



UNIVERSITY OF MARYLAND
EASTERN SHORE
UMES EXTENSION

SOAR ABOVE & BEYOND

Challenges and Opportunities of Urban Agriculture: A Case of Small and Minority Immigrant Producers in Maryland

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North East Regional Conference

Spring Field, MA

June 14-16, 2023

Outline

- **Background**
- **Goal of the UMES Urban Gardening Project**
- **Aim of the Presentation**
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- **Field Activities**
 - **Needs Assessment for Data Driven Planning**
 - **Need-based Interventions**
 - **Post Project Impact Evaluation**
- **Summary and Conclusions**

Background

- **Small farmers are the backbones of the U.S. agriculture.**
- **Urban gardeners are among the small, socially-disadvantaged, minority (SSDM) farmers.**
- **Aim of urban gardening (UG) is to increase production & consumption of fresh produce.**
- **These UG farmers are daunted with ever-increasing challenges.**
- **Less attention from academia, extension, & policy framework.**

Goal of the Urban Gardening (UG) Project

- **University of Maryland Eastern Shore Extension (UMES Extension) initiated an Urban Gardening Project in Greater Baltimore Area in 2021.**
- **The goal is: to increase the production efficiency of small, socially disadvantaged, and minority UG producers.**
- **The participating UG farmers were Asian immigrants, who were out of reach of any Extension program of the government.**

Aim of the Study

- **To examine the scope, challenges, and opportunities of Urban Gardening farmers.**
- **Specifically focuses on field extension activities employed by this UG project:**
 - **Data driven planning**
 - **Need-based interventions, and**
 - **Post project impact evaluation.**

Study Approach

- **An exploratory case study of UG farmers conducted in 2021.**
- **14 UG Urban Gardening Asian American farmers recruited from Greater Baltimore Area.**
- **Number increased to 22 during the project period.**

The Field Activities



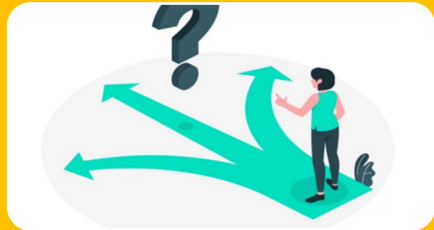
A. Data Driven Planning

- Needs assessment: A semi-structured survey administered.
- Consisted of several Likert-scale items to assess needs, problems/challenges and opportunities



B. Need-based Interventions

- i. Educational/capacity enhancing interventions
- ii. Support services



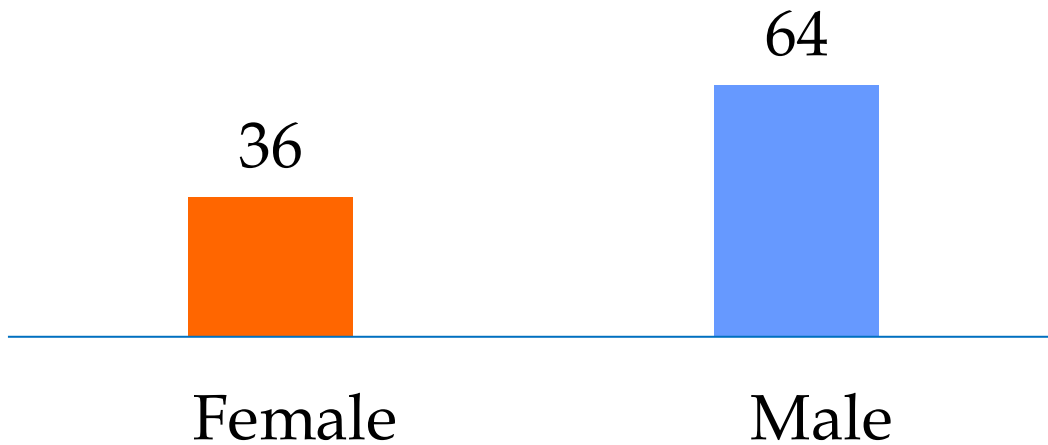
C. Evaluation of Project Outcomes

- A post-project evaluation survey administered.
- Perceived impacts of the interventions measured by asking several Likert-scale items.

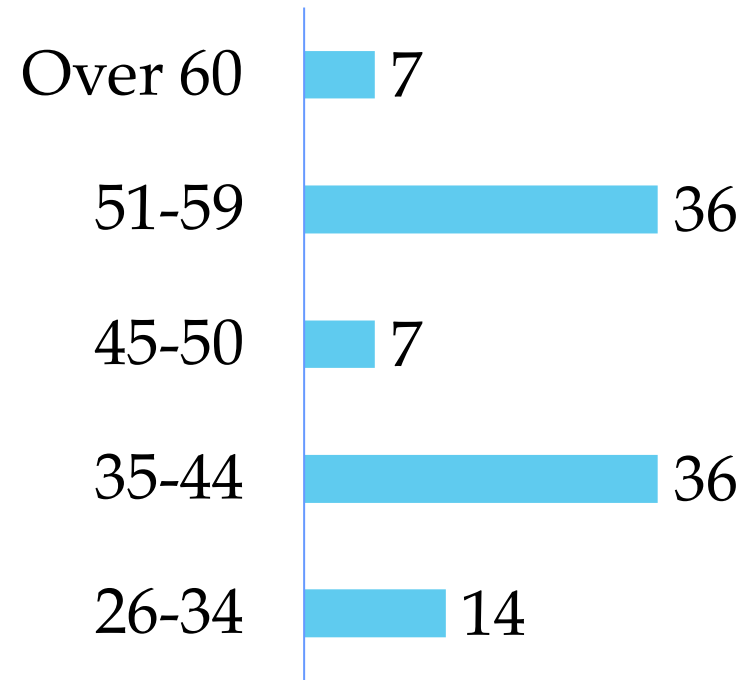
Urban Gardening Farmers: Background Information

Farmers' Characteristics

Farmers by Gender (%)



