

Data-Supported Policy Recommendations for USDA Food Insecurity-Related Programs

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Executive Summary

Introduction

This report summarizes the findings obtained from a collaborative research project between the University of Mississippi Community First Research Center for Wellbeing and Creative Achievement (CREW), Southern University Agriculture Center, and the University of Arkansas at Pine Bluff. The purpose of this research initiative was to examine the demand for nutrition incentive and produce prescription programs by farmers in rural areas across Arkansas, Louisiana and Mississippi, and to examine to what degree, if any, local farmers are currently incorporated into existing USDA Farm Bill funded produce prescription and nutrition incentive initiatives based on the 2018 Farm Bill changes.

Objectives

The objectives of this study were (1) To determine the impact of the 2018 Farm Bill changes on produce prescription, nutrition incentives, and SNAP funding, specifically focusing on the incorporation of local farmers; and (2) to examine the demand for nutrition incentive and

produce prescription programs by farmers in rural areas across Arkansas, Louisiana, and Mississippi.

Methods

The research team employed interdisciplinary content analysis techniques alongside a mixed methods data collection tool called Fuzzy Cognitive Mapping (FCM). The content analysis scrutinized language used in the existing USDA Requests for Applications (RFAs) between years 2019-2023 to determine the impact of the 2018 Farm Bill changes as they pertained to produce prescription, nutrition incentives, SNAP funding, and their inclusion of Socially Disadvantaged Farmers and Ranchers (SDFRs). Interviews and FCMs assessed the demand for these programs among SDFRs and noted the most effective ways to tailor USDA RFAs and technical assistance programs to encourage SDFR participation, and ultimately get locally grown produce into rural community hands.

Discussion

The purpose of this study was to explore the existing landscape for socially disadvantaged farmers to participate in the emerging food prescription landscape. With significant federal, state, and private funds being dedicated to the development, implementation, and evaluation of food prescription programs (food rx, fruit and vegetable prescription, etc) it is important to understand how those monies are then leveraged into local food systems and economies.

Conclusion

Largely farmers, and especially socially disadvantaged farmers are left out of the food prescription landscape as it relates to federal funding. In part, because these funding mechanisms have failed to highlight the use of local produce or local food systems as a requirement for those receiving funding to implement food rx strategies. Yet the opportunity for inclusion of these farmers exists. Despite minority farmers in the three state study area being unfamiliar with food rx program, all were willing to engage in the process provided these programs engage with them on the front end of implementation as a partnership.

Recommendations

There are three primary recommendations from this work:

1. RFAs that provide the mechanism for soliciting proposals for food rx program need explicitly require the implementing agency to partner with local farmers and especially minority farmers.
2. Provide the necessary frameworks for helping implementing agencies contract directly with farmers, rather than asking farmers to secure their own grants or loans. This takes the burden off of minority farmers for procuring their own funds and supports sustainability by mimicking real world food systems arrangements.
3. Food rx programs' long-term sustainability will require the ability to engage with third party payors (i.e. health insurance). This will require farmers have access to the necessary technical assistance for reimbursements, similar to SNAP purchases.

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The objectives of this study were (1) To determine the impact of the 2018 Farm Bill changes on produce prescription, nutrition incentives, and SNAP funding, specifically focusing on the incorporation of local farmers; and (2) to examine the demand for nutrition incentive and produce prescription programs by farmers in rural areas across Arkansas, Louisiana, and Mississippi. By analyzing both of these objectives collectively the research team was able to evaluate the effectiveness of these programs, identify bottlenecks, and develop policy recommendations that would support socially disadvantaged farmers and ranchers (SDFRs) and nutritionally vulnerable communities within the market created by these initiatives. As discussed in this final report both the methods and discussion sections will be divided between both the (1) Content analysis used to determine 2018 Farm Bill changes on funding for produce prescription and nutrition incentive programs; and (2) the mixed methods assessment of demand used to examine the demand for these programs among farmers in rural areas in Arkansas, Louisiana, and Mississippi. The collective findings from both of the analysis and assessment will then be used to provide policy recommendations and opportunities for future research moving forward.

