

Georgetown University Initiative on

guide²

Innovation, Development and Evaluation



DigiFarm Analysis

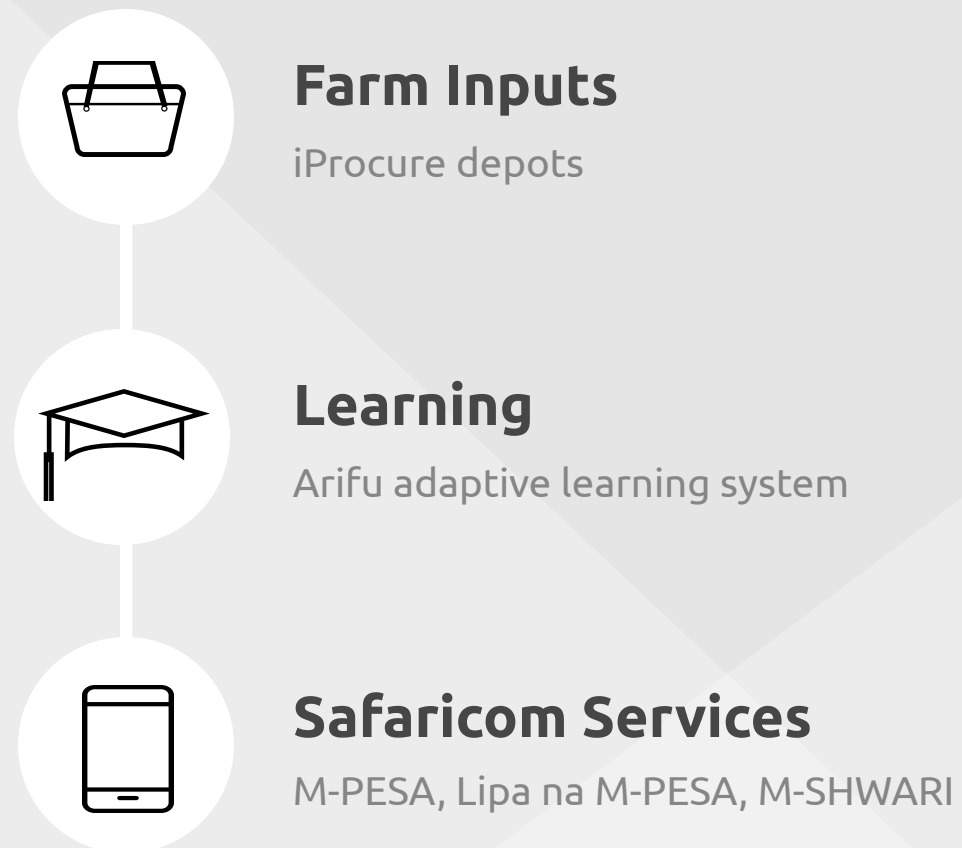
OCTOBER 2018

01.

