



Farmers' Perspectives of a Digital App to Build Direct to Retail Sales Channels in Rural Areas

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Presentation Overview

- Context
 - The BUD mobile application (app)
- Methods
 - Store observations
 - **Semi-structured interviews with farmers**
- Results
 - Produce availability in small stores
 - **Farmer perspectives on wholesaling to small stores**
- Conclusions

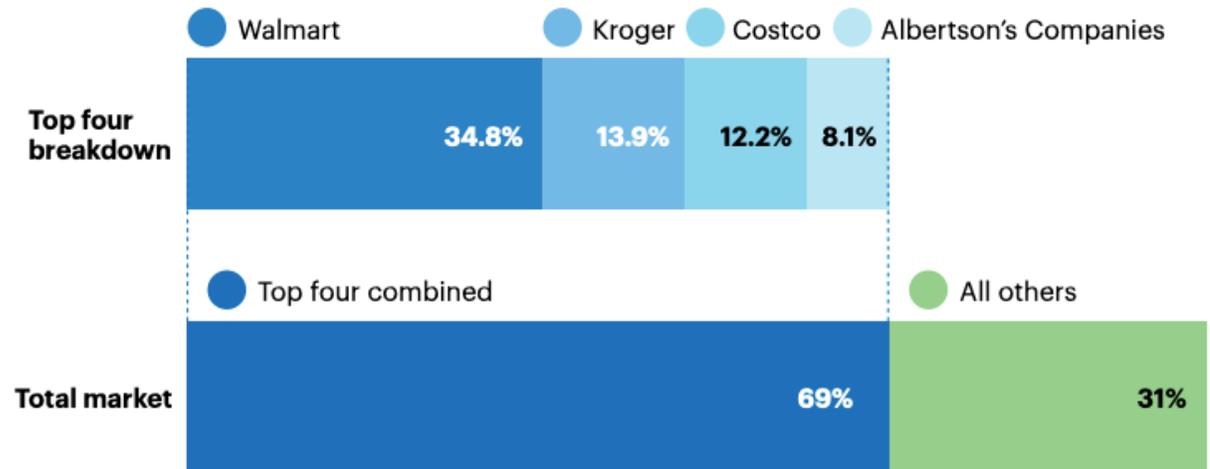
The Context

Market concentration makes food access harder in rural areas

The top four food retail companies control 69% of the total market

Small retailers are forced out of business (Fishman, 2006)

Corporations concentrate their stores in town centers (Blanchard & Lyson, 2002)



Market control of the top four grocery retailers in the U.S.

Source: Food and Water Watch, 2021

Rural residents must rely on small food stores as main food sources, which have limited healthy foods

CAUSES

Limitations to stocking fresh food due to restricted space/refrigeration (Haboush-Deloye et al., 2023)

Not viewed as “viable business opportunities” by produce wholesalers (O’Malley et al., 2013)