Methods

Content Analysis

To capture systematic changes which might be attributed to the 2018 Farm Bill, the research team conducted content analysis on documents from 2019-2023 application cycles, with the caveat that any documents from the 2023 cycle are limited to the RFA only. As the 2018 Farm Bill changes spoke specifically to the USDA GusNIP program, this analysis focused specifically on those RFS and abstracts. The research team searched the grantee data baseⁱ, as well as archived RFAsⁱⁱ. The search focused on produce prescription projects funded under the GusNIP, GusCRR, and ARPA funding initiatives. In order to find these documents a previously published methodologyⁱⁱⁱ was utilized. Upon identifying eligible RFAs, and corresponding respective publicly available successfully funded grant abstracts or summaries, a separate content analysis coding protocol was conducted on each different kind of document.^{iv}

RFA/RFP Coding Protocol

1. Program content: Does the evaluation criteria RFA/RFP evaluation criteria specifically include any of the following word or phrases, and if so, in what context:

Local	YES	NO
“Local Produce”	YES	NO
Farm or Farmer(s)	YES	NO
“Socially Disadvantaged Farmers”	YES	NO
“Minority”	YES	NO
“Minority Farmer”	YES	NO

2. Principal Investigator or Grantee Information: Does the RFA/RFP evaluation criteria call specifically include language asking for proposals from any of the following institutions:

HBCUs	YES	NO
MSIs	YES	NO
Tribal Colleges	YES	NO
HSIs	YES	NO
Minority PIs	YES	NO

3. Does the RFA/RFP evaluation criteria specifically include any mention of the following phrase?

“Diversity, Equity and/or Inclusion”	YES	NO
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Funded/Awarded Proposals Coding Protocol

1. Grantee Name/Principal Investigator Institution (Organization):

PI Institution:	Predominantly White Institution Hispanic Serving Institution Historically Black College/University Tribal College Minority Serving Institution	PWI HIS HBCU TC MSI
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2. What is the race of the PI^v? (if available)

3. Year Funding Awarded:

2019	2020	2021	2022
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4. Funding Source:

ARPA	GusNIP	GusCRR
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5. Project Title: Title

6. Grant Amount: Numerical value
7. Duration: Year Duration
8. State/Geographical Area: State Code
9. Project Director/PI: Name
10. Re: Content, Does the funded abstract include any of the following word or phrases, and if so, in what context:

Local	YES	NO
“Local Produce”	YES	NO
Farm or Farmer(s)	YES	NO
“Socially Disadvantaged Farmers”	YES	NO
“POC”	YES	NO
“Minority Farmers”	YES	NO

Coding the RFAs and publicly available successfully funded grant abstracts or summaries provided several important pieces of information to evaluate, (1) the extent to which the 2018 Farm Bill changes related to the GusNIP programs have been integrated into existing RFAs; (2) whether the existing RFAs incorporate the inclusion of local farmers and ranchers, specifically socially disadvantaged farmers and ranchers, into their evaluation criteria; (3) whether the research and programs developed by successful grantees incorporated local producers and farmers (in any context); and (4) the diversity among institutions, PIs, and populations served by those grants.

Mixed Methods Assessment of Demand

This research aimed to identify common barriers for SDFRs in accessing USDA GusNIP, Nutrition Incentive Grants, Produce Prescription Grants, and SNAP programs. Studying the demand for these programs can strengthen the argument for expanding and securing permanent funding for these initiatives through the 2018 Farm Bill.

While capturing the demand, it is essential to address the challenges faced by producers in providing SNAP benefits for purchasing or producing for nutrition incentives and produce prescriptions to ensure the programs’ efficacy and inclusivity. This research delves into identifying potential barriers that might hinder these programs’ successful implementation, including cooperative agreements with local organizations, planning, and implementation.

To document and analyze the demand for the above USDA programs and programming for SDFRs, clarify the necessity of the programs, and address barriers to access, this research asks the following questions:

1. What challenges and issues are socially disadvantaged farmers and ranchers currently experiencing?
2. How do these challenges impact their ability and willingness to produce for a nutrition incentive or produce prescription program?
3. What barriers do they encounter while providing SNAP benefits for customers?
(Assuming they are SNAP certified.)

Researchers used a mixed methods approach called Fuzzy Cognitive Mapping (FCM as listed in the Executive Summary) to answer the questions above. FCM is a data collection tool used to quantify the human decision-making process^{vi} The research team initiated the data collection process by conducting qualitative interviews with SDFRs in Mississippi, Arkansas and Louisiana. The primary aim was to gain insights into the demand for nutrition incentive programs, produce prescription programs, SNAP, and the technical assistance that supports SDFRs' involvement in these initiatives.

