Underserved farmers' barriers to adoption of the U.S. Department of Agriculture Natural Resources Conservation Service climate-smart agricultural practices in South Carolina

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Abstract

Agribusiness has an annual economic impact of US $51.8 billion in South Carolina (South Carolina Department of Agriculture, n.d.). It is supported by underserved farmers and ranchers who represent 9.3% of all South Carolina farms and 8% of all farmland acres (USDA, 2024). Further, almost 35% of South Carolina farmers or producers are female (USDA, 2024). This small group of farmers and ranchers represents an important economic sector in agriculture and could benefit from participation in the U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS) climate-smart agriculture programs to enhance or increase their farming operations. In addition,

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implementing climate-smart agricultural practices can help to offset the negative impacts of the increased frequency and intensity of disturbances (e.g., drought and flooding). However, previous research has shown that underserved farmers and ranchers do not participate in USDA NRCS programs at the same rate as other farmers (Gilbert et al., 2002; Minkoff-Zern & Sloat, 2017; Russell et al., 2021). This research sought to (1) identify the barriers to participation in USDA NRCS programs and (2) develop recommendations for overcoming the barriers. Eight focus groups were conducted between June 2022 and March 2023 either virtually ($n = 5$) or in-person ($n = 3$) with underserved farmers and ranchers ($n = 22$) around the state to identify barriers to participation in USDA NRCS climate-smart agricultural programs. Program participants were self-selected using a nonprobability sampling technique (snowball sampling) and were recruited by contacts provided to the researchers by Clemson Extension agents and nongovernmental organizations that represent historically socially disadvantaged farmers and ranchers. Three primary barriers were identified: (1) lack of program clarity and visibility, (2) lack of accountability, and (3) lack of NRCS support. Recommendations are provided to address and overcome each barrier.

Keywords
climate-smart agriculture, USDA NRCS, Natural Resources Conservation Service, underserved farmers, barriers, adoption, South Carolina

Introduction
Climate-smart agriculture (CSA) aims to identify and implement solutions to challenges caused by changing weather patterns that can negatively impact food and fiber production. CSA has three primary objectives: increase food security long term, improve resiliency to climate change, and reduce greenhouse gas emissions (Lipper & Zilberman, 2018; Mizik, 2021). Common CSA practices include actions such as the use of cover crops, prescribed grazing, conservation or no-tillage production methods, water conservation, and others that reduce greenhouse gases over time (Kaptymer et al., 2019; Schreiner-McGraw et al.,

2024). However, some studies have concluded that a single CSA practice is not effective in reducing greenhouse gases (e.g., Schreiner-McGraw et al., 2024; Zheng et al., 2024). While CSA has individual components, implementation practices are site-specific and usually require more than one practice to be effective (Brouziyne et al., 2023).

In response to combating climate change, the Inflation Reduction Act (IRA), signed into law in August 2022 by U.S. President Joe Biden, provides funding to farmers and ranchers to combat climate change in farming operations (The White House, 2023). Programs designed to aid farmers and ranchers increasing their adoption of CSA practices is administered primarily through the U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS), whose primary mission is to help farmers and producers practice natural resource conservation solutions to aid in maintaining economically viable and sustainable farms.

Agribusiness (agriculture and forestry) is the number one industry in South Carolina and responsible for 260,000 jobs while providing US$51.8 billion in annual economic impact (South Carolina Department of Agriculture, n.d.). The agricultural industry in South Carolina is supported by 38,097 producers and 22,633 farms that cover over 4.5 million acres or 1.8 million hectares (USDA, 2024). Of all the farms and farmland acres in South Carolina, 9.3% are owned by underserved farmers and ranchers, representing 8% of the farmland (USDA, 2024).

Across the world, small farmers contribute significantly to the food supply (Iles et al., 2020; Mizik, 2021). In South Carolina, the average farm size is 201 acres (81 ha); over 84% of farms in South Carolina are under 260 acres (105 ha), accounting for 26.1% of farm acreage (USDA, 2024). This group of farmers and ranchers represents an important economic sector to agriculture (Hartarska et al., 2022; Iles et al., 2020; Mizik, 2021) and could benefit from NRCS CSA programs to enhance or increase their farming operations.