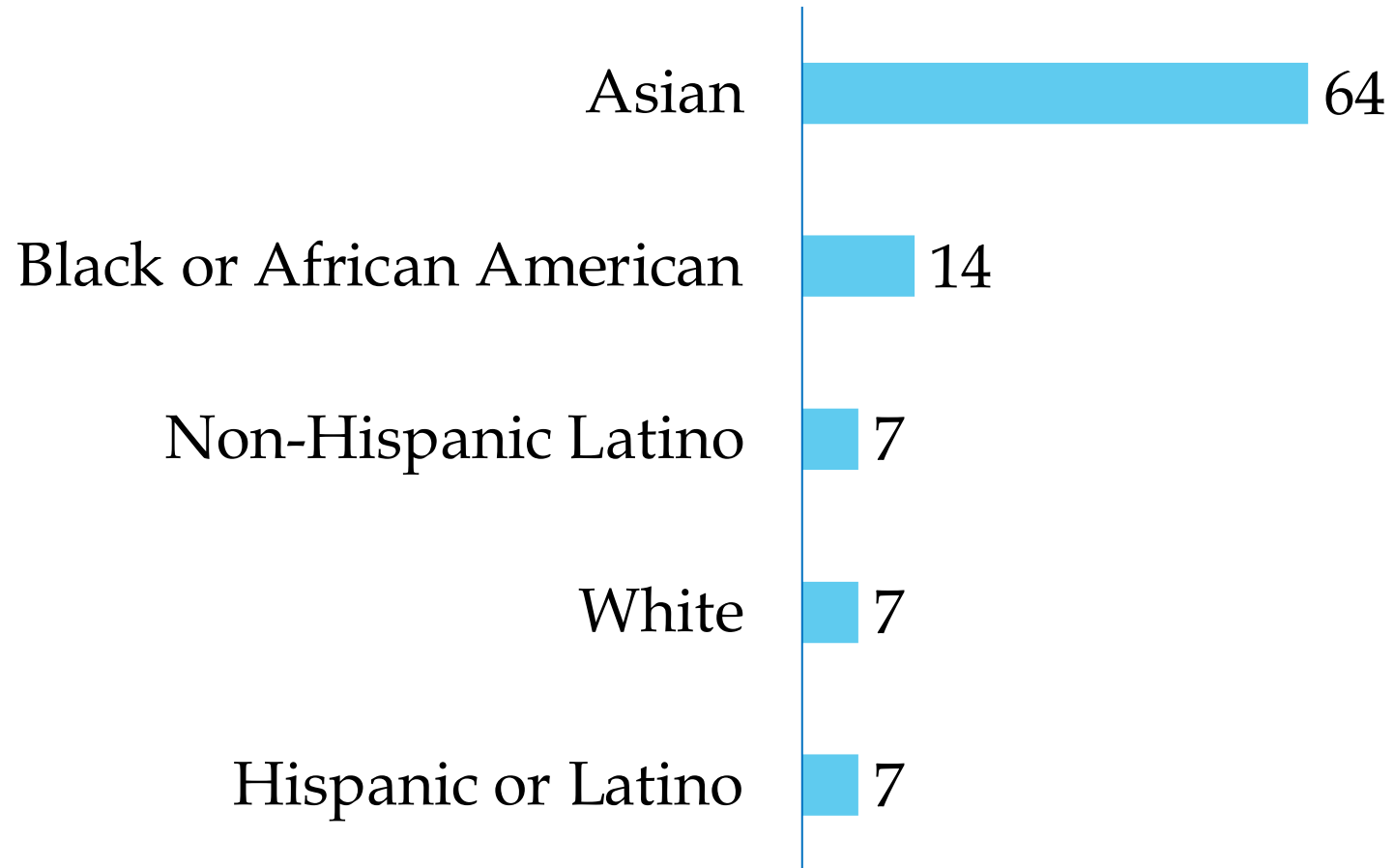
Farmers by Age Group (%)



Number of Responses (n)= 14

Farmers' Characteristics...

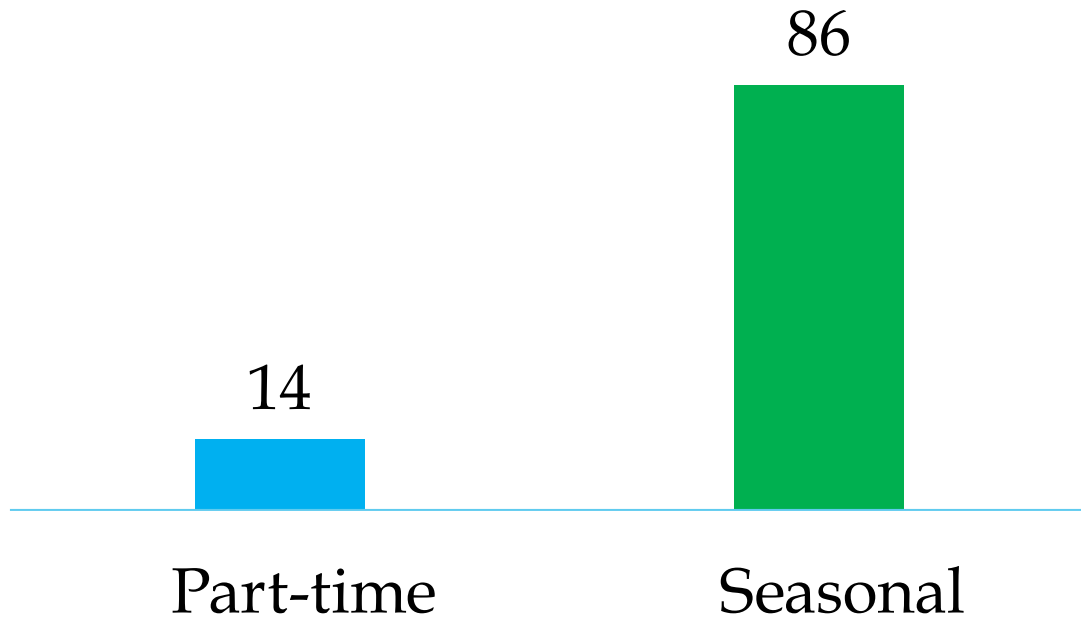
Farmers by Race (%)



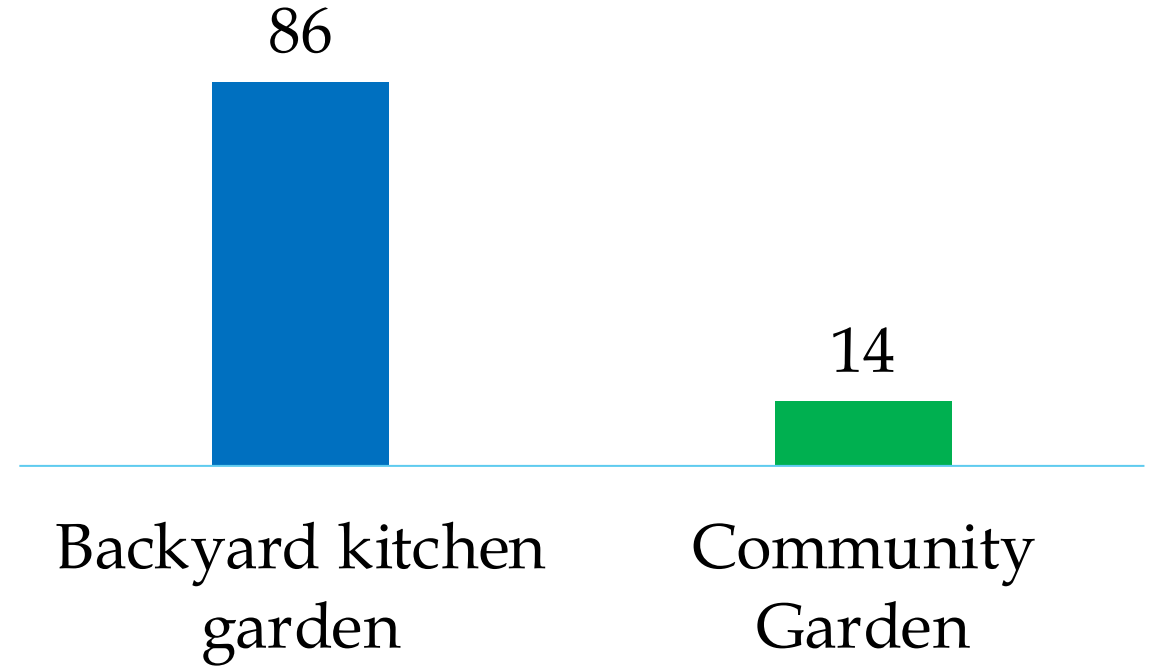
Number of Responses (n) = 14

Farmers' Characteristics...