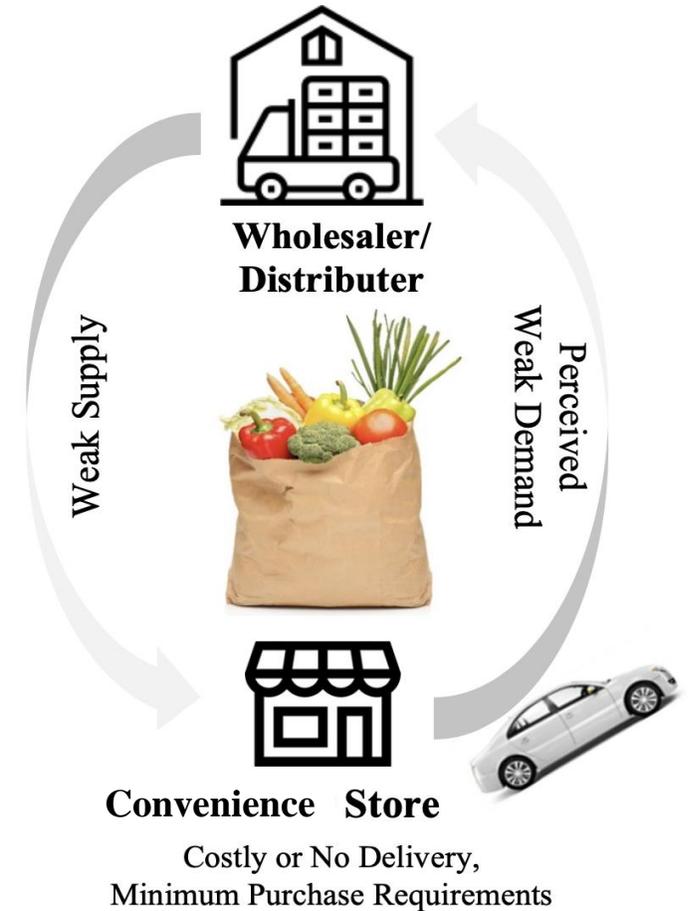
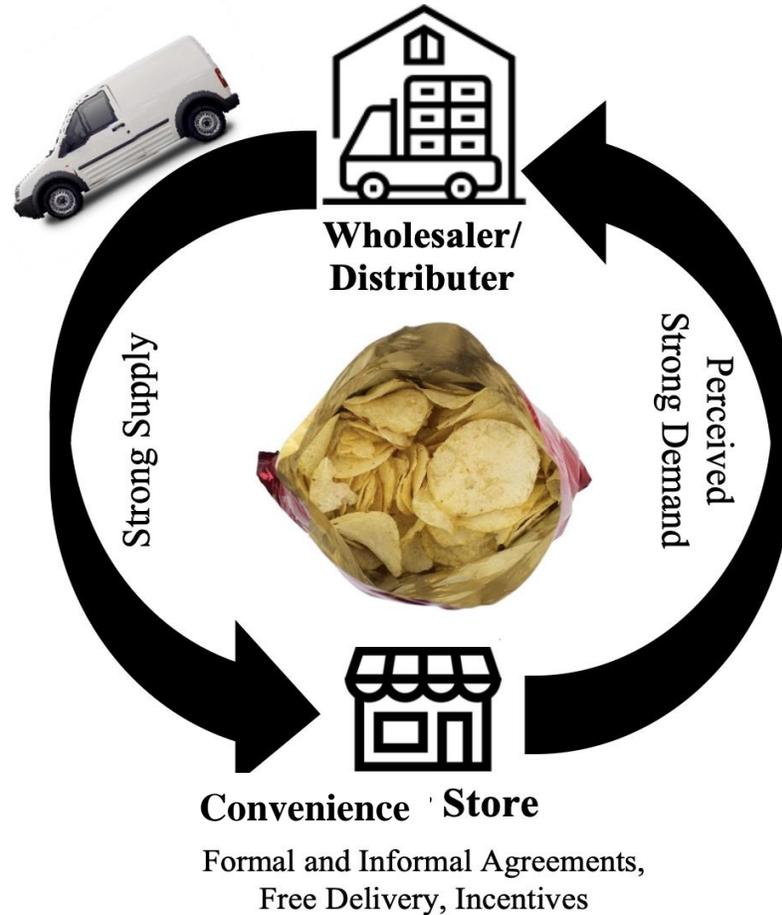


EFFECTS

In a study of small food retailers in three NC counties, only 2% of 55 surveyed stores offered fresh fruit and vegetables (D’Angelo et al., 2016)

Rural stores consistently received the lowest scores in a study assessing healthy food availability in urban and rural stores (Findholt et al., 2014)

Food distribution barriers faced by small food stores



Potential solution: direct marketing

Compared to direct-to-consumer sales channels, direct-to-retail sales are limited