During the interviews, participants were asked to reflect on various factors that influenced their ability to participate in produce prescription/nutrition incentive programs. These factors included their expertise, skills, available infrastructure, existing policies, and specific individuals or organizations with whom they had established connections. Subsequently, the researchers compiled a comprehensive list of variables based on the interview responses.

To understand the interconnectedness between these variables, participants were asked to determine if one variable had an impact on another. This line of inquiry was repeated for each variable to identify potential dependencies and relationships.

Lastly, to quantify the strength of the relationships and capture the emotional aspect influencing decision-making, each depicted relationship was assigned a positive or negative value between 1 and 10. This numerical rating allowed the researchers to assess the significance of the relationships and gain insights into the emotional factors driving the decision-making processes related to participation in these programs.

Discussion

Content Analysis Results

GusNIP Nutrition Incentive and Produce Prescription RFA:

A content analysis of the GusNIP Nutrition Incentive and Produce Prescription RFAs focused specifically on whether or not the specified language was included within the evaluation criteria, rather than whether it was included within the RFA as a whole. The reason for this specification is that if the language was included within the overall verbiage of the RFA, then it would appear to imply a valuation associated with that terminology. However, if the language is included in the RFA language overall, but not within the evaluative criteria, this connotation of value is incorrect. Only wording used within the evaluative criteria has an impact on the overall scoring and ultimate selection of the submitted applications. Therefore, any analysis of the specified

language or terms was limited to the evaluation criteria as this was the area where points and subsequent value towards successful grant funding were allotted.

Table 1: Usage of the word “Local” in GusNIP RFA

Funding Year	Language used
2019	“Provides locally or regionally produced and fresh fruits and vegetables, especially those culturally appropriate for the target audience and/or operates in underserved communities.”
2020	“Provides locally or regionally produced and fresh fruits and vegetables, especially those culturally appropriate for the target audience and/or operates in underserved communities.”
2021	“Provides locally or regionally produced and fresh fruits and vegetables, especially those culturally appropriate for the target audience.” (Note language re: underserved communities split to its own priority: “have demonstrated the ability to provide services to underserved communities, and/or economically distressed communities, particularly Opportunity Zones.”)
2022	Absent
2023	Absent

The only usage of the word “local” within the evaluation criteria for the GusNIP programs was included in the following phrase: “Provides locally or regionally produced and fresh fruits and vegetables, especially those culturally appropriate for the target audience and/or operates in underserved communities.” No further definition for what constituted “local” or “regionally produced” was provided within the evaluation criteria. Further, while this phraseology was included within the 2019, 2020 and 2021 RFAs, it was notably absent from the 2022 & 2023 RFA. 2022 was the first time that the nutrition incentive and produce prescription RFAs were split into separate RFA’s, with each one having a separate evaluation criteria. Local was not included in either of these respective RFA’s.

Table 2: Usage of the word “Farm” or “Farmer(s)” in GusNIP RFA

Funding Year	Language used
2019	“Involves a diversity of types of firms (e.g. convenience stores, supermarkets, farmers markets, etc.)”
2020	“Involves a diversity of types of firms (e.g. convenience stores, supermarkets, farmers markets, etc.)”
2021	“Involves a diversity of types of firms (e.g. convenience stores, supermarkets, farmers markets, etc.)”
2022	Absent
2023	Absent

The only usage of the word “farm” or “farmer” within the evaluation criteria for the GusNIP programs was the usage of “farmers markets” in the following phrase: “Involves a diversity of

types of firms (e.g., convenience stores, supermarkets, farmers markets, etc.)) No specific mention of direct farmer engagement outside of the context of potential utilization of a farmer’s market firm was used. Further, while the phrase “farmers market” was used in the 2019, 2020 and 2021 RFAs, it was not mentioned in either the 2022 or 2023 RFA.

None of the RFAs evaluative framework contained language associated with encouraging diversity among principal investigators or their respective institutions within their evaluative framework. There was also no mention of any language pertaining to “diversity, equity and inclusion.”