Farmer Types (%)



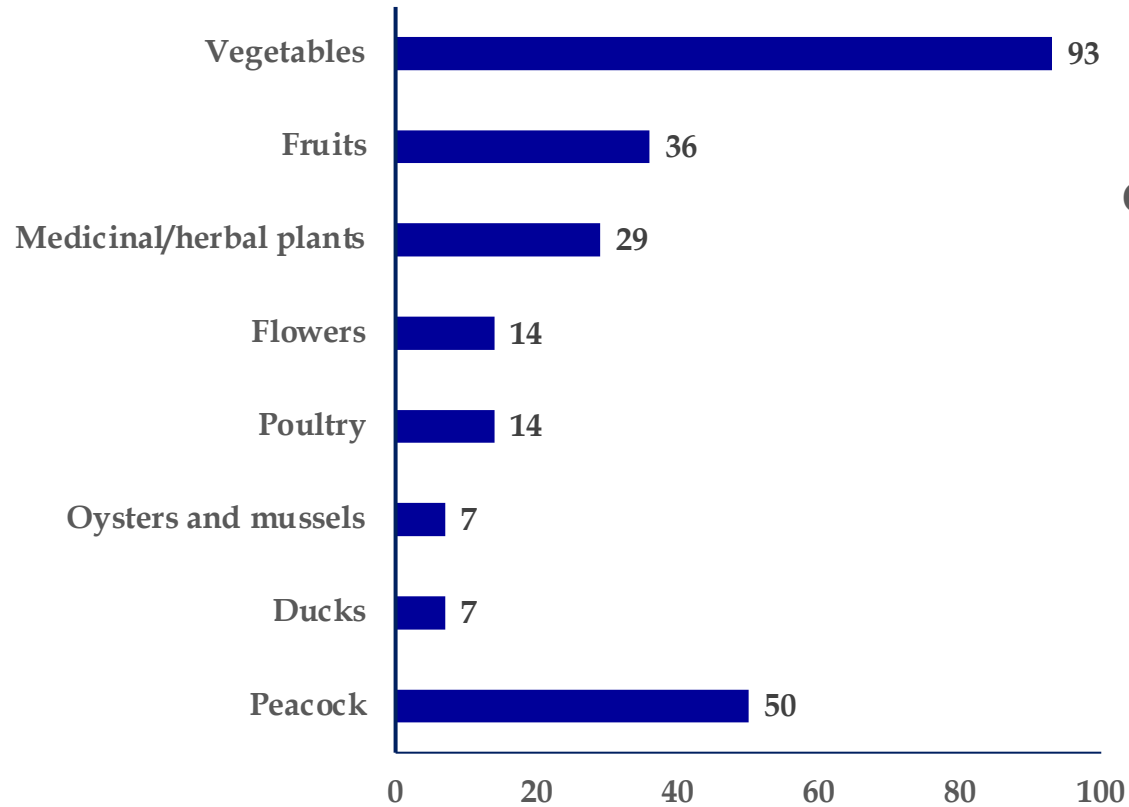
Farming Type (%)



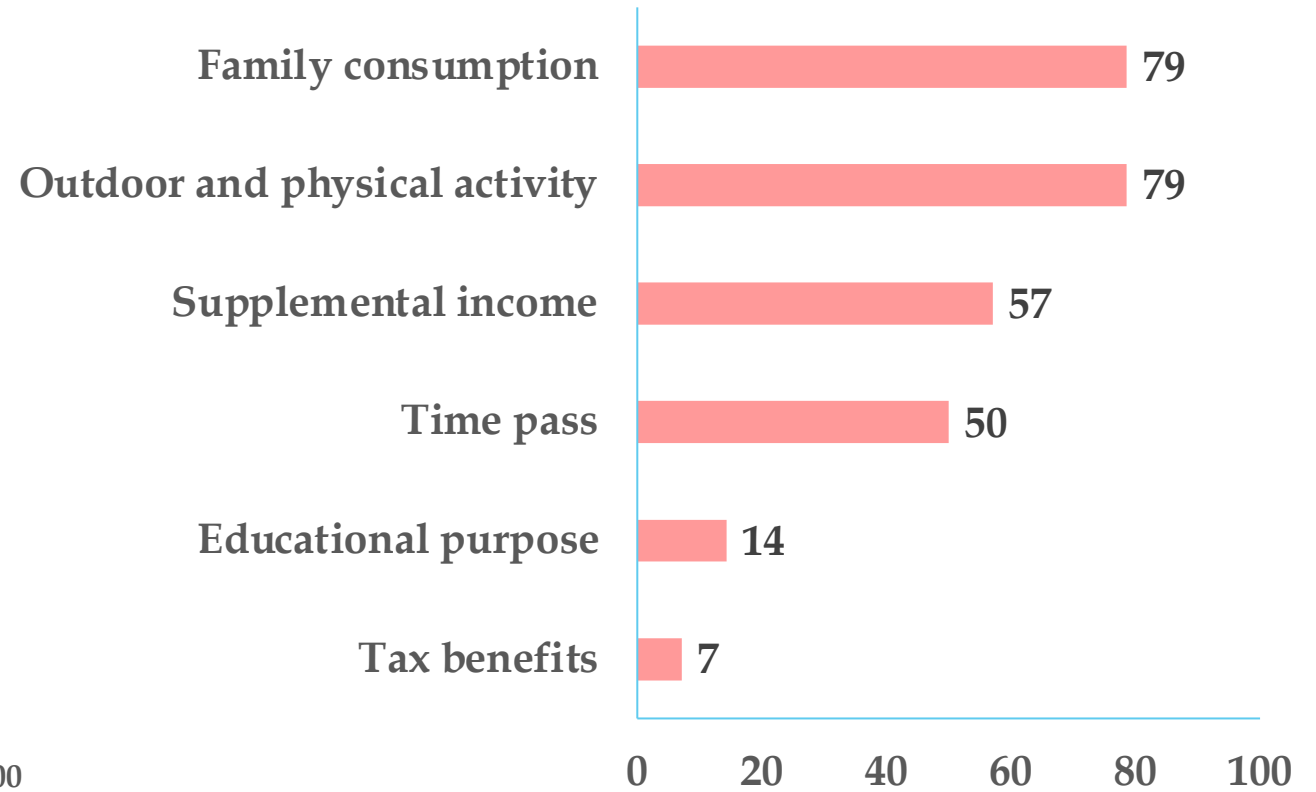
Number of Responses (n)= 14

Farmers' Characteristics...