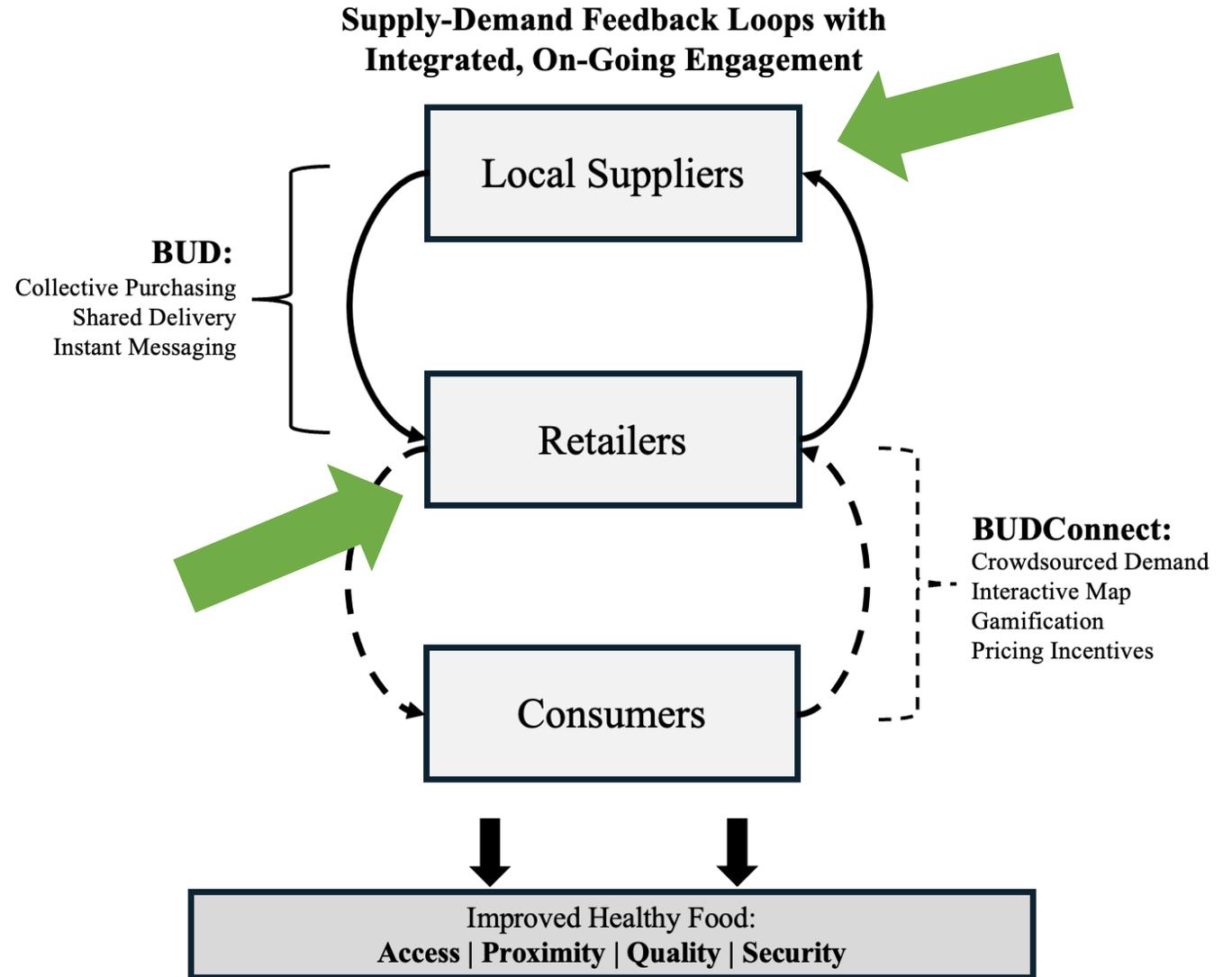
Practice	Number of farms			
	2020		2015	
Consumers	113,400		114,801	
Retailers	24,137		23,624	
Institutions/Intermediaries	40,675		59,911	
U.S. Total	147,307		167,009	

Practice	Sales (\$ billion)			
	2020		2015	
Consumers	2.9		3.0	
Retailers	1.9		2.3	
Institutions/Intermediaries	4.1		3.4	
U.S. Total	9.0		8.7	

Number of farms engaging in direct-to-consumers versus direct-to-retail sales

Source: USDA NASS, 2022

The BUD app



Innovative BUD feature: 'BuddyUp!'