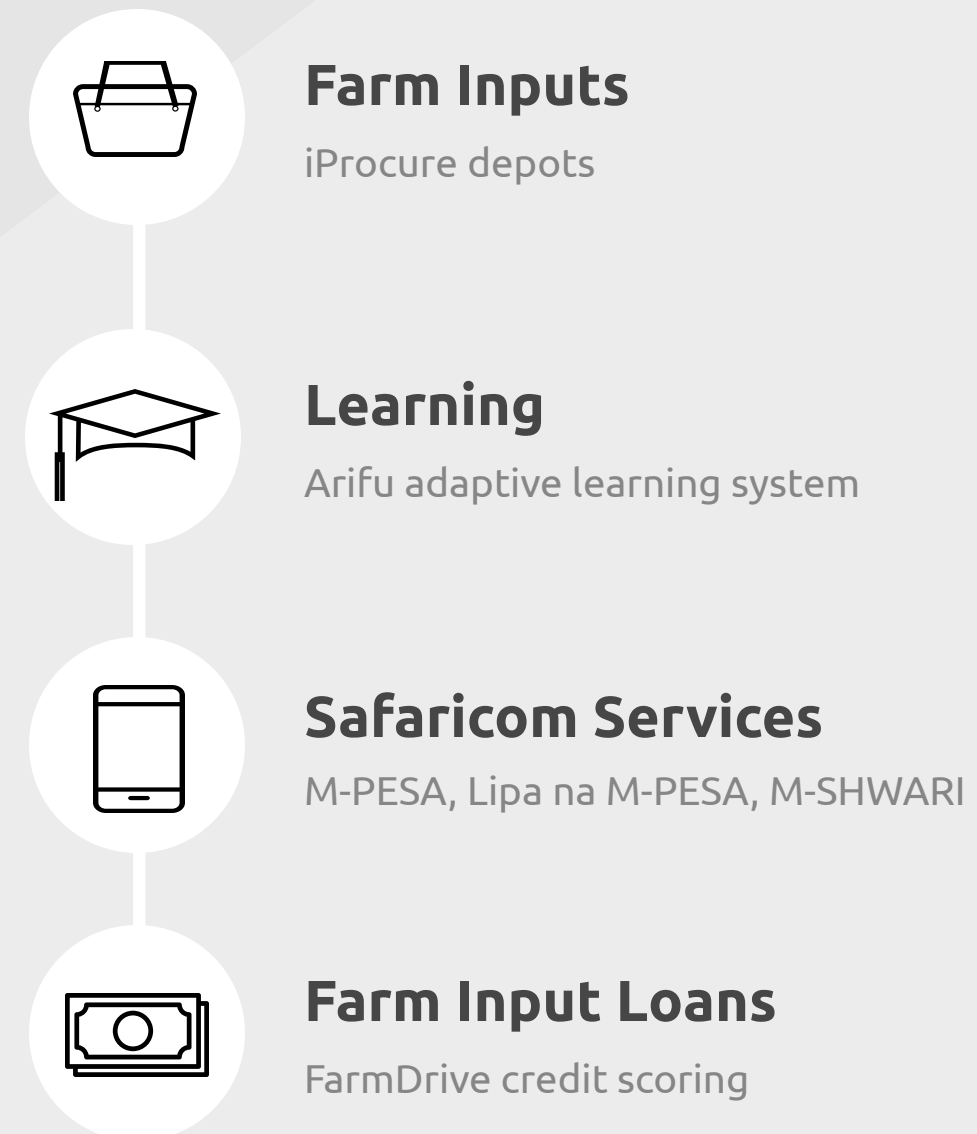
DIGIFARM SOLUTIONS

There are *two* DigiFarm solutions that are currently being evaluated, defined as:

MVP*



MVP* + Loans



*minimum viable product



02.

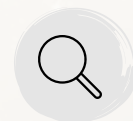
OUTCOMES OF INTEREST



Registration



Productivity



Perceived quality of inputs



Income/revenue



Savings



Engagement in the learning platform



Agricultural knowledge



Usage (M-PESA, M-SHWARI, loan, etc.)