Farmers Cultivated or Raised (%)



Reasons for Farming (%)

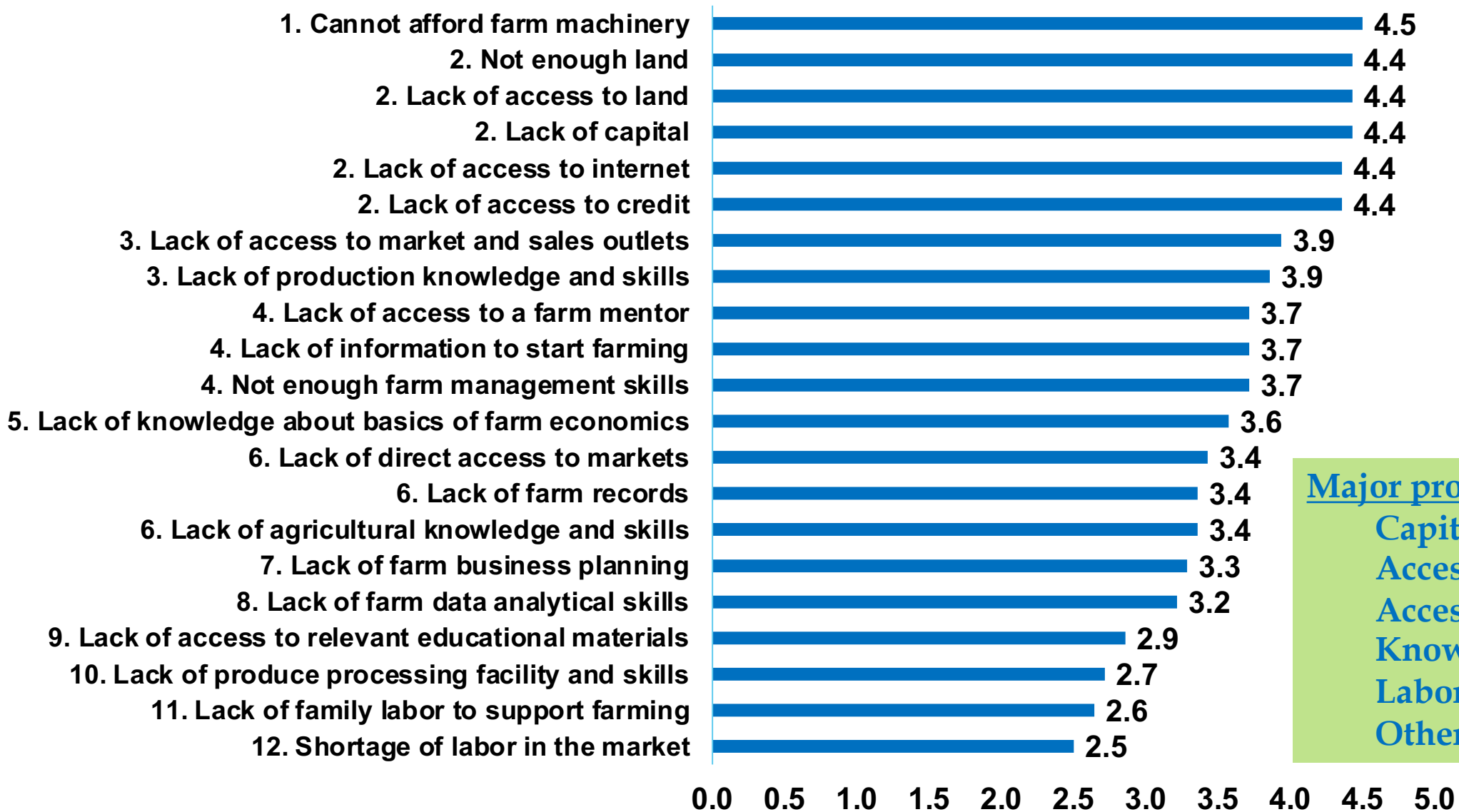


Number of Responses (n)= 14

Field Activities

A. Data Driven Planning: Needs Assessment Survey Results

Problems Prioritization (Index Value)



Major problems
Capital resources
Access to land
Access to market
Knowledge and skills
Labor shortage
Others

Number of Responses (n)= 14

B. Need-based Interventions

B. Need-based Interventions

i. Educational interventions

In-house training

Peer-to-expert interactions

Peer-to-peer interactions

Peer-to-peer interactions

Interactive field workshop

Interactive field workshop

workshop

Farm visits

ii. Risk mitigating activities

Rainwater harvesting

Compost making

Risk diversification

☐ Crop diversification

☐ Mixed cropping

☐ Tier production system

system

Market connection

i. Need-based Educational Interventions



In-house Training



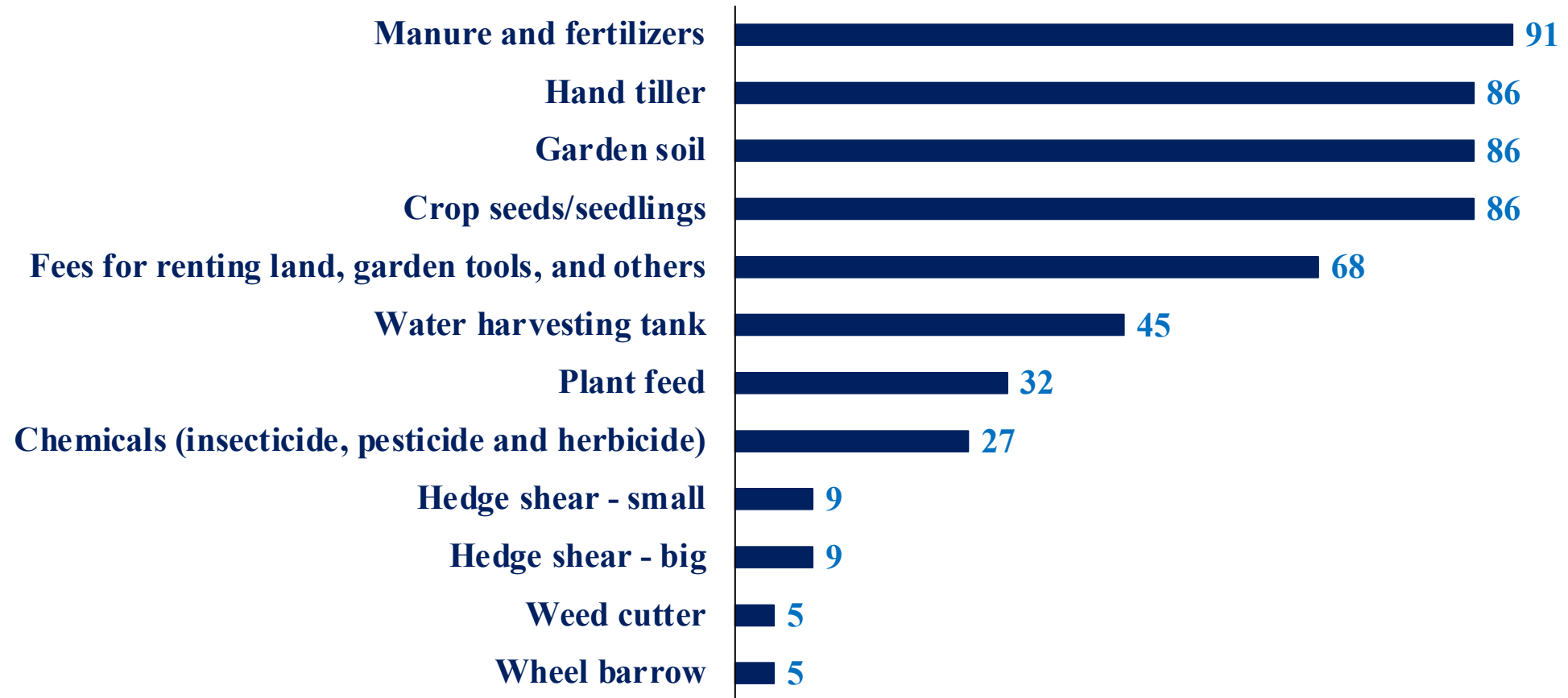
Farmers-Expert Interactions



Peer-to-Peer Interactions

ii. Risk Mitigating Support Services

Farmers' Report of Token Input Supports Received (%)