Climate-smart agriculture programs benefit both farmers and the environment. The NRCS CSA programs incentivize CSA implementation,

which is particularly important to smaller farmers (Mizik, 2021). And since small farmers are the majority of farms in South Carolina (58.6% who gross less than US$500,000 annually; 801 acres [324 ha] average farm size [USDA, 2024]), NRCS CSA programs are particularly important in South Carolina. CSA programs provide financial support to minimize the risk of implementing a new practice. While providing financial benefits to farmers, CSA practices also benefit the environment through potentially increasing yield, improving climate resiliency, and/or reducing greenhouse gas emissions. Encouraging and increasing the implementation of CSA practices by underserved farmers expands the benefits of CSA. In addition, employing a greater number of CSA practices in actual agricultural production operations is aiding researchers in discovering which practices can be most effective (USDA, n.d.). However, some underserved farmers and ranchers may not be aware of these opportunities or may refrain from applying due to various barriers that are currently unidentified.

Therefore, the goals of this research project were to (1) identify barriers to participation in NRCS programs focused on CSA practices, and then to (2) develop recommendations for overcoming barriers to expand the delivery of NRCS programs to underserved farmers and ranchers.

Background of Climate-Smart Agriculture and NRCS Programs

There is a great deal of information about CSA related to its overall goals, the global and local impacts of climate change, and technological advances that can combat climate change. For example, technological advances include strategies covering resiliency in crop and livestock production, pest management, flood prevention methods, and weather information stations (Lipper & Zilberman, 2018; Zilberman et al., 2018). The likelihood of farmers embracing and adopting technological advances in CSA practices can be explained through the diffusion of innovations (DOI) framework (Rogers, 2003). In brief, DOI explains how and why certain practices are adopted within a community or industry, such as the agricultural community. The adoption of CSA practices is

imperative for mitigating climate change impacts, but barriers to the adoption of innovations must be identified and overcome for the process to work (e.g., Guidolin & Manfredi, 2023; Mizik, 2021; Pascaris et al., 2020).

Literature Review

There is extensive research that discusses the evolution of USDA farm programs (e.g., Carpenter, 2012; Hinson & Robinson, 2008) and issues surrounding the lack of USDA program utilization by underserved farmers. Historical racial and gender discrimination by the USDA may be one barrier to the low number of underserved populations in agriculture utilizing NRCS programs (Gilbert et al., 2002; Minkoff-Zern & Sloat, 2017; Russell et al., 2021), and not just against Black farmers but also other non-white and non-male farmers (Carpenter, 2012; Fagundes et al., 2020; Minkoff-Zern & Sloat, 2017; Russell et al., 2021). Fagundes et al. (2020) found that some Black farmers have witnessed improvements in services by the USDA, although there is still a gap in service provision between Black and white farmers. A study conducted by Touzeau (2019) of Black farmers in the South and Midwest found that young Black farmers did not experience discrimination to the same degree as older generations of Black farmers. Fewer incidences of resource access disparities were also reported by Balvanz et al. (2011), providing evidence that discrimination is being addressed, although it is still prominent. While *Pigford v. Glickman* created a starting point for improved services to underserved farmers (Russell et al., 2021), there are additional barriers that still exist. Research indicates that underserved farmers, particularly Black farmers, do not participate in NRCS programs due to a lack of program awareness, issues surrounding the application and approval processes, and inconsistencies in program deployment and application between NRCS offices (Asare-Baah et al., 2018; Boland et al., 2009; Carter & Alexander, 2020; Gilbert et al., 2002; Hargrove & Jones, 2004; McCann & Núñez, 2005; Minkoff-Zern & Sloat, 2017; Russell et al., 2021).

Russell et al. (2021) reported the barriers to participation in government farming programs by Black farmers in Mississippi were lack of program

awareness, lack of transparency in the application of award process, and lack of uniformity across USDA offices. Each of the barriers faced was exacerbated by feelings of discrimination based on gender and/or race (Russell et al., 2021).