GusNIP Nutrition Incentive and Produce Prescription Publicly Available Successful Grant Summaries or Abstracts:

Successful grant summaries from the 2019, 2020, 2021, and 2022 GusNIP application cycles were coded and analyzed. These summaries were available from the GusNIP Nutrition Incentive Website.^{vii} The summary analysis was limited to successfully funded produce prescription proposals, funded both the GusNIP, GusCRR, and ARPA programmatic funding.

Table 3: Term Frequency in Successful Grant Summaries or Abstracts I would add the years to this table title.

Term	Frequency	Percentage
“Local”	39/116	33.6%
“Local Produce”	12/116	10.3%
“Farm” or “Farmer(s)”	30/116	25.8%
“Local farm” or “Local Farmer(s)”	19/116	16.4%
“Socially Disadvantaged Farmers”	0/116	0%
“Minority Farmers”	0/116	0%

Of the 116 available summaries 39 included the mention of the word “local” 33.6%. 12 included the phrase “local produce.” 10.3%. 30 included the word “farm” or “farmer.”, 25.8%. 19 included some iteration of the phrase “local farm” or “local farmer”, 16.4%. None of the publicly available summaries included any mention of the terms “socially disadvantaged farmers” or “minority farmers.”

Mixed Methods Assessment of Demand Analysis

Tri-State Findings

Research teams in AR, LA, and MS conducted FCM interviews with 40 SDFRs in their respective states to determine what influences SDFRs’ ability and willingness to provide for a produce prescription program. SDFRs were identified through local extension offices and invited to participate in the interview process. 40 SDFRs agreed to participate. Below are tables representing interviewed SDFRs’ race, gender, and age range.

RACE	MALE	FEMALE	TOTAL
BLACK	21	6	27
HISPANIC	0	1	1
ASIAN	1	1	2
WHITE	2	8	10
TOTAL	24	16	40

Table 1: SDFRs by Race and Gender

Table 1 breaks down interviewed SDFRs by race and gender. 21 black males, 6 black females, 2 white males, 8 white females, 1 hispanic female, 1 asian male, and 1 asian female were interviewed.

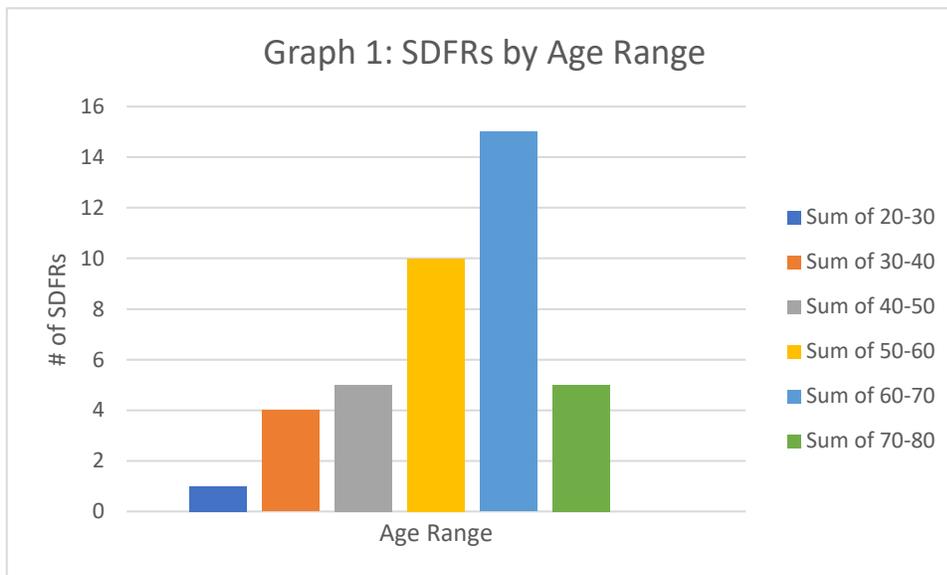
SDFR age ranges varies between 20 and 80 years old. Numbers of SDFRs in each age range are depicted below in Table 2. Most subjects were in their 60s at the time of the interview. 10 SDFRs were in their 50s, five were in their 40s, five were in their 70s. Four were in their 30s, and one was in their 20s.