iii. Lowering Cost of Production



Rainwater



Compost

iii. Risk Mitigating Practices...

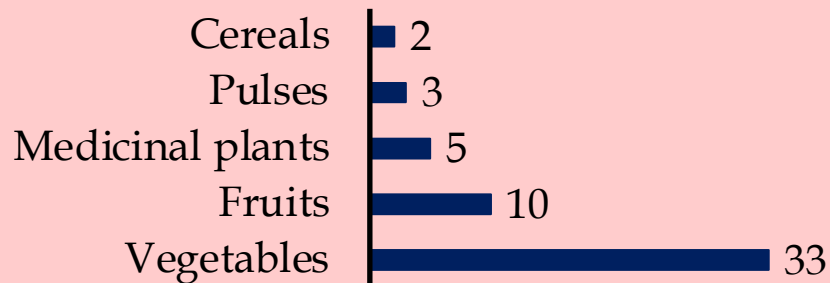


Farmers reported 50 different specialty & ethnic crops grown in their fields.

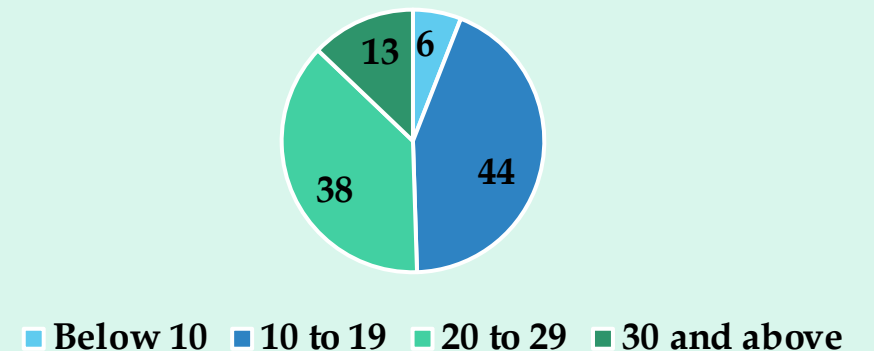


Crop Diversification

Number of crops cultivated by the project farmers (n=16).



Crop diversity - farmers reporting number of crops grown (%), (n=16).



iii. Risk Mitigating Practices...



Mixed Cropping

iii. Risk Mitigating Practices...



**Vertical/Two-Tier Production
(Use of Scarce Land
Resources)**

iv. Use of Scarce Land Resource



**Use of Scarce Land
Resource**

v. Risk Mitigating Practices: Market Connection



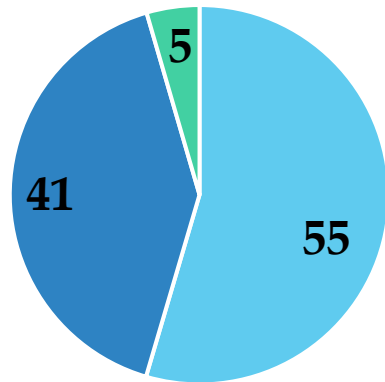
**Farmers
Connected
to Street
Festival -
Selling of
Surplus
Produce**



C. Post Project Impact Evaluation Results

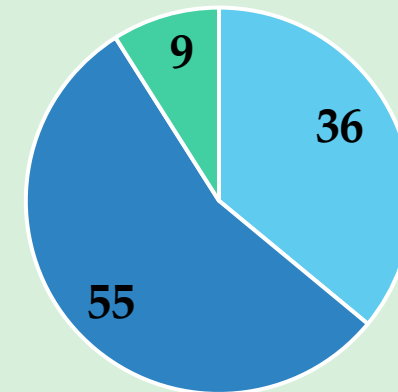
Immediate Impacts of Farmers' Participation

Training to enhance
KNOWLEDGE about
agricultural production (%)



■ Extremely useful ■ Very useful
■ Moderately useful

Training to enhance **SKILLS** about
agricultural production (%)

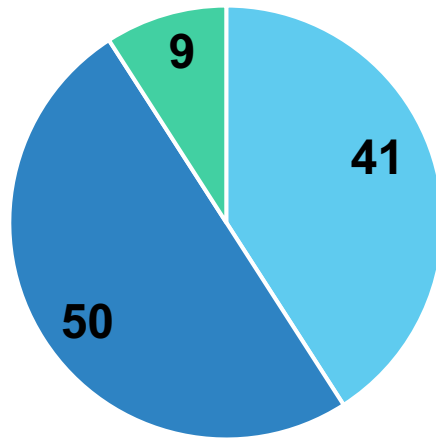


■ Extremely useful ■ Very useful
■ Moderately useful

Number of Responses (n)= 22

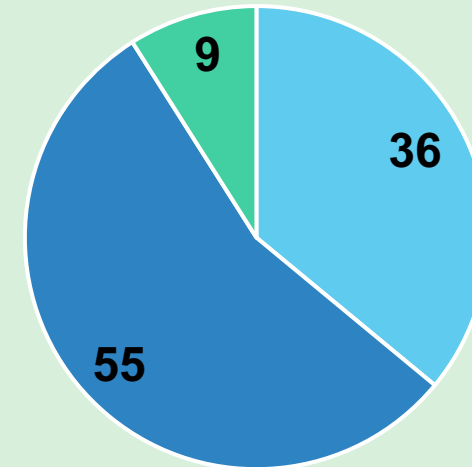
Immediate Impacts of Farmers' Participation...