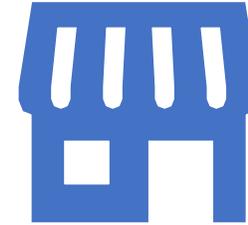


Innovation for Suppliers:

Expanded market for selling to smaller retailers without burden of breaking down pallets or adding delivery routes

Potential for formation of producer seller groups

- Example: food rescue from Farmer's Markets in the absence of existing food hubs



Innovation for Retailers:

Identification of other nearby retailers

Facilitated formation of buyer groups

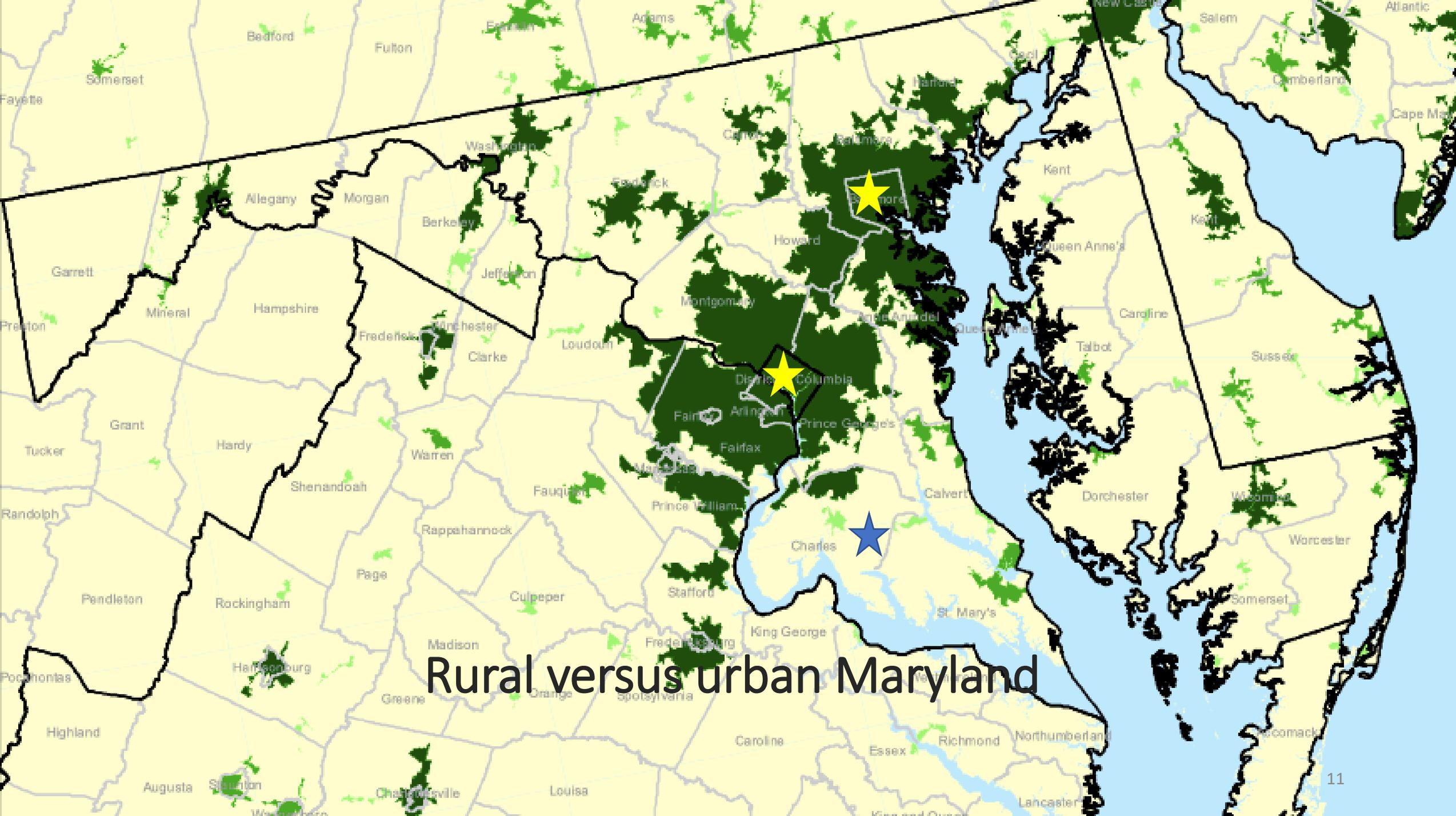
Wholesaler prices