In addition, Minkoff-Zern and Sloat (2017) found that there is a significant gap in NRCS services provided to Latino immigrant farmers. In many cases, the barriers to participation in the programs stemmed from a lack of formal education, English speaking skills, and literacy, all of which are worsened by a lack of trust in the federal government by Latino immigrant farmers (Minkoff-Zern & Sloat, 2017). In Iowa, Latino immigrant farmers did not utilize USDA or Extension Service program due to a lack of awareness of this resource (Lewis, 2009). Even if farmers are aware of programs, the application process is cited as burdensome and complicated, causing frustration and nonparticipation (Asare-Baah et al., 2018; Hargrove & Jones, 2004; Minkoff-Zern & Sloat, 2017; Russell et al., 2021). Hargrove and Jones (2004) conducted a qualitative case study to determine the effectiveness of the Small Farmers Outreach and Technical Assistance (2501) program and found that it helped African American farmers overcome barriers that prevented them participating in government programs, such as a lack of program awareness and a complicated application process. The negative encounters with government agencies, frustration, and discrimination can lead to distrust of the government (Balvanz et al., 2011; Gilbert et al., 2002; Gordon et al., 2013; Minkoff-Zern & Sloat, 2017), and thus, nonparticipation in programs.

Poor formal educational levels were also found to be barriers to program participation (Gilbert et al., 2002; Minkoff-Zern & Sloat, 2017). However, adult educational opportunities, such as those provided by Cooperative Extension Services, seem to improve farmer success (Balvanz et al., 2011). Related to learning opportunities, Holz-Clause (2009) found that farmers prefer personal forms of communications so they can establish relationships with resource professionals (such as Cooperative Extension Service agents) to increase their knowledge and skills and have a support system.

Methods

Qualitative methods for identifying barriers to participation in CSA programs were used to allow for in-depth, detailed descriptions of underserved farmers and ranchers experiences and interactions with the NRCS. We employed a nonprobability sampling technique (snowball sampling) to identify, reach, and recruit underserved farmers and ranchers to attend focus groups. Potential focus group participants were recruited from Clemson Extension agents and associates who had existing knowledge of and relationships with underserved farmers and ranchers. We also reached out to various nongovernmental organizations that represent historically socially disadvantaged farmers and ranchers for recruitment into the focus groups. While snowball sampling techniques cannot be used to draw conclusions to a general population, it is a useful technique to identify members of a population who may be otherwise hard to locate (Babbie 2017; Newcomer & Triplett, 2015). All participants were self-selected, and no incentives were provided for participating in the focus group.

We conducted eight focus groups with 22 underserved farmers and ranchers from June 2022 through March 2023. Three of the focus groups were held in-person across the state, and five focus groups were virtual. We had two additional in-person focus groups scheduled but had to cancel them due to lack of interest. We had one virtual focus group scheduled with participants, but did not have anyone attend. This virtual focus group was scheduled two days prior to a hurricane that threatened the coast of South Carolina, and we feel the participants were busy preparing for the hurricane. Focus groups lasted between 30 and 75 minutes. We used a semi-structured interview process that allowed participants to tell their story while allowing for follow-up probing questions by the researchers. We had between one and six attendees per focus group.

The structured question that started the conversation centered around the participant's experiences in accessing NRCS programs: "What challenges do you have in accessing NRCS programs?" This question allowed participants the opportunity to share their successes, barriers, and challenges to accessing NRCS programs. Probing questions were

asked based on the responses so that richer and more complete information could be elicited from the participants. The focus groups were recorded and then transcribed for analysis.

Our research framework centered around a constructivist grounded theory approach to understanding and interpreting the data. The grounded theory approach utilizes a constant comparison methodology throughout the data analysis process and enables themes to emerge (Bowen, 2008; Charmaz, 2014). We used initial coding enveloped in *in vivo* coding methods (Charmaz, 2014; Creswell & Poth, 2018; Saldaña, 2021) for the first and second rounds of coding, respectively, which allowed processes to be identified and then the outcomes of the processes to be studied (Creswell & Poth, 2018; Saldaña, 2021). We increased our level of abstraction from the coding process to the emergence of themes (Bowen, 2008; Creswell & Poth, 2018).