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AGE RANGE	20-30	30-40	40-50	50-60	60-70	70-80
# OF SDFRs	1	4	5	10	15	5

Table 2: SDFRs by Age Range

SDFR age ranges are visualized in Graph 1. There is a clear decline in the number of SDFRs as age decreases. Of the 40 interviewed SDFRs, only five are below the age of 40, while 25 are in their 50s and 60s. Five SDFRs were in their 70s. 30 SDFRs were over 50 years old at the time of the interviews leaving only 10 SDFRs in their 40s or younger.



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After combining and analyzing all FCMs into a regional FCM or “community map,” the 58 individual variables were coded into 8 condensed variables:

1. *Farm Operations*:
 - activities, processes, and equipment that maintain farm operations and provide care and processing for farm-grown produce.
2. *Quantity*:
 - the amount of farm-grown fruits and vegetables the farmer has available or is expected to provide to the produce prescription program.
3. *Transportation*:
 - the distance farmers are expected to drive to deliver their produce for the produce prescription program, which could require refrigerated transportation.

4. *Consistent Payment:*
 - scheduled payments or purchases from the produce prescription program to the participating farmer to reduce financial hardship throughout the prescription program, preferably calculated using an enterprise budget and bound by contract.
5. *External Resources:*
 - people, organizations, programs, and services acting outside of the participating farm to aid the farmer in their production, farm operation, and market.
6. *Natural Environment:*
 - organisms and phenomena occurring in the natural world, like weather, climate, and pests.
7. *Willingness/Ability to Provide Produce:*
 - the willingness and/or ability for the farmer to provide their produce to the produce prescription program.
8. *Other Markets:*
 - customers not participating in the produce prescription program who purchase produce from the produce prescription participating farmer outside the produce prescription program.

The community map uses the above variables to answer the research questions listed in the “Research Statement, Questions, and Methods,” section. Further analyzing this map in the context of interviews can show policy-makers specific action they can take to ensure SDFRs are properly integrated into USDA programs.

FCM Data Analysis

The top three variables SDFRs listed are *farm operations*, *quantity*, and *transportation*. *Farm operations* was mentioned 76 times. *Quantity* was mentioned 60 times. *Transportation* was mentioned 44 times. We can interpret that to mean:

1. The capabilities and reliability of the farm operations,
2. The amount of fruits and vegetables the farmer is able versus expected to produce,
3. And, the delivery distance and availability of refrigerated transportation...

Have the greatest impact on the farmer’s willingness and ability to produce for a produce prescription program.

These variables are interconnected as each variable relies on the other in some way. Though *farm operations* is mentioned more frequently, *quantity* is the largest driver in this triangular relationship as more farmers agreed quantity affects *farm operations* and *transportation*. The amount a farmer is expected to produce directly determines the distance the farmer is willing to travel for delivery. The more produce a program purchases, the further and/or more frequently the farmer is willing to travel. The amount of produce also determines the types of farming operations that are conducted. Farming operations largely depend on the amount and types of crops being farmed. Produce prescriptions often require certain types of crops and always request a specific amount of produce, but these factors may require new equipment purchases or an alternate farming method the farmer must utilize. *Quantity* is the most agreed upon variable to affect other *transportation* and *farm operations*.

The top three relationships farmers depicted in their Fuzzy Cognitive Maps (FCMs) are as follows:

Consistent Payment → Willingness/Ability to Provide Produce

Consistent Payment → Farm Operations

Farm Operations → Willingness/Ability to Provide Produce

Another triangular relationship, *consistent payment* affects both *willingness/ability to provide produce* and *farm operations*. *Farm operations* also affects *willingness/ability to provide produce*. Therefore, *consistent payment* is the largest driving variable, while *willingness/ability to provide produce* is the largest receiving variable. *Farm operations* is a neutral factor being both a driver and receiver. These relationships' interactions can be succinctly described in the calculations below:

$$\text{Consistent Payment} + \text{Farm Operations} = \text{Willingness/Ability to Provide Produce}$$

Though all other variables have a direct effect on a farmer's willingness and ability to produce for a produce prescription, consistent payment and farm operations are the primary concerns for SDFRs. Consistent payment is specifically important because of the way it is operationalized in this context and the heavy focus on consistent payment among farmers. Every farmer with experience producing for an institution or organization mentioned their need for consistency in regards to purchase and payment, and many mentioned the need for a contract or legal agreement between parties.

