators: 66.67%</li> <li>Other: "We found that there was no demand for this type of outreach in our area, we tried some programs in partnership with the cooperative extension, but there was no participation"</li> </ul>
5 Intended audience of the outreach project	<ul style="list-style-type: none"> <li>Residents</li> <li>Mobile library unit for schools</li> <li>Laundromats</li> <li>nursing homes</li> <li>festivals</li> <li>Seniors, Children, farmers, gardeners</li> </ul>
6 Goals of the outreach project	<ul style="list-style-type: none"> <li>Provide reading materials/library card</li> <li>Raise awareness about library services</li> <li>Planting/composting classes</li> <li>Bring books and technology to rural areas</li> </ul>
7 Did you think the outreach was a success	<ul style="list-style-type: none"> <li>Yes: 68.75%</li> </ul>
8 If you have already participated in outreach to any of these communities, the biggest barriers to success in this initiative	<ul style="list-style-type: none"> <li>Identifying community members/partners: 37.50%</li> <li>Establishing trusting relationship with community members: 50%</li> <li>Communicating with community members: 50%</li> <li>Lack of engagement from community when services were provided: 68.75%</li> <li>Lack of budget/funding or funding running: 25%</li> <li>Lack of personnel/time: 56.25%</li> <li>Lack of understanding of the needs of the community: 25%</li> </ul>
9a Library has participated in county broadband internet planning or implementation.	<ul style="list-style-type: none"> <li>Yes - 29.73%</li> </ul>
9b If not, what is your level of motivation/interest	<ul style="list-style-type: none"> <li>Extremely interested: 20%</li> <li>Very interested: 20%</li> <li>Moderately interested: 20%</li> <li>Slightly interested: 26.67%</li> <li>No interested at all: 13.33%</li> </ul>
9c If interested, biggest barriers in moving forward	<ul style="list-style-type: none"> <li>Lack of understanding of librarian role: 45.45%</li> <li>Lack of understanding of how broadband planning occurs: 36.36%</li> <li>Not knowing who manages broadband planning in county: 36.36%</li> </ul>
9d If interested, what are your needs to move forward with this work	<ul style="list-style-type: none"> <li>Understanding of librarian role: 36.36%</li> <li>Understanding of how broadband planning occurs: 45.45%</li> <li>Knowing who manages broadband planning in county: 72.73%</li> <li>Training on advocacy skills/digital divide: 18.18%</li> <li>Budget/funding: 36.36%</li> <li>Personnel/time: 36.36%</li> </ul>
9e If not interested or only slightly interested, why	<ul style="list-style-type: none"> <li>Not a priority for my administrators: 40%</li> <li>Other needs of the community are higher priority: 20%</li> <li>Need additional training: 40%</li> <li>Lack of understanding of broadband planning/advocacy work: 80%</li> </ul>
10 The intended audience or beneficiaries of you or your library's participation in county broadband planning or implementation	<ul style="list-style-type: none"> <li>Branch users</li> <li>Bringing internet to rural community</li> <li>Digital inequities</li> <li>Underserved population without broadband access and limited digital literacy</li> <li>Low-income; seniors; local town; schools</li> </ul>
11 The goals of you or your library's participation in county broadband planning or implementation	<ul style="list-style-type: none"> <li>Secure funding</li> <li>Provide insight to local needs</li> <li>Be a part of conversation and solution</li> <li>Bridging digital divide</li> <li>Learn how library can play a role</li> <li>Increase broadband access</li> </ul>
12 Who at your library participated in county broadband planning or implementation	<ul style="list-style-type: none"> <li>Library director</li> <li>Technical service supervisor</li> <li>IT librarian; technology librarian</li> <li>Branch manager; director of regional library system</li> </ul>
13 Your library received additional funding to assist with county broadband planning or implementation	<ul style="list-style-type: none"> <li>Yes: 36%</li> </ul>
Your library's participation in county broadband planning or implementation was successful	<ul style="list-style-type: none"> <li>Yes: 80%</li> </ul>
14 The biggest barriers to success in you or your library's participation in county broadband planning or implementations	<ul style="list-style-type: none"> <li>Administrative support: 9%</li> <li>Clear expectation: 45.45%</li> <li>Lack of personnel/time: 18.18%</li> <li>Lack of understanding of broadband planning/advocacy: 36.36%</li> </ul>

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