Findings

Most participants that elected to share their farm's characteristics were small farmers (less than 100 acres or 40 ha). There were two participants who owned forestland and were managing trees for timber production. Most of the participants were female (19 females, 3 males) and some disclosed that they had inherited their land. Since females are considered an underrepresented group and they account for 34% of all producers in South Carolina, we feel this demographic composition is representative (Watkins et al., 2018). Most of the participants were at least vaguely aware of NRCS and its programs, although two participants had never heard of NRCS. Further, the terms "climate-smart" or "climate-smart agricultural practices" were mentioned only three times total throughout the focus groups.

The focus groups revealed three primary barriers to participation in NRCS programs for underserved farmers and ranchers: (1) a lack of program clarity and visibility, (2) a lack of accountability, and (3) a lack of NRCS support. We found these barriers to be consistent for both in-person and virtual focus group participants. Further, although we only had 22 participants, we achieved data saturation and did not feel like we needed to expand the num-

ber of interviews to obtain additional findings. Across all focus groups, the identified themes were clearly consistent, which supports the researchers' determination of data saturation. We will discuss each of these barriers in turn and provide support for the themes that emerged. For ease of understanding and flow, minor edits have been made to the wording of participants' direct quotes.

Barrier 1: Lack of Program Clarity and Visibility

There was a clear perceived lack of clarity in USDA NRCS program administration. Many of the participants identified issues surrounding the program application in terms of the process, deadlines, and program qualifications. Participants expressed frustration at the entire process being unclear, difficult to navigate, and lacking clear guidelines.

Further, there was inconsistency in the application process from county to county. Some of the focus group participants reported that the NRCS district conservationist completed the paperwork and turned it in on their behalf, while other participants reported having to complete their own applications. For the participants who had the paperwork completed for them, the application process was not identified as a barrier, although it was identified as an issue related to agency transparency and accountability (discussed below). However, for other participants, the application process alone was a deterrent. One participant summed it up by saying, "I think that it's just, the process is so intimidating for most people" (Group 7). Another participant stated about the application process, and NRCS in general, that "The process is hard. Anything that you deal with USDA, the process is hard" (Group 3). One participant expressed frustration at not knowing the deadlines for applications with the statement:

> On [the web]site, there is an awful lot of talk about you qualify for this or there is a program for that, or that kind of thing. And then, unless we call back, and that's not been the parted words, it doesn't say call me in a week and I'll get back to you. It's when they leave it's like we will be working up a plan. And then of course you get to, on well, we are approaching the fall, so if there is something that is for 2023

has it already been supposed to be submitted. I don't know. I don't know what the deadline is. (Group 2)

The inconsistencies in the process led to many participants expressing dismay and frustration at the lack of farmer autonomy in the application process. Participants felt like they could make a better case for receiving a program award for their farm than an NRCS staff member. The frustration is heard in statements such as:

- "I feel like you have to trust the agent to put in your package if you are trying to apply for certain EQIP programs. I don't see the paperwork go in." (Group 1)
- "So really the producer has no say you know, and how they're ranked for this process, and I think that's really a disservice to the producer, because if you can articulate your need, no one can do it better than yourself." (Group 8)
- "You don't even see the application. You don't see the programs that they have put you in for. You don't see anything." (Group 1)
- "I have never actually completed an application, and I'm not sure if that standard, or if that's our county, it usually is just a site visit. They [NRCS] come out to the farm. We have a conversation, and then the application seems to be like, you know, done kind of behind closed doors, and I don't have any input again. Kind of ranking what our need is for high medium or low need. And so I think, just visually seeing the application, you know, I think if farmers could participate in that." (Group 8)

Once applications were completed and submitted, underserved farmers and ranchers struggled to understand the selection criteria. As one focus group participant stated,

Here is what you are going to be evaluated on. And if you meet those things, you control your outcome. You control if you receive grant or not. Because you either put in the work and you met the criteria, or you didn't. And with NRCS you don't know what that moving target is to meet. (Group 1)