Without a contractual agreement, farmers take a greater risk than the entity responsible for the produce prescription. While the produce prescription entity takes a risk on the farmer producing the agreed-upon quantity and transporting their produce to the agreed-upon location, the farmer's investment in the program begins well before production.

The farmer begins their planning process several months before the planting season because they have to make sure their current operation is up to the task. If it is not, they have to invest in the proper equipment, labor, and/or systems beforehand. That is a large amount of money spent upfront that the farmer wishes to get back through producing for the produce prescription program. If a non-contractual agreement falls through, the farmer is left with outrageous expenses, a mountain of produce they cannot sell, and a distrust for partnering with produce prescription entities.

Furthermore, most farmers employ a labor force that does not work on a schedule. The help farmers receive week to week can be inconsistent and varies depending on who is available for work. This means farmers must pay their employees weekly, if not daily. Therefore, consistent payment on a scheduled basis is of paramount importance for not only farm operations, but the farmers willingness and ability to produce on any scale.

Across all variables and relationships, *consistent payment* was the top driver within the community map. *Consistent payment* maintains the highest positive effect on each variable than almost any other driving variable and has the greatest positive impact on *willingness/ability to*

provide produce of all other variables. As can be expected, *willingness/ability to provide produce* is the largest receiver in the community map and is most heavily impacted by almost all other variables than another other receiving variable.

Finally, *natural environment* is the driving factor with the largest negative effect on another variable, has a negative effect on all other variables, and is negatively affected by every other variable. Though *natural environment* includes the positive effects of the environment, farmers are seeing increasingly negative effects of their natural surroundings. Today's shifting climate is causing alternating droughts and floods along with extreme temperature changes. These are having a detrimental effect on southeastern farms and causing farmers to look for alternative farming methods to combat these effects.

Interview Analysis

In addition to the FCMs, qualitative interview data was also important for this research. Interviewed SDFRs were asked questions around their familiarity with produce prescription programs, SNAP and nutrition incentives, and technical assistance.

Of the SDFRs interviewed, 95% had never heard of a produce prescription program, and only one had ever produced for a produce prescription program. Research teams provided interviewed SDFRs the following definition for "produce prescription program,":

"A Produce Prescription Program is a medical treatment or preventative service for patients who are eligible due to diet-related health risk or condition, food insecurity or other documented challenges in access to nutritious foods and are referred by a healthcare provider or health insurance plan. The prescription often involves a recommended amount of fresh fruits and vegetables."

This lack of awareness alone shows that SDFRs in the South are not directly included as producers in produce prescription programs. Further investigation might ask produce prescription entities if they considered using local SDFRs as primary producers and what might influence their decision. Utilizing language in RFAs encouraging farmer participation will foster a more collaborative environment between produce prescription entities and local farmers.

However, farmer participation in these programs does not mean putting the farmer in the position to apply for the programs. Most interviewed SDFRs underutilize some technical assistance because grants and loans are not their preferred form of income concerning produce prescriptions. SDFRs do not have the bandwidth, and oftentimes do not have the resources, to apply for USDA grants and loans. SDFRs prefer having a contractual or other written agreement with the organization administering the prescription. Contracts between farmers and produce prescription programs are a secure way to outline the agreement and expectations and guarantee both parties will get what they are asking for - consistent payment and quantity.

Other forms of technical assistance are heavily utilized such as Extension services that offer farm-related training. For SDFRs, Extension serves as the bridge between USDA and farmers. The only missing piece mentioned in the interviews is an Extension method for marketing and outreach. Many farmers do not take advantage of technical assistance simply because they do not know about it. Farmers recommend USDA and Extension offices use more accessible methods

of outreach and marketing of services and opportunities. It is important to meet the farmers where they are.

Finally, this research assessed SDFRs' access to and use of SNAP. Though many interviewed SDFRs are SNAP certified, they largely do not use SNAP or participate in nutrition incentives because their customers do not use them. Even farmers who are SNAP certified do not use their SNAP capabilities. However, SDFRs noted these programs would be more beneficial to use in conjunction with a produce prescription to offset some of the food cost, lessen reliance on grant funding, and move closer to insurance coverage. SNAP and nutrition incentive programs are an opportunity to make produce prescription programs a sustainable part of local and regional food systems in the United States.