Peer-to-peer interaction to enhance **KNOWLEDGE** about agricultural production (%)



- Extremely useful
- Very useful
- Moderately useful

Peer-to-peer interaction to enhance **SKILLS** about agricultural production (%)

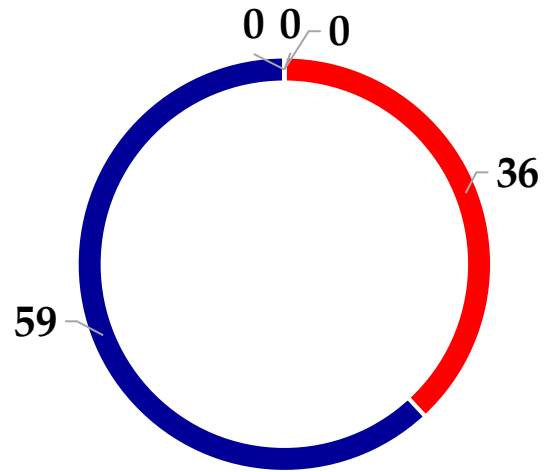


- Extremely useful
- Very useful
- Moderately useful

Number of Responses (n) = 22

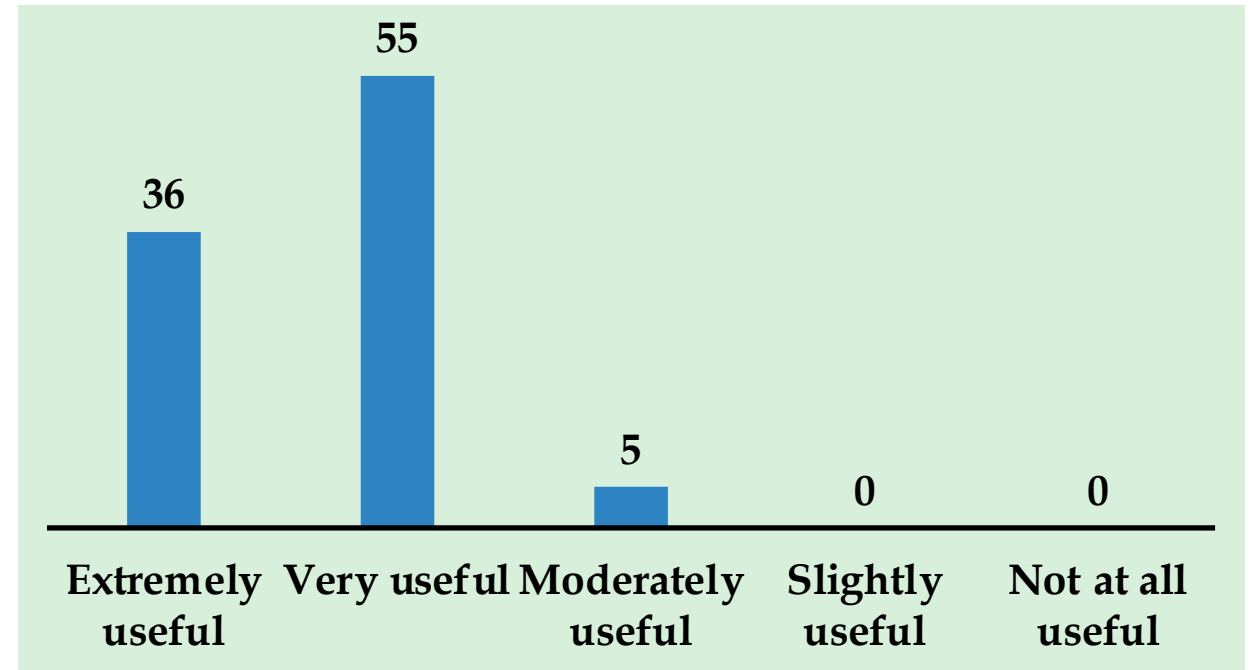
Immediate Impacts of Farmers' Participation...

Farm planning & budgeting (%)



- Extremely useful
- Moderately useful
- Not at all useful
- Very useful
- Slightly useful

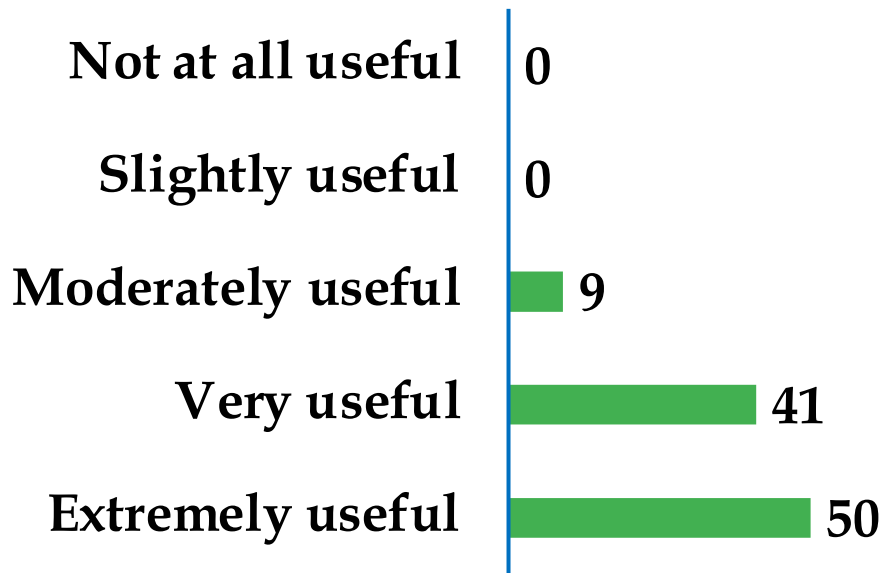
Making use of limited & scarce resources (%)