- Mitigates challenges with wholesaler minimum purchase quantities

Shared delivery

- Mitigates challenges with wholesaler high delivery costs

Methods



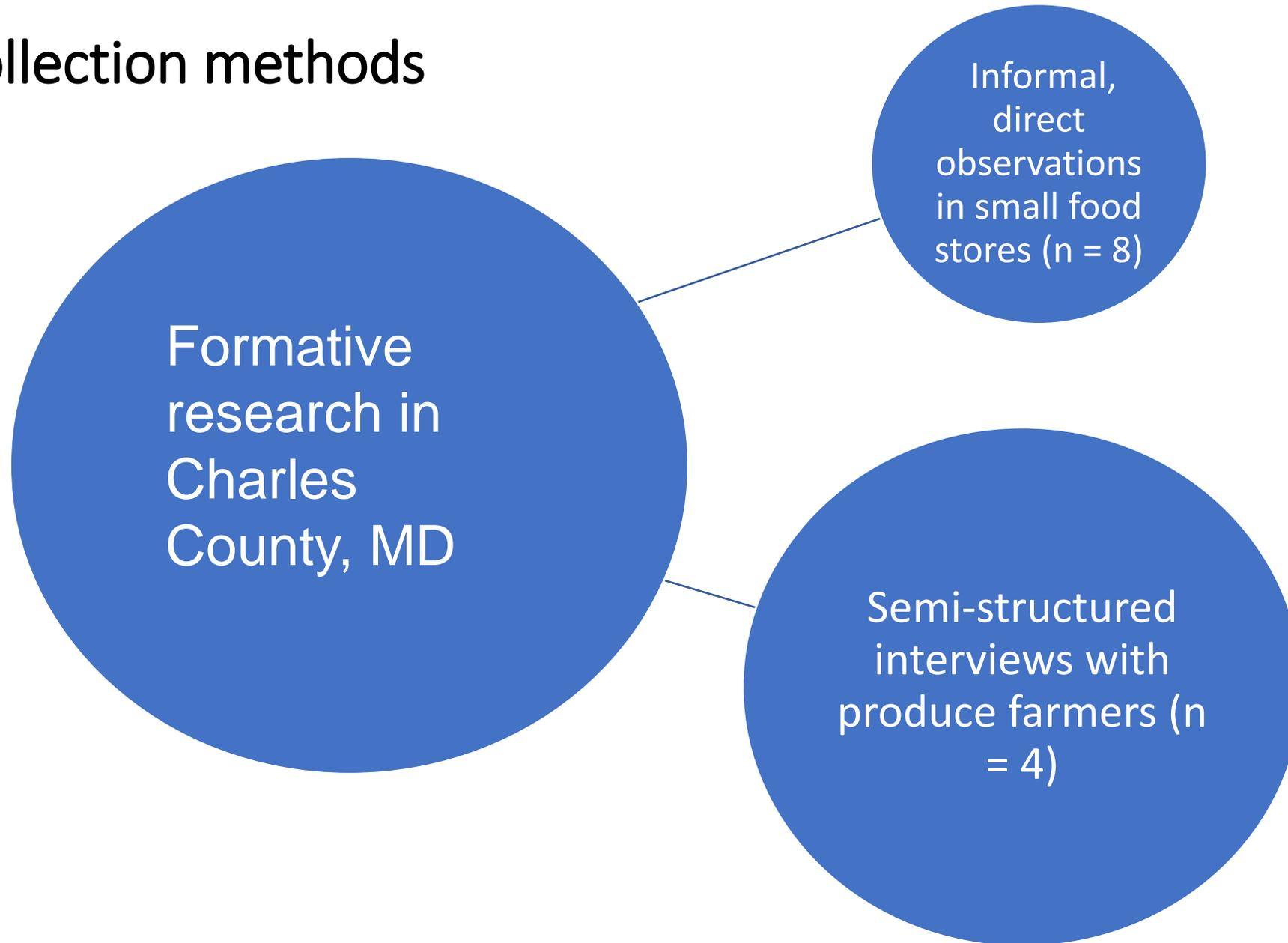
Rural versus urban Maryland

Charles County, MD

- South of Baltimore, MD and Washington, D.C.
- 371 farms in 2022
 - 4% decrease since 2017
- Majority of farms are 10 – 179 acres
- 112 food stores in 2019
 - 65% convenience stores
 - 18% small, independent grocery stores
 - 17% supermarkets