Finally, program awareness was also related to lack of visibility that many focus group participants cited as a barrier to NRCS program participation. Many participants stated that it would be helpful to simply have a list of available programs, program qualifications, and the differences between various programs. For example, one participant stated, "Tell me the difference between program A and program B. I just think there needs to be a lot of clarification to be better communication" (Group 2). Another participant voiced concern over the perceived lack of NRCS providing information by saying, "Openness of the offices for programs that are available. They are very reluctant to provide information so not knowing what to ask for, I can't ask for it" (Group 1). Another participant referring to available NRCS programs summed it up as "That's just where I feel like as a new farmer you don't know what you don't know and if somebody says, oh, we we've got all this stuff, well, I mean, tell me what day to sign up" (Group 2).

Barrier 2: Lack of Accountability
The second major theme revolved around accountability of NRCS and NRCS personnel actions. The major categories for this theme included application approval and rejection, technical specification applications on the farm, customer service, discrimination, and favoritism.

However, another source of frustration related to accountability that emerged was the awards process. Many participants expressed concerns that the lack of accountability in awarding funding seems discriminatory and shows favoritism. An example of discrimination shared by a female participant was,

I feel like it is a good ol' boy's club. I've had NRCS agent tell me he won't come out to my property until I check with my husband that the date is okay. And the land is in my name so that's not his business if my husband says it is okay. (Group 1)

Another female summed up her story by saying,

> We did have the USDA local agent gentleman out at our house. And that was last year. And I have to honestly say that was eye opening to me in a way that I hadn't foreseen. Unfortunately, that's when I learned that there was gonna be a few doors that were going to be difficult for me to open, and that my husband would have to open them because they're still, in certain areas, they are not, they don't receive women as well, or this particular gentleman did not." (Group 6)

Another example of perceived discrimination was by a participant who said:

> There is a move available to correct an unfairness. And an effort was to put some programs in, and I'm going to use the terminology that is used, to facilitate socially disadvantaged folks. Today, there is an effort to circumvent that effort. In some programs that have been put in place to try to correct that are being challenged. I think there was a need and is a need for the program to stay in place. But one of the things that I am concerned about is not only, okay, the program is here and that kind of reminds of a separate but equal. Is it equal? That's why I want to see the whole picture. Because if there is a program that is going to help you do this program, but then you [put] the existing program beside that, there is some disparity in what is being offered. (Group 2)

One participant felt that not being able to complete an application online was to enable discrimination practices. The participant stated:

> Why can't you just fill the USDA forms out online? I mean, realistically there are a lot of the underserved folks who assume that the reason that you can't just go online and you know, fill something out is because they, USDA, wants you to go in there so they can decide whether they're going to help you or not. (Group 7)

Another participant observed: "I think that the USDA has a long and storied history about having practices that discourage underserved populations from being served. And no matter what they say these days, they haven't gone away from these burdens" (Group 3).

Another form of discrimination is not social but is related to underserved farmers not being made of aware of services or programs. One farmer who was discussing NRCS personnel said, "I don't think he [NRCS personnel] is fair. I know that he is not going to call me with anything new that could help me in my operations" (Group 1). Other participants echoed the sentiment that there was discrimination by NRCS in not disseminating information to underserved farmers, which can overlap with categories found in the first barrier (lack of clarity and visibility).

In terms of favoritism, many of the underserved farmers felt like the reason that information is never released about who received funding is so they can favor the larger farmers. One participant relayed,

> The larger farmer that's their [NRCS] big focus, I guess. That is what they are doing. And folks that are doing the smaller beginning type operation, I can tell you that don't get the kind of attention the big farmers get. (Group 2)

A similar sentiment was expressed in the statement, "Well for me, I think that the USDA plans more money to people that have cattle versus any other animal, even vegetables and so forth" (Group 3).