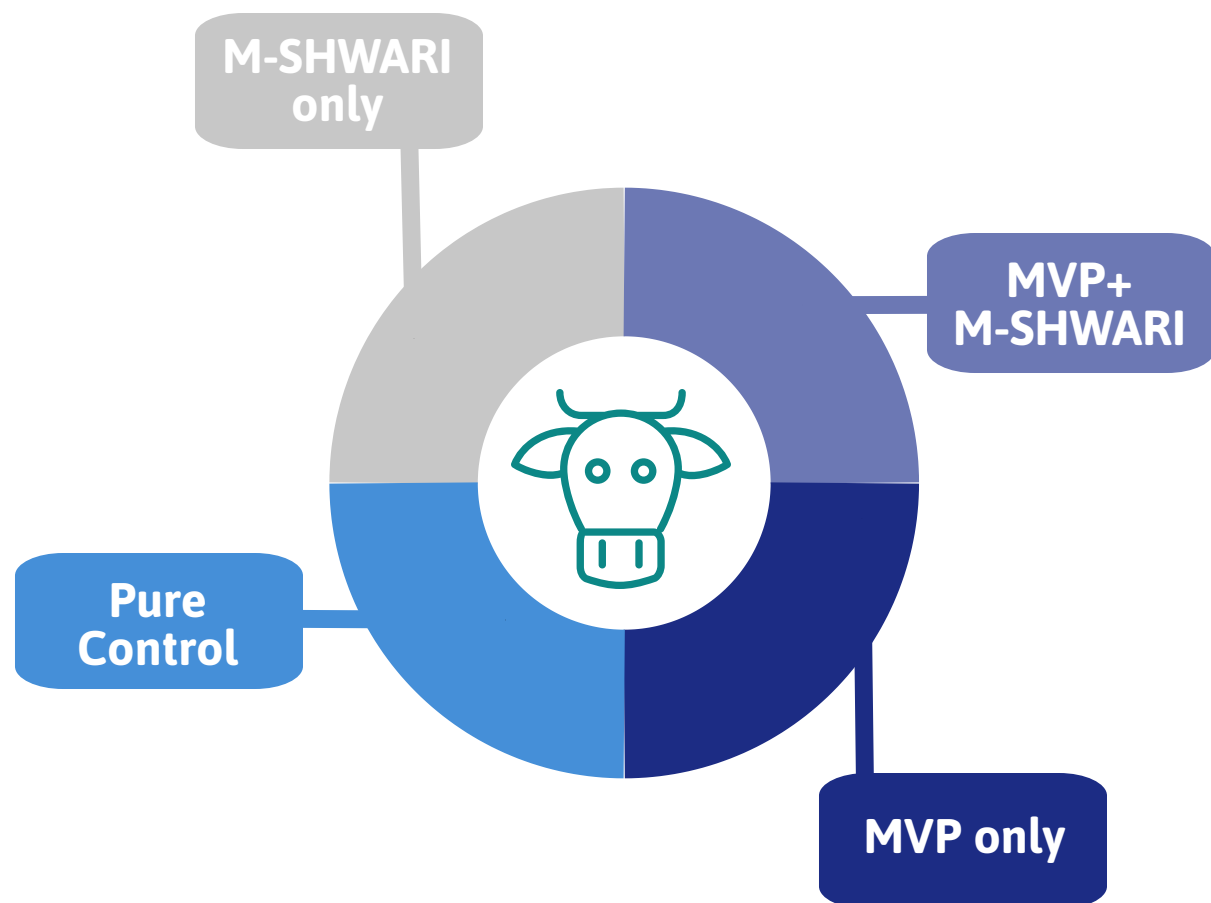


User experience

03.

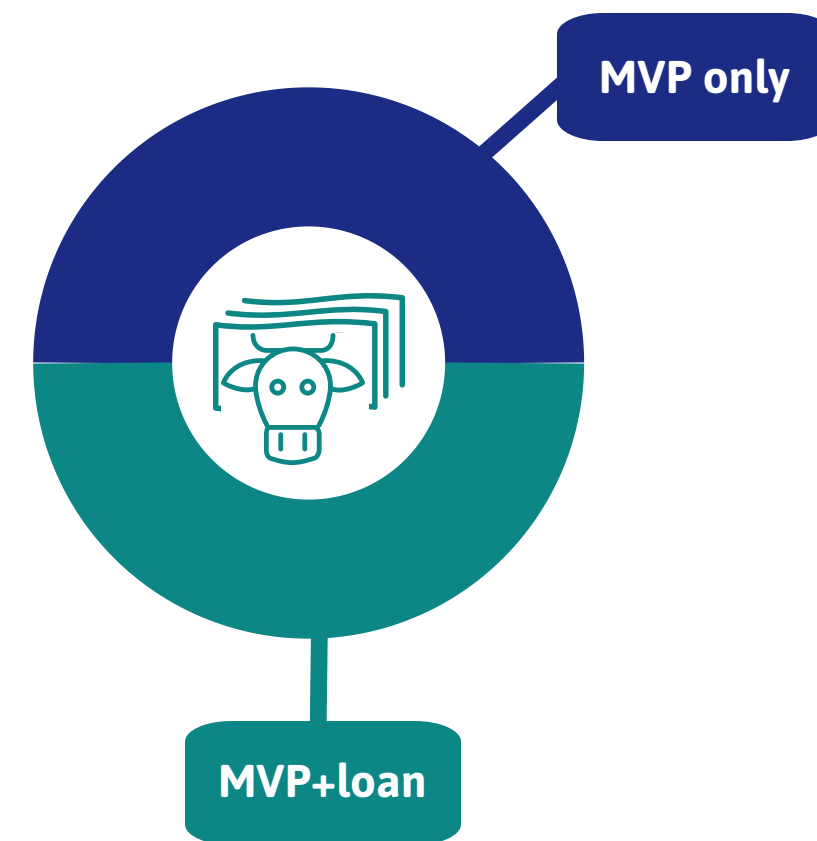
RESEARCH METHODOLOGY

Each *DigiFarm* solution is being evaluated using a *randomized controlled trial* with the following treatment arms:



MVP

Sample I

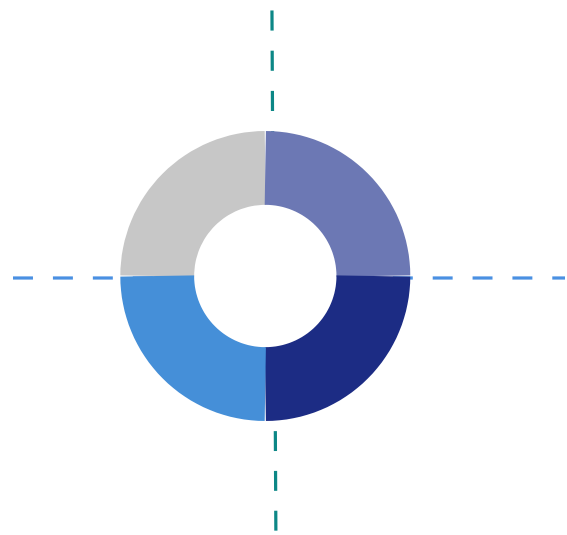


MVP+loans

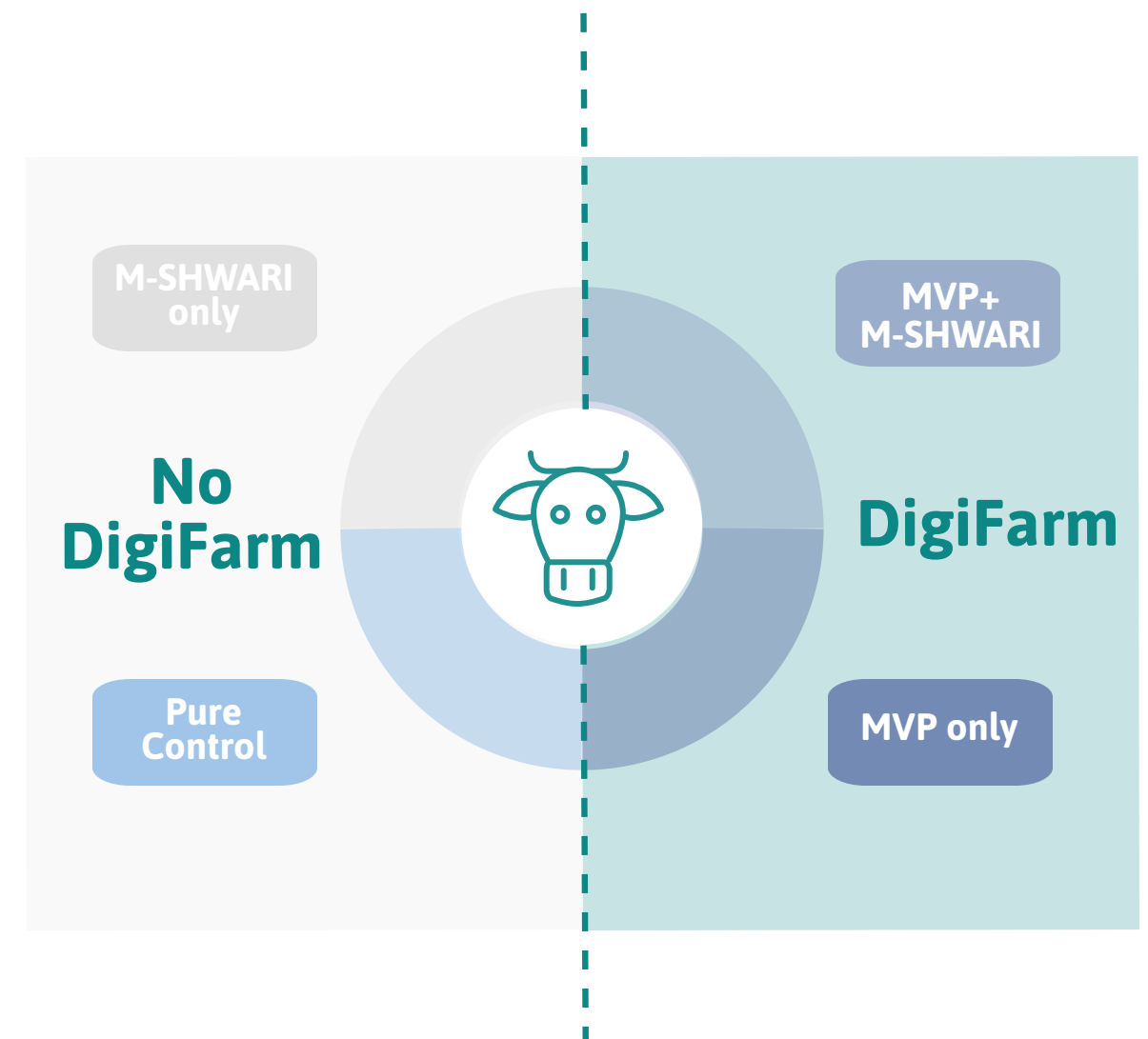
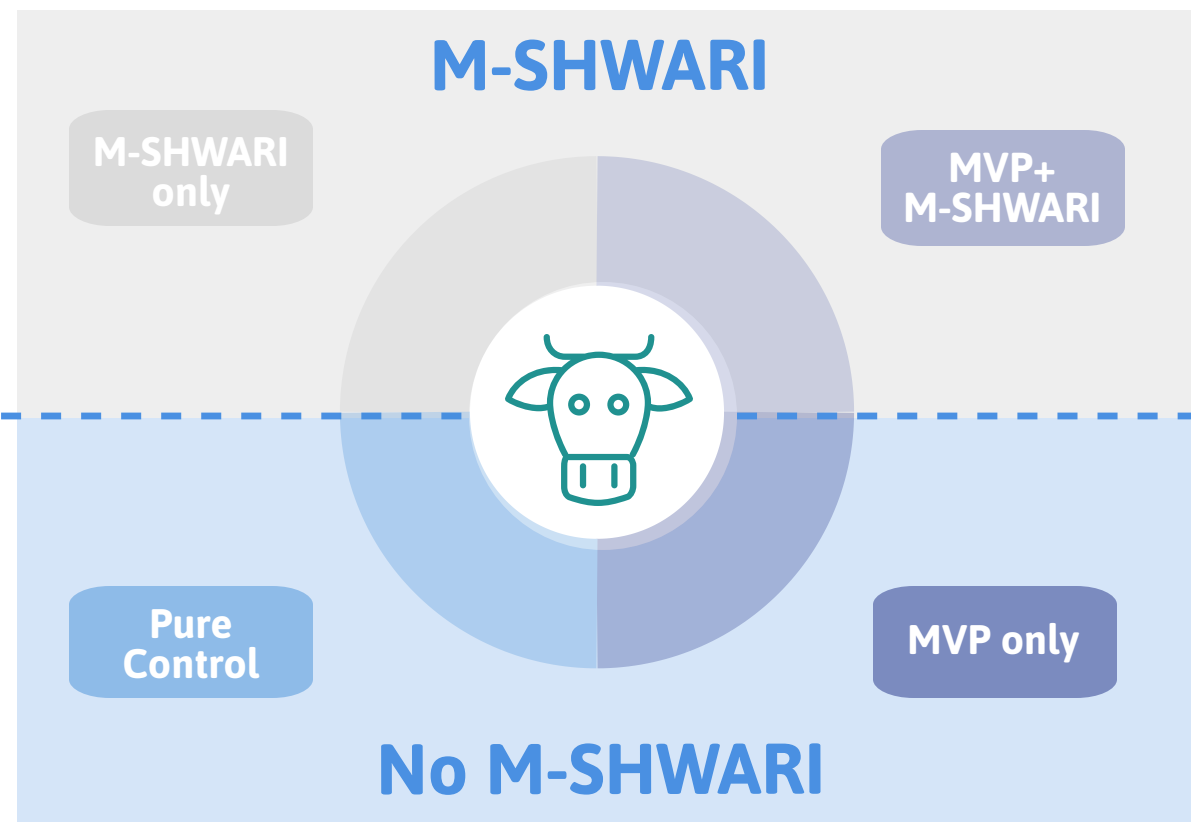
Sample II