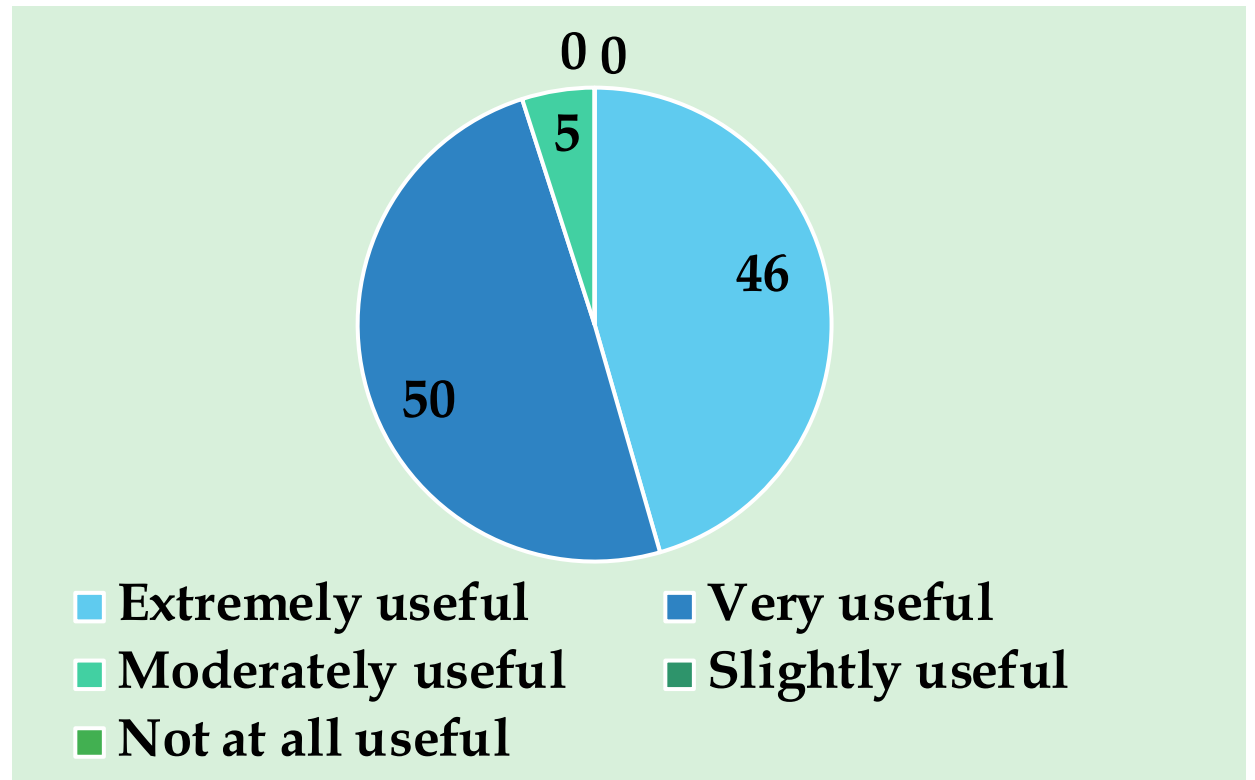
Number of Responses (n)= 22

Immediate Impacts of Farmers' Participation...

To increase consumption of fresh produce (%)



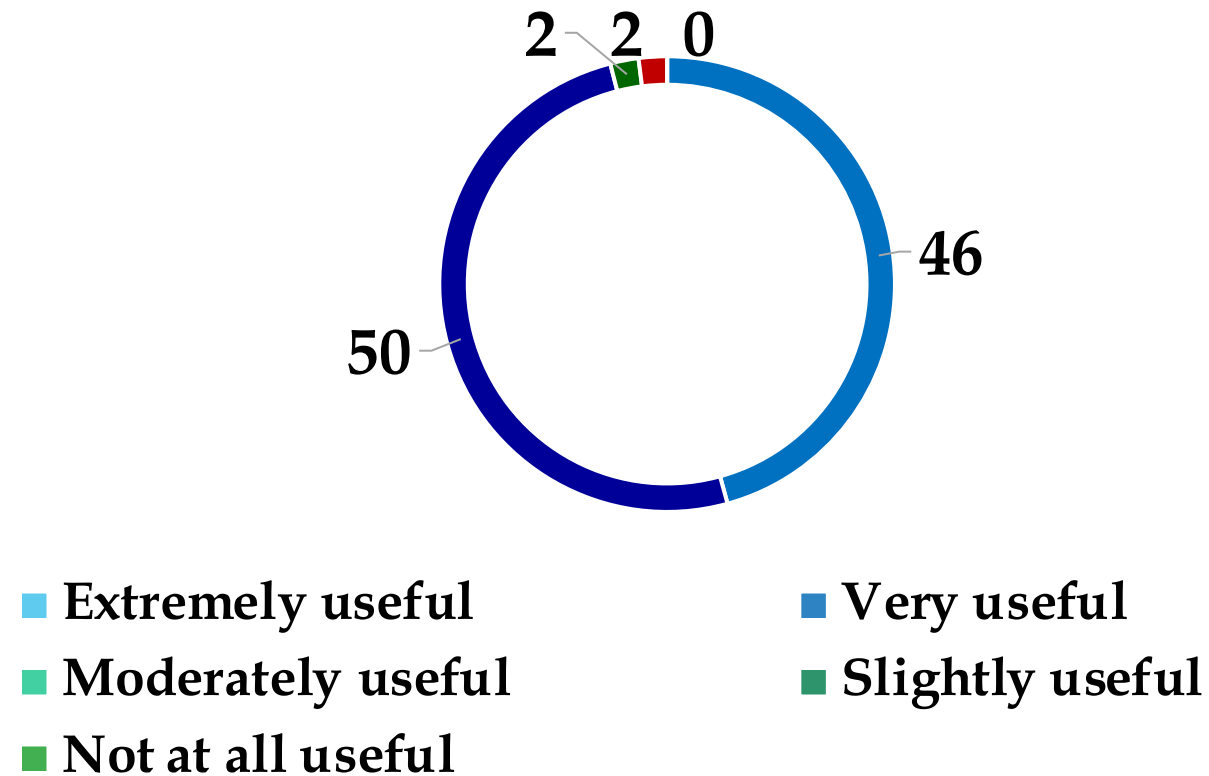
To sell produce in the local market (%)



Number of Responses (n)= 22

Immediate Impacts of Farmers' Participation...

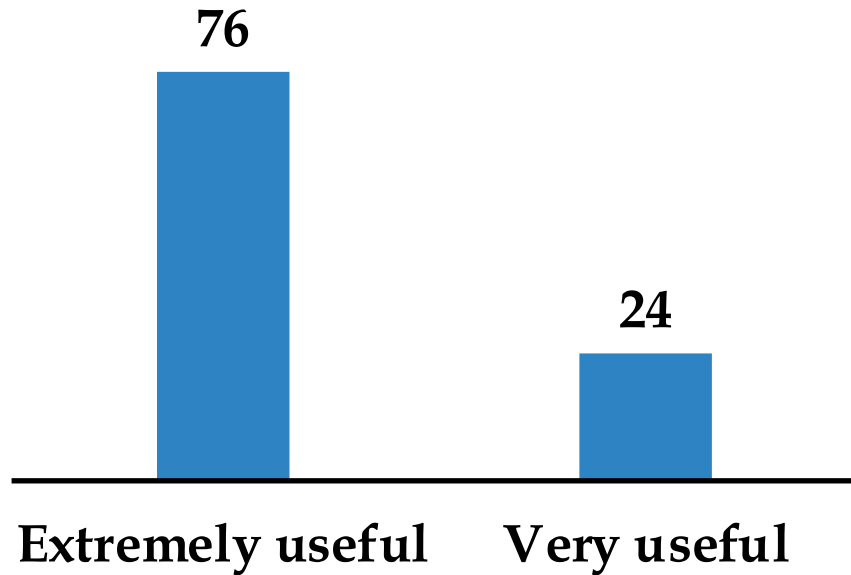
To mitigate production, marketing, and financial risks (%)