Conclusion

The 2018 Farm Bill reauthorization of the USDA GusNIP Nutrition Incentive Program, and subsequent expansion of the produce prescription program has expanded the availability of produce prescription programs within the United States. However, based on the existing evaluative framework outlined within the current RFAs local produce and local farmers are not included as part of this process. Further, no language exists highlighting including minority or socially disadvantaged farmers as part of the application.

Successfully funded abstracts have included some iteration of local, local produce, or farm/farmer in a limited context. However, the usage of "local farm/farmer(s)" has only been highlighted in 16.4% of the abstracts. No language including minority or socially disadvantaged farmers was included in any of the abstracts. This indicates that the absence of this language from the evaluative framework is having at a minimum, some connection on that language ending up in any of successfully funded abstracts. Additional opportunities for research should investigate whether these programs rely on "local farmers markets" as a stand in for direct relationships with local farmers, as well as whether the shift from including both nutrition incentive and produce prescriptions as one RFA to two separate RFAs has had an impact on the incorporation of local farms/farmers/produce into the subsequent successful proposals.

The qualitative interviews and FCM conducted by the research teams in AR, LA, and MS supports the assertion that local farmers are not included in these programs as they lack an awareness of their existence. SDFR interviews show the lacking engagement between USDA food and nutrition programs and SDFRs in the South, but FCMs show the opportunities for local organizations to engage SDFRs and integrate them into produce prescription programs.

For instance, quantity, farm operations, and transportation are the primary drivers for an SDFR in the South to provide for a produce prescription program. The capabilities and reliability of the farm operations depends on the amount the farmer is able and expected to produce, which determines the distance the farmer is willing to travel for delivery. These interactions show an

opportunity for USDA to develop an enterprise budgeting system for local farmers and program applicants to use when planning their proposals.

The relationship between consistent payment and farm operations directly affects a southern SDFR's willingness and ability to provide for a produce prescription, as the consistency of payment supplements the inconsistency of farming operations. Furthermore, a contract between the farmer and produce prescription entity is preferable for SDFRs because of the larger risk the farmer is taking compared to the produce prescription entity.

As noted prior, most SDFRs in the South have never heard of a produce prescription program, which means they likely are not included in funded programs. Language incorporated in USDA programs will encourage SDFR integration. USDA technical assistance is tricky to evaluate as most assistance for SDFRs comes from Extension services. Extension is meant to serve as the bridge between USDA and farmers but is lacking an accessible outreach method for SDFRs. SDFRs also do not use SNAP in their businesses, even if they are certified, because their customers do not use SNAP. More research should be done to incorporate an inclusive food supply chain that connects SNAP recipients with their local SNAP certified SDFRs. Increasing the usage of SNAP would show the demand for the program, and perhaps motivate other SDFRs to obtain SNAP certification if they have not done so already. In addition, produce prescription programs have the potential to connect SNAP populations with their local farmers while also cutting down on the cost of fresh locally grown produce.

If USDA will consider the drivers for SDFR participation in their programs related to food assistance, increase SDFRs' awareness of programs, address technical assistance challenges, and use produce prescriptions as a way to connect underserved populations with SDFRs, then USDA can dramatically increase its impact in socially disadvantaged communities and build sustainable, equitable food systems in the southeastern United States.

Recommendations

Both the qualitative interviews and FCM's created by the research team and the content analysis of current and prior GusNIP RFA's and successfully funded project summaries and abstracts indicate an overall deficit of incorporation of any local farmers or food producers into the existing nutrition incentive and produce prescription framework. The existing language does not create opportunity for inclusion and participation by socially disadvantaged farmers and ranchers. Under the current evaluative framework utilized by the Farm Bill authorized GusNIP Produce Prescription and Nutrition Incentive funding initiatives there is no valuation assigned for incorporating farmers in as part of the produce prescription application. Additionally, socially disadvantaged farmers and ranchers are unaware that these programs exist.

Goal #1 Increase participation of farmers and ranchers, specifically SDFR's, in GusNIP Nutrition Incentive and Produce Prescription programming.