MVP: SAMPLE I



*In the MVP (Sample I) study, we can analyze the data by **M-SHWARI vs. No M-SHWARI**. We can also analyze the data by **DigiFarm vs. No DigiFarm**.*



04.



BASELINE CHARACTERISTICS

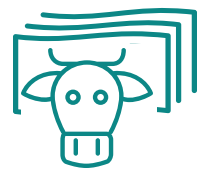
Pre-intervention

SAMPLE SIZE

6,115
Households



Sample 1
3,152



Sample 2
3,003

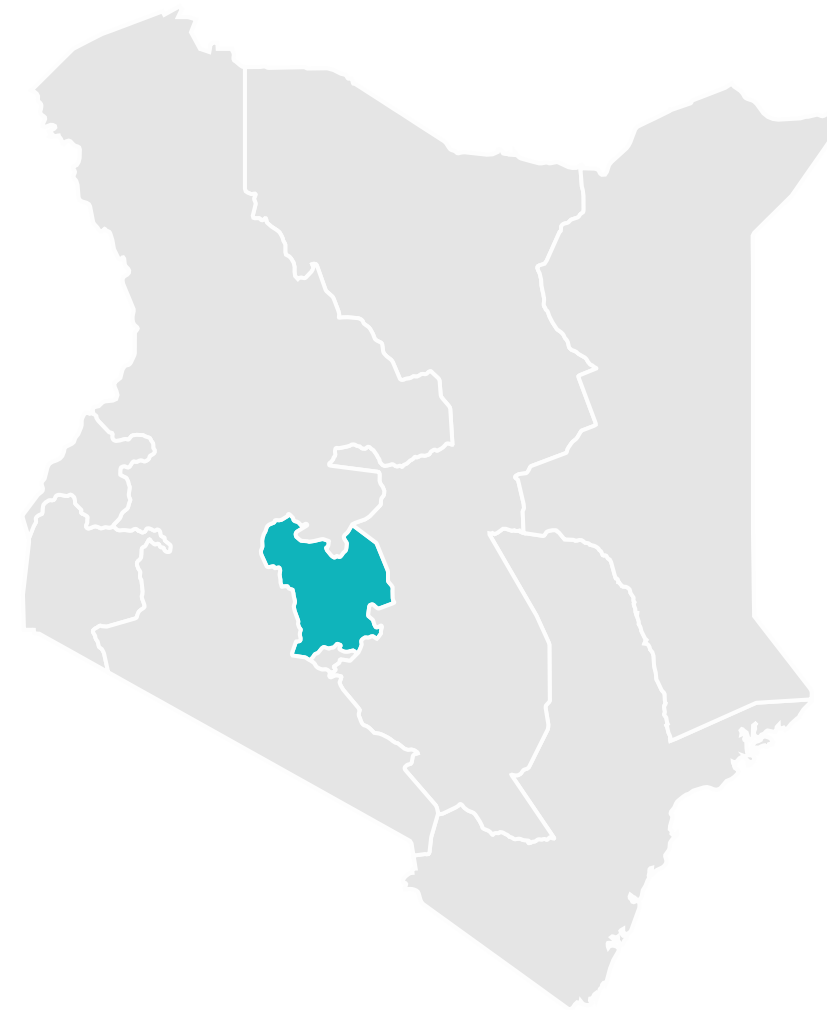
COMPOSITION BY HOUSEHOLD HEAD *(combined samples)*