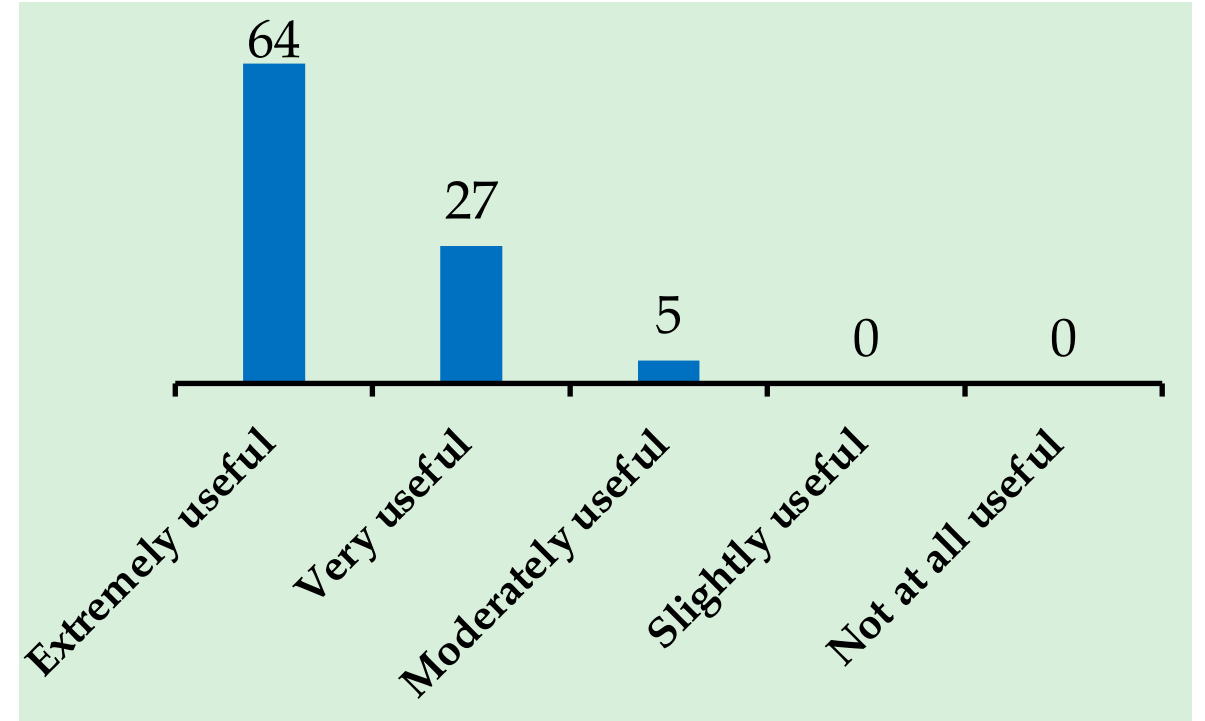
Number of Responses (n)= 22

Immediate Impacts of Farmers' Participation...

To bring positive changes in reducing cost of production (%)



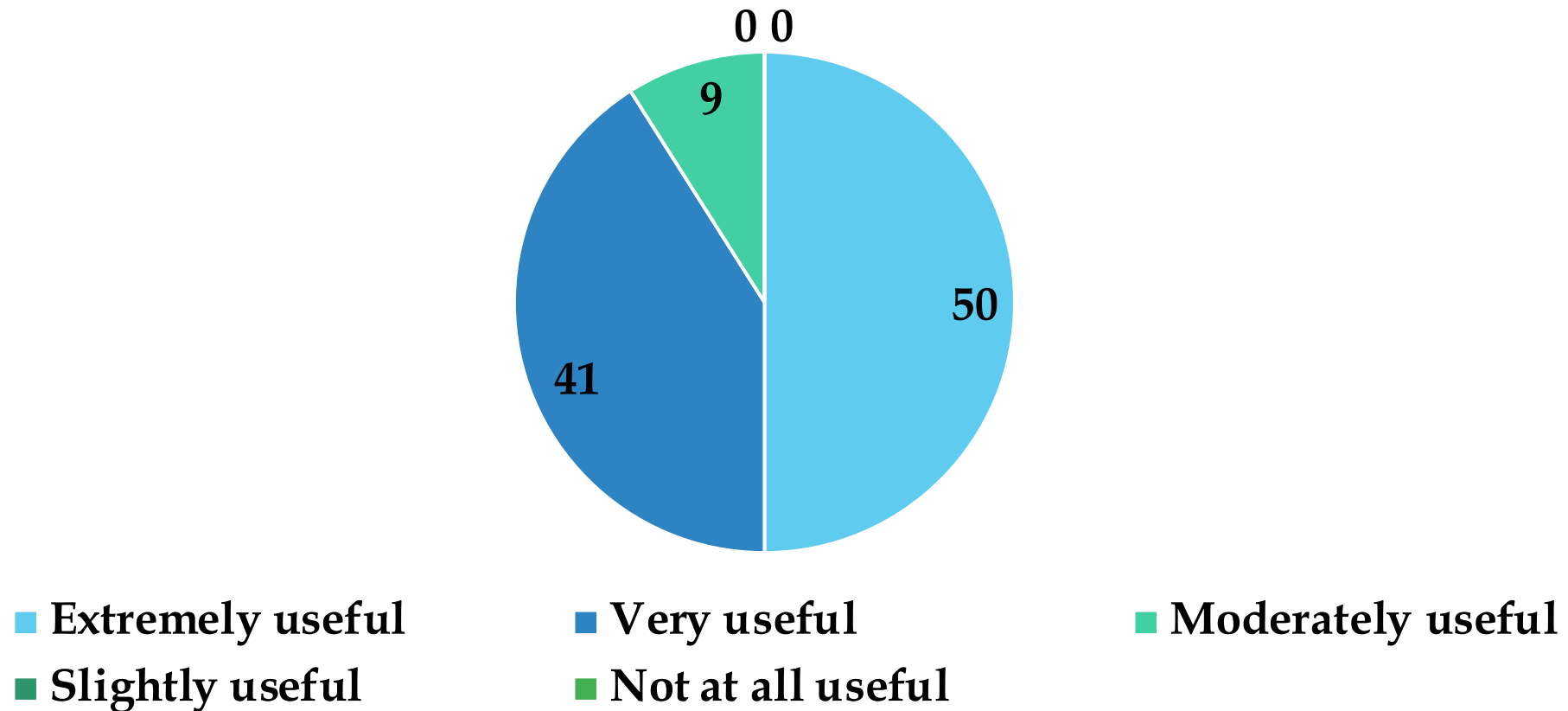
For farm revenue maximization (%)



Number of Responses (n)= 22

Immediate Impacts of Farmers' Participation...

To increase household income (%)



Number of Responses (n)= 22

Immediate Impacts of Farmers' Participation...

Urban gardening farmers benefited technically and socio-economically through market linkage - reported a total of **\$14,476** through direct and indirect sales of their vegetables during the summer and fall.



Summary & Conclusion

- Urban gardening farmers face various challenges such as:
 - a lack of resources including the access to land and inputs
 - a lack of knowledge and skills in gardening and risk mitigation
 - a lack of capacity building support
 - a lack of market access
- However, **the field activities** practiced were able to lower production, marketing, and financial risks through **data driven planning** and **need-based interventions**.

Summary & Conclusion...

- 90% of the participating farmers reported a 20% increase in fresh vegetables intake.
- Resulted in direct economic benefit of ~\$14,476 through market access (sales).
- Participating farmers reported increased knowledge & skills
- Indirect benefits through: good soil health, reduction in GHG emission, health benefits, and changed behavior/attitude, knowledge & skills of children
- There are ways to change challenges into opportunities.

Acknowledgement

- The project was funded by the Northeast Sustainable Agriculture Research and Education (SARE) Program - A Competitive Partnership Grant (#ONE21-394) Awarded in 2021.



- We offer a special gratitude to the participating farmers who continuously welcomed us their homes and share their invaluable experiences, opinions, thoughts and have devoted countless hours responding to our questions while working in their gardens.

Thank
you!