Data collection methods



Characteristics of Charles County farmers interviewed and their farms

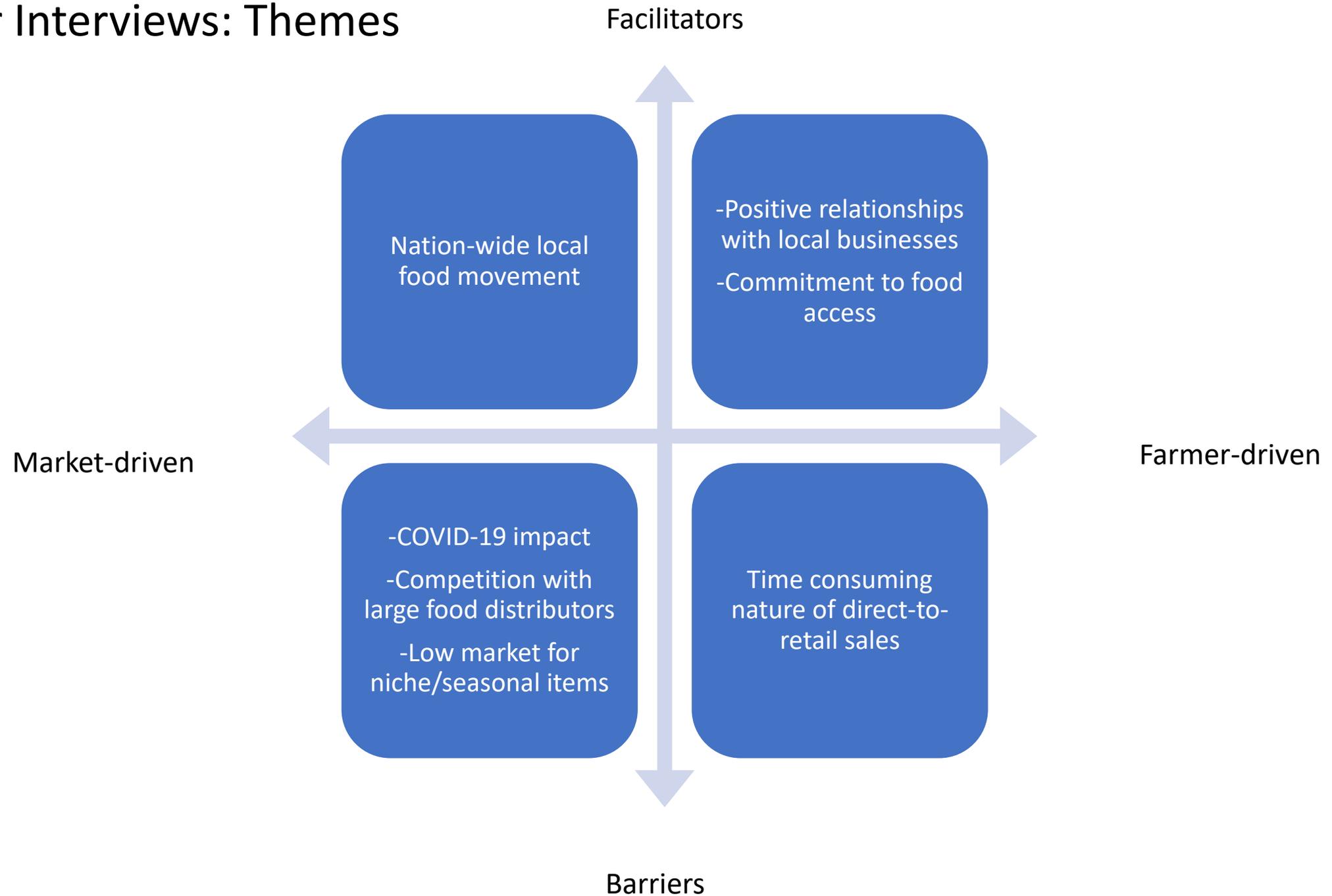
FARMER	YEARS IN OPERATION	SCALE OF OPERATION	GROWING METHOD	MAIN PRODUCT(S)
A	>100	150 acres	Conventional	Produce
B	< 5	0.75 acre	Organic, non-certified	Produce, value-added products
C	< 25	350 acres	Pasture-raised	Livestock, produce
D	< 25	130 acres	Organic, certified	Produce