Male
78%

Female
22%

SAMPLE REGION



Our household samples are from the Central Province of Kenya

Average Household Size
4.4

Average HH Head Age
51 years

Average Farm Size
2.7 acres

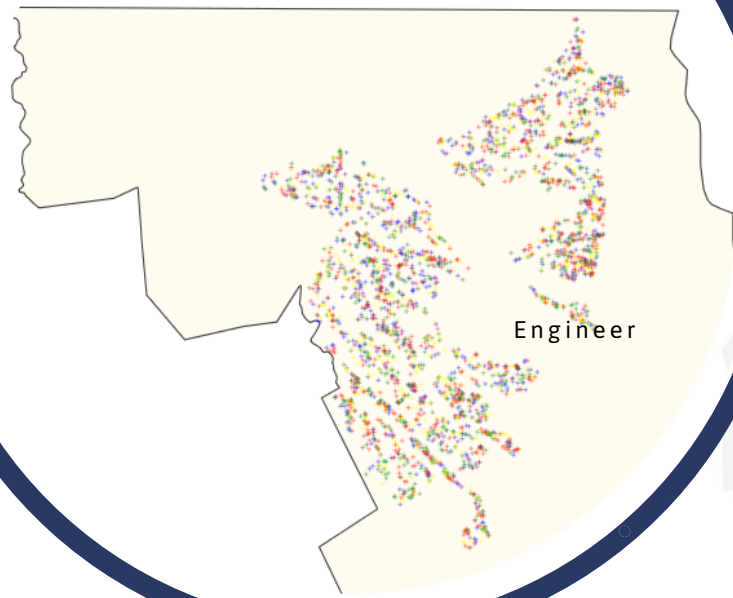


BASELINE CHARACTERISTICS

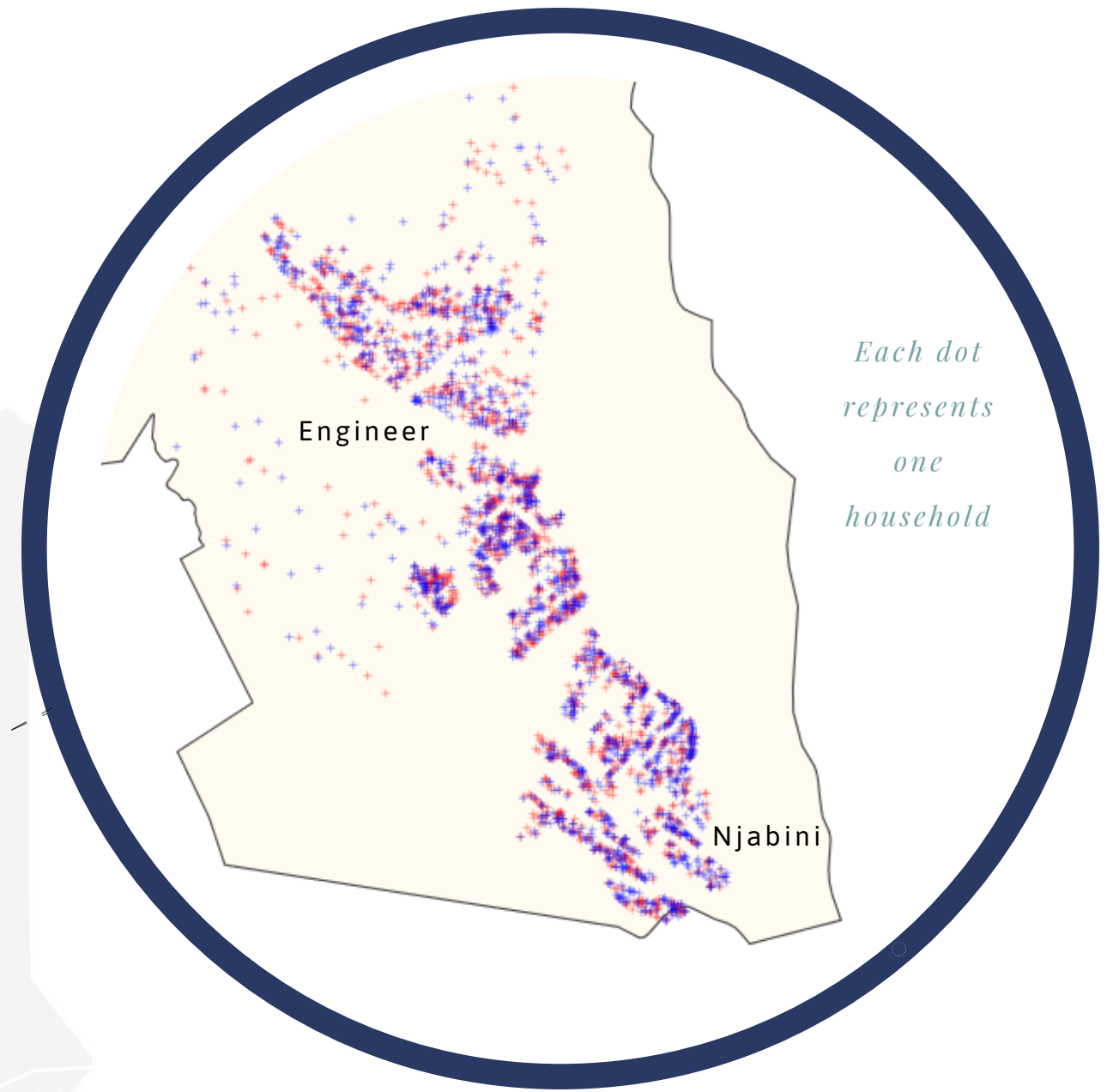
SAMPLE REGION