- a. Add in verbiage to the GusNIP Nutrition Incentive and Produce Prescription evaluative criteria that assigns value to incorporating local farmers into any submitted

- proposal. If the purpose of the Farm Bill is to provide strong support for America's farmers and ranchers^{viii}, there must be an incentive for farmers and ranchers to be incorporated into any forthcoming proposal.
- b. Increase outreach and awareness regarding produce prescription and nutrition incentive funding opportunities for local farmers. A lack of understanding regarding what these programs fundamentally are means that farmers are missing out on these opportunities.
 - c. Provide opportunities for additional research funding that examines the consequences of any verbiage change supporting farmers and ranchers and any subsequent successes.

Goal #2 Make it easier for local farmers and ranchers, specifically SDFR's, to participate in these programs.

- a. Farmers are interested in increasing the ability and capacity to access contract opportunities, rather than applying for loans or grants. Further expansion and/or reauthorization of these programs should highlight contractual opportunities for farmers, rather than increasing grants and loans they would need to apply directly for.
- b. To help mitigate the issue of lack of consistent payment, broaden the eligible entities that can apply for GusNIP funding to include academic institutions that have the infrastructure and ability to contract directly with farmers.
- c. Streamline the GusNIP reporting process to make it easier for farmers to participate under the current format. Even if a farmer did want to apply for GusNIP funding the current reporting process is too onerous for them to manage without prior grant management and reporting experience.
- d. Utilize an existing voucher program (e.g. the Farmers Market Nutrition Program through WIC^{ix}) to allow produce prescription recipients to redeem their participating prescriptions through a local farmer directly, rather than at a grocery store or farmers market.

Goal #3 Address technical assistance limitations as a barrier to SDFR participation.

- a. Even when farmers have the ability to accept SNAP, it is currently being underutilized since the majority of their customers do not pay with SNAP. If SNAP could be used in conjunction with a produce prescription to offset some of the food cost it could lessen the reliance on grant funding and increase the amount of SNAP purchases conducted through farmer transactions.
- b. Mitigate natural environment challenges by increasing technical assistance opportunities for actual growing, including advising on what to grow, environmental mitigation, production, marketing, etc. (e.g. connecting interested SDFR's with the NRCS High Tunnel Program that offers more protection for crops than an open field and extends the growing season for many popular crops that would likely be included within a produce prescription program).

ⁱ Nutrition Incentive Hub. *GusNIP Grantees*. <https://www.nutritionincentivehub.org/grantee-projects>.

ⁱⁱ USDA NIFA. Gus Schumacher Nutrition Incentive Program (GusNIP). <https://www.nutritionincentivehub.org/grantee-projects>.

ⁱⁱⁱ Cafer A, Rosenthal M, Smith P, McGrew D, Bhattacharya K, Rong Y, Salkar M, Yang J, Nguyen J, Arnold A. (2022, Sept. 22) Examining the context, logistics, and outcomes of food prescription programs: A scoping review. *Research in Social and Administrative Pharmacy*. DOI: 10.1016/j.sapharm.2022.09.007.

^{iv} This report has intentionally left out the content analysis of publications resulting from successfully funded applications. Due to the inconsistencies around the format and audience for these publications a consistent coding protocol for content analysis was unavailable at this time.

^v PI was race was determined based on publicly available information, including self identified race (if available), or public facing documentation, such as biographical photos on organizational websites. Any race classification used the guidelines provided by the the U.S. Office of Management and Budget (OMB).

^{vi} Kosko, Bart. "Fuzzy Cognitive Maps," *International Journal of Man-Machine Studies*, Volume 24, Issue 1, 1986, Pages 65-75, ISSN 0020-7373, [https://doi.org/10.1016/S0020-7373\(86\)80040-2](https://doi.org/10.1016/S0020-7373(86)80040-2). (<https://www.sciencedirect.com/science/article/pii/S0020737386800402>)

^{vii} Nutrition Incentive Hub. *GusNIP Grantees*. <https://www.nutritionincentivehub.org/grantee-projects>.

^{viii} USDA FSA, Dep't of Ag., *2018 Farm Bill*. <https://www.fsa.usda.gov/programs-and-services/farm-bill/index>. (stating "The Farm Bill continues its strong support for America's farmers, ranchers, and forest stewards through a variety of safety net, farm loan, conservation and disaster assistance programs.").

^{ix} USDA, *Farmers Market Nutrition Program*, <https://www.fns.usda.gov/fmnp/wic-farmers-market-nutrition-program>.