Results

Small food stores

- All stores > 1 mile from a supermarket and had less than 4 aisles
- Limited refrigeration and shelving units
- Most of the stores sold alcohol (n = 6)
- Few stores sold fresh vegetables (n = 2), more sold fresh fruit (n = ?)
 - Most common fresh fruits were bananas and limes – not local
- One store marketed local blackberries, honey, tomatoes, corn, and meat
- One store advertised local eggs

Farmer Interviews: Themes



Facilitators to direct-to-retail sales



Charles County is part of the national local food movement



Farmers having existing and positive relationships with local businesses



Charles County farmers have a commitment to food access and healthy eating

Facilitators

"**Would the people in this area support direct produce? Yes.** Because the owners who had [our local convenience] store prior to that, they bought local produce. Or they had a farmer who [...] brought in local vegetables and **he sold a good bit of stuff there**" -Farmer C

"I started getting in with a lot of local business in the community. We've built so far – in the last six years – we've built this really tight-knit local, **all of us local small businesses are very tight-knit and friends.** And we all support each other." -Farmer B

"Oh ... **we text.** That's all we have. You know, whatever, 50 figs, and [...] we have a big yield of whatever, corno di toros, would you like them? Like, Sunday morning, [we] texted him, hey, we got [...] 40 pints of figs, would you like them? **As simple as that, right?**" –Farmer D

"I don't care your economic means, I don't care your color, I don't care your gender identity, **I just want to feed people.** I want to put food in people's hands and eat it. It's all I care about. That's why I do what I do." -Farmer A

Barriers to direct-to-retail sales

1. The COVID-19 pandemic had a disproportionate impact on small, family-owned retailers
2. Farmers are unable to compete with the price and convenience of large food distributors
3. Direct-to-retail sales are time consuming for both store owners and farmers
4. Farmers grow products that are niche or seasonal in nature



Barriers

*“That was a shame because there were stores and families that I've known that these businesses have been in for **150, 200 years**, and ended up getting shut down during COVID. **And couldn't bounce back from it.** So that was a shame.” -Farmer C*

*“And you probably know this, but like **a lot of those country stores, I mean they have one supplier.** Pretty much. You know, one truck comes and then it's kind of like when you go to a restaurant and say, do you have Coke products or Pepsi products? You have Coke products, then you have all their sodas. So it's kind of, that's the problem you kind of run into” - Farmer B*

*“I can't just— so from my standpoint— **I can't justify driving 10 different places to sell 10 boxes.** Because your small store is only going to buy one box of this or one box of that [...] You know, it doesn't fit our model. The amount of money we'd have to charge and the expenses with everything in between, because transportation, delivery, fuel, time...” - Farmer A*

*“Like, I do all those experiments, like will I find a market for figs, for saffron peppers, for sesame, for rice, for molasses? Will I find a market for it? But if I do the research, can I do it? At what price? I don't have those answers. **So I'm sort of sticking my neck out over and over again.**” -Farmer D*

Conclusions

- Due to inability to meet market demands, small farms engage in direct-to-retail sales at much lower rates than direct-to-consumer sales
- Selling to the small retailers in rural areas is a promising way to increase access to both produce for consumers and a lucrative market for producers
- Our research helps us understand how the BUD app can be used to address existing marketing challenges and build on leverage points Charles County, MD

Thank You! Questions?



<https://budweb.vercel.app/>

www.healthyfoodsystem.net | [@BmoreHealthyFoodSystems](https://twitter.com/BmoreHealthyFoodSystems) | budproject2021@gmail.com | athom203@jh.edu

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Supplemental Slides

BUD App Interface Wireframe Mockups (Suppliers)

Figure X: BUD Wholesaler & Producer Screen Mockups

A. Splash, Language, Main Menu

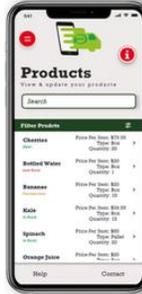


Splash

Select language

Main menu

B. All Products



View, search, & filter products

C. Add New Product (Select Screens)



Step 2 Scan product

Step 6 Confirm details

D. Set Up New BuddyUp! Deal



Step 1 Select new or repeat deal

Step 2 Choose products to include

Step 3 Enter price & quantity

Step 4 Share deal details (optional)

Step 5 Confirm details

Refined BUD App Interface