Each dot represents
one household



*Sample I households
are from **Engineer**,
while Sample II
households are from
**Engineer and
Njabini**.*

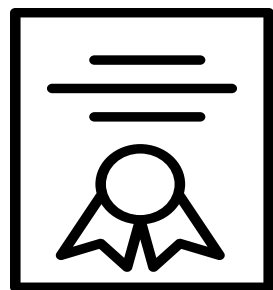


Each dot
represents
one
household



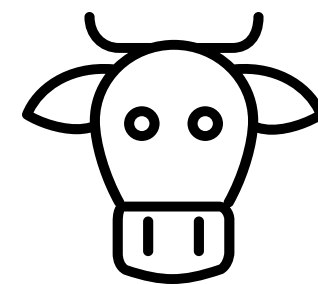
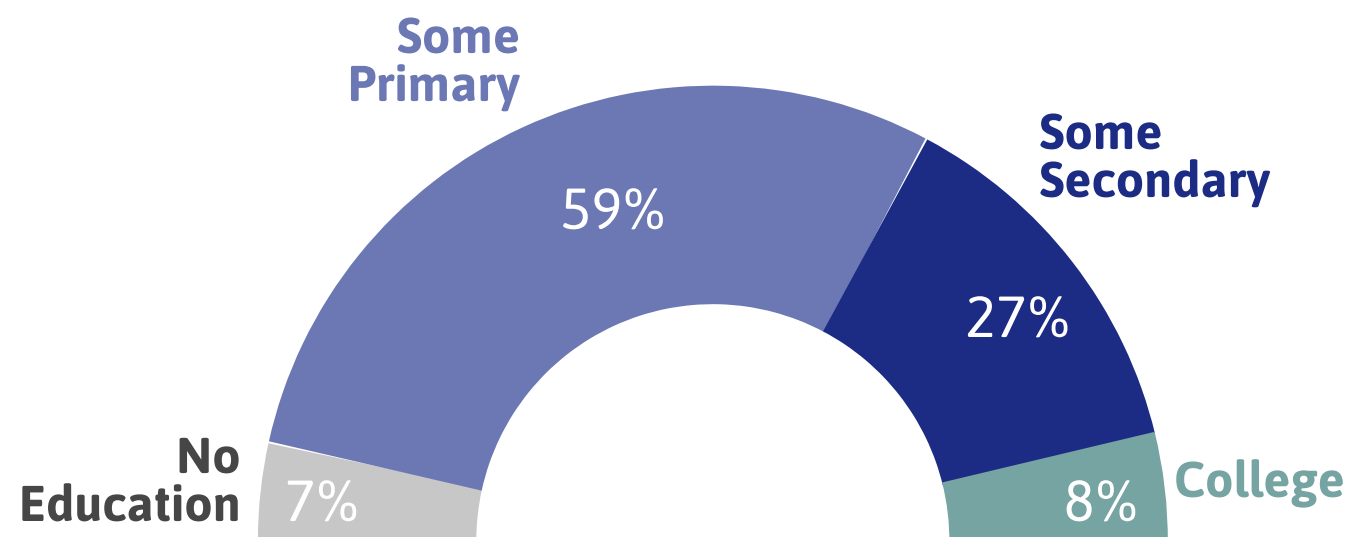