These types of statements reveal that underserved farmers feel like there is favoritism in which farmers are awarded the grants, which may also stem from a lack of understanding in how grants are awarded in general. It also underscores another category that emerged concerning the approval or denial of applications. There was concern about a lack of accountability related to awards and how farms were selected for funding. One participant showed frustration in their statement, "I don't see how we are rated against other farmers in the area. I don't understand who is selected or how people

are selected" (Group 1). Another underserved farmer in discussing the perceived favoritism wove in the selection process and stated:

> I think it's already been set in stone. But for minorities, they feel so disappointed because when they do apply for some of these things, they [NRCS] tell them they are not qualified, or you don't have the revenue. And so it's always the next step. You must do this and this before we grant you anything. (Group 3)

Some of the sentiments related to accountability were rooted in a lack of trust in NRCS. Statements such as "I just don't feel like I can trust the NRCS" (Group 1), and "A lot of that mistrust is earned" (Group 3) demonstrate a lack of trust in NRCS.

There was also a great deal of discussion related to a lack of accountability by NRCS personnel. Most of the participants stated that NRCS agents were friendly and helpful while on site, but once they left a farm, were unresponsive to subsequent communications, such as phone calls and emails. For example, one participant shared:

> I would say personally, just personally, no, everyone is friendly, is wonderful. Everybody is as friendly and helpful as they can be. It's just when they leave, they might as well be going to Mars. I don't see them anymore. (Group 2)

Another participant expressed her customer service experience with, "Yeah, they're super nice when you get them on the phone. But super nice and you know, me being able to drill a well in the next couple of years are two totally different things" (Group 7).

Barrier 3: Lack of NRCS Support
One of the major concerns related to a perceived lack of NRCS support stemmed from the time lag during the application process. Many of the underserved farmers found that the time lag between when they called the NRCS office, NRCS arrived, prepared, and submitted the application, and when the first payment was received was a major barrier. Some of the barriers related to meeting the applica-

tion deadline and then receiving payment. Fronting most of a practice up-front and then receiving reimbursement at a later date proved challenging, and for some farmers meant that they could not implement a practice. This financial barrier was expressed by one participant who said,

> And so you know the deadlines, I think, can also cause a barrier to entry for the small farmer. You know the small farms. The ones that just don't have the resources, or you know the contacts to be able to, you know, front the money for the project and then meet the deadlines the NRCS requires. (Group 7)

Another participant with a different perspective on the financial burden of the process discussed that the time lag also has to do with the timing of a harvest and covering a cost initially, pointing out, "That's not gonna happen" (Group 5). The same participant went on to state, "Just that reality of you've got to have funding to oftentimes make these grants work" (Group 5). The financial barrier was summed up by a participant with the statement, "You have to be successful before we [NRCS] give you the tools to succeed" (Group 3).

While participants shared their experiences and barriers to participation in NRCS programs, they also provided some insights into how NRCS could provide better support to underserved farmers. The most cited support mechanism was increased information dissemination, which would help to overcome both the clarity and visibility barrier, and the accountability barrier. Some of the underserved farmers felt that information was disseminated to select groups, with one saying, "I am going to say not to be so selective as to who they share their information with" (Group 1). This statement may demonstrate a lack of support for underserved farmers as well as favoritism, as discussed in Barrier 2: Lack of Accountability. Another participant asked, "Just how and where can we get this [program] information?" (Group 2).

Despite the frustration with NRCS's customer service and program dissemination, many participants felt like part of the issue was related to the NRCS offices being understaffed. For example, a

participant shared their thoughts on staffing with the statement, "And I think a lot of offices are short staffed" (Group 8). They went on to talk about the lack of training of new NRCS agents in the comment:

> And I just don't know, you're either going to hire new people, they're going to have no idea what they're doing. They're going to come out, read that thing [program requirements] to the letter of the law, and a lot of folks are going to get hit and dinged and rejected. And then you're going to have a lot of folks that come out have no idea what they're doing. They're going to check everyone off whether they've even tried or not. (Group 8)

This sentiment spills over into the concern that NRCS personnel are not properly trained, do not have a farming background, and cannot apply the principles imposed by the program in a farm setting. Overall, the underserved farmers and ranchers asked that NRCS provide better customer service, improved program clarity and visibility through increased disseminating of information, making more information available online (including the application process), and having NRCS personnel be more responsive to requests for assistance (e.g., emails, phone calls).