BASELINE CHARACTERISTICS



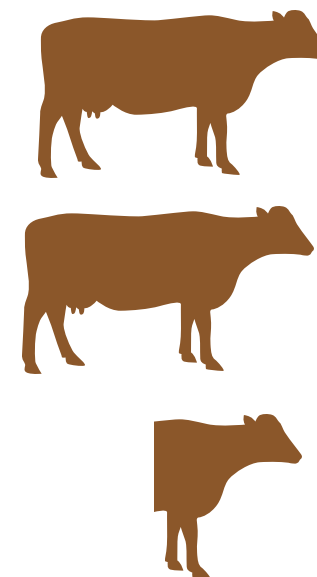
Education

Average years of schooling for household head is 8.2



Dairy

Cow ownership was one of the selection criteria for the study



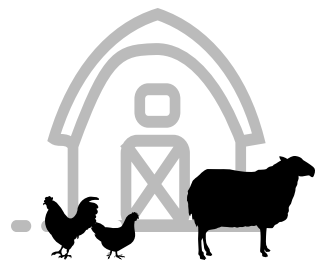
Average number of cows
2.4



Average liters of milk sold (week)
50



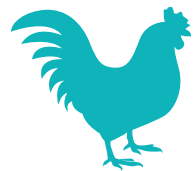
BASELINE CHARACTERISTICS



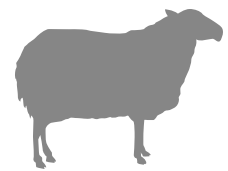
Livestock

The majority of the houses also own other livestock

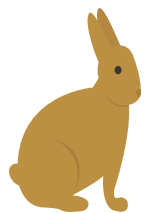
Other Livestock Ownership



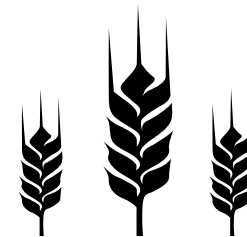
66%



48%



8%



Crops

Over 90% of the households grew some crops during the last planting season

Types of Crops Grown

Potatoes

89%

Green Peas

69%

Oats

57%

Maize

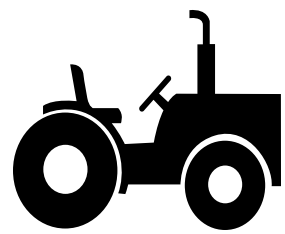
57%

Cabbage

52%



BASELINE CHARACTERISTICS



Crop & Livestock Inputs

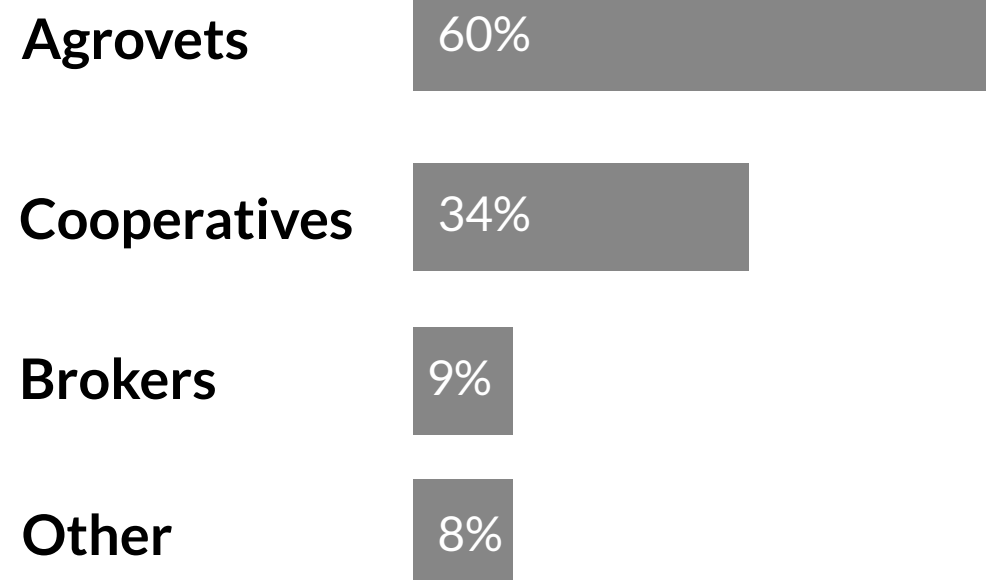
Less than 0.2% of households reported buying inputs from iProcure