Recommendations

This work identified barriers to the implementation of CSA practices through NRCS programs. The barriers can be summarized as a lack of program clarity and visibility, accountability, and customer service by NRCS and/or NRCS personnel. Some issues can be overcome through changes in policy and procedures. However, other issues, such as a lack of trust, will require time to overcome. The focus group participants provided a variety of viewpoints and experiences, but their responses all merged to show areas for improvement in the areas of the three barriers to increase the adoption of climate-smart agricultural practices by underserved farmers and ranchers.

Lack of Program Clarity and Visibility

This barrier is about issues related to the program awareness, qualifications, the application process, and deadlines and can be addressed through improved information dissemination and ease of access to information. First, NRCS should provide multiple portals for program information, which includes web-based information, printed materials available in the NRCS offices for farmers and ranchers to obtain or that can be mailed, and timely responses to telephone calls and email requests. Internet access in rural areas is still a problem (USDA National Agricultural Statistics Service [USDA NASS], 2021), so increasing responsiveness to other forms of communication (written and oral) is important. A standard or automated process for program dissemination is also imperative. This type of system would notify all farmers and ranchers of program opportunities at the same time, thus reducing the perception of favoritism of programs toward larger farmers and ranchers. Fagundes et al. (2020) also found program dissemination was biased, thus further warranting a standard, automated process.

Additionally, making online information easier to find is critical for increasing program awareness. Some of the focus group participants complained that they were not aware of where on the NRCS website to find program information. Simplification of the NRCS website may help to overcome this barrier.

Another recommendation for reducing this barrier is to create a catalog of programs that includes a program description, qualifications, and application deadline. Focus group participants felt that they were not aware of available programs, deadlines, and qualifications, and that the local NRCS staff member did not make them aware of available programs, either intentionally or unintentionally. A single catalog that is easily accessible containing all the necessary information about programs would overcome many of the issues identified in this barrier. Lack of program awareness was cited by multiple researchers as barriers to program participation in government farming programs (Asare-Baah et al., 2018; Boland et al., 2009; Hargrove & Jones, 2004; McCann & Núñez, 2005). Thus, improved program awareness is likely to increase the adoption of climate-smart agriculture practices.

Lack of Accountability

NRCS should standardize the process for decisions, awards, and announcements. Many of the participants felt there was favoritism in awards and this sentiment echoed other research on underserved farmers and ranchers (Asare-Baah et al., 2018; Fagundes et al., 2020; Hargrove & Jones, 2004; Hartarska et al., 2022). The first strategy for overcoming this barrier is to provide a clearly defined process for disseminating outcomes of application decisions. This includes providing a list of projects that were approved or denied. This recommendation may violate some federal privacy rights, but awards can be posted with any farm or personal identifying information removed. This would provide an avenue for accountability in funding decisions with evidence of a fair selection process.

Further, NRCS should provide feedback on an application when it is denied. This will allow farmers and producers to understand weaknesses in their applications so they can be strengthened in the next funding cycle. Many of the underserved farmers and producers stated that they understand that they may be denied a program but knowing why it was denied would help them. Feedback on rejected applications would also allow underserved farmers and ranchers the opportunity to compare their applications with those that were awarded program funds, leading to further increased accountability for NRCS. A farmer or rancher who has access to a successful application can glean information about specific program nuances that may not have been obvious from the program description of qualifications document.

Finally, NRCS should develop and implement a standard process for the application process, program awards, and announcements. It was apparent during the focus groups that the application process varied dramatically from one county to another. Standardizing the application process provides continuity across the state and allows farmers and ranchers to better understand where they are in the process and what to expect after the application process has been completed. A standard application process should also include more farmer and rancher autonomy. Focus group participants disclosed that they felt like they could state their case on an application better than an NRCS agent or, at the very least, provide input to strengthen the application that was completed by NRCS representatives.

A standard process for announcing awards should also be developed. This would help farmers and ranchers know when to expect a decision and how they will be notified. A standard process also ensures fairness in the selection process and program awards, helping to promote accountability.

Lack of NRCS Support

One of the most cited sources of frustration with NRCS program support came from a financial perspective. Many of the underserved farmers and ranchers stated that in some cases, they could not participate because they did not have the financial resources to pay up front for a practice while they waited for an NRCS award. Almost none of the focus group participants were aware that NRCS would provide program payment upfront for underserved groups. Increasing awareness of this financial resource would likely increase underserved farmer and rancher participation in NRCS programs. It is not known if NRCS personnel are not aware of this option themselves or if they do not share it, but NRCS staff should communicate it to underserved farmers and ranchers to help increase program participation. This financial issue was further exacerbated by the time lag between crop harvest and payment. The group expressed that they could not cover the initial program cost without a harvest that coincided with the timing of initial cost.

Similarly to the previously discussed barriers, another recommendation to increase NRCS support is to improve information distribution. Having a standard or automated process for sending out program information would also help to overcome the perception of favoritism and discrimination. Having an automated system also means local NRCS personnel are relieved of this burden.

Ensuring proper training of NRCS staff on program requirements and processes would help with the perceived lack of NRCS support. Proper training may help to have more consistent program guidelines applied to the farms. We identified that there was a great deal of variation in determining

farm eligibility, as well as in the application process. Fully staffing NRCS offices would also help to overcome the issue related to poor customer service and improve consistency across county offices.

Finally, focus group members expressed that having county NRCS offices fully staffed would increase NRCS support. The participants discussed how NRCS offices appeared to be short-staffed and that this was likely affecting the ability of NRCS staff to serve all the farmers and ranchers demanding services. They also believed that fully staffing offices could reduce delays between their initial calls for services and the availability of NRCS staff to conduct site visits and initiate the process. Fully staffed offices may also be particularly important for Black farmers who prefer in-person communications to establish relationships with professionals (Holz-Clause, 2009) and rebuild trust that was lost (Balvanz et al., 2011; Franz et al., 2010; Gordon et al., 2013). It is important to note that NRCS is funded by Congress via the shifting political influences with each five-year funding cycle that affect the farm bill. These fiscal challenges affect the staffing and operations of the agency.

Conclusion

Currently, South Carolina farms with more than US$500,000 in value of production are represented by over 91% of farm output by dollar value (USDA NASS, 2024), meaning that a few large farms represent a significant portion of farm output in terms of dollar value. This indicates a disparity in farming operations and may provide evidence that USDA NRCS CSA programs favor larger farmers and do not equitably serve underserved farmers. USDA NRCS CSA programs can greatly benefit underserved farmers by providing critical financial resources to maintain and grow farming operations. Further, implementing CSA practices can lead to more resilient farming operations and improved environmental quality. However, this research identified the barriers to farmers' participation in these programs. This research aligns very closely with the findings presented by other research related to underserved farmers' and ranchers' perceptions of and participation in NRCS programs. Underserved farmers and ranchers throughout the Southeast and Midwest expressed many of the same concerns, frustrations, and sentiments as underserved farmers and ranchers in South Carolina. Our findings closely follow the findings of Russell et al. (2021) of Black farmers in Mississippi. This almost perfect alignment of two geographically and demographically separate groups indicates a systemic issue within NRCS related to services provided to underserved populations. We made recommendations that would help overcome some of the barriers to improve services and relations with underserved farmers and ranchers.

Future Research

Additional research is needed to further identify barriers to participation in USDA NRCS CSA programs. While this project did not identify cultural barriers to participation, they exist in other states (Lewis, 2009; Minkoff-Zern & Sloat, 2017) and may exist in South Carolina but have yet to be identified. The extent of language and literacy barriers to participation should also be further investigated. These barriers are well documented for many farmers across the country, particularly in underserved groups, and can exacerbate a barrier, particularly when considered in the context of cultural norms and values. While the demographics of this project were similar to the demographics of farmers in South Carolina, focusing on specific populations of farmers in South Carolina may be beneficial (e.g., Latino immigrant farmers). Differences in experiences with NRCS and barriers to participation may vary between different populations and thus require different solutions.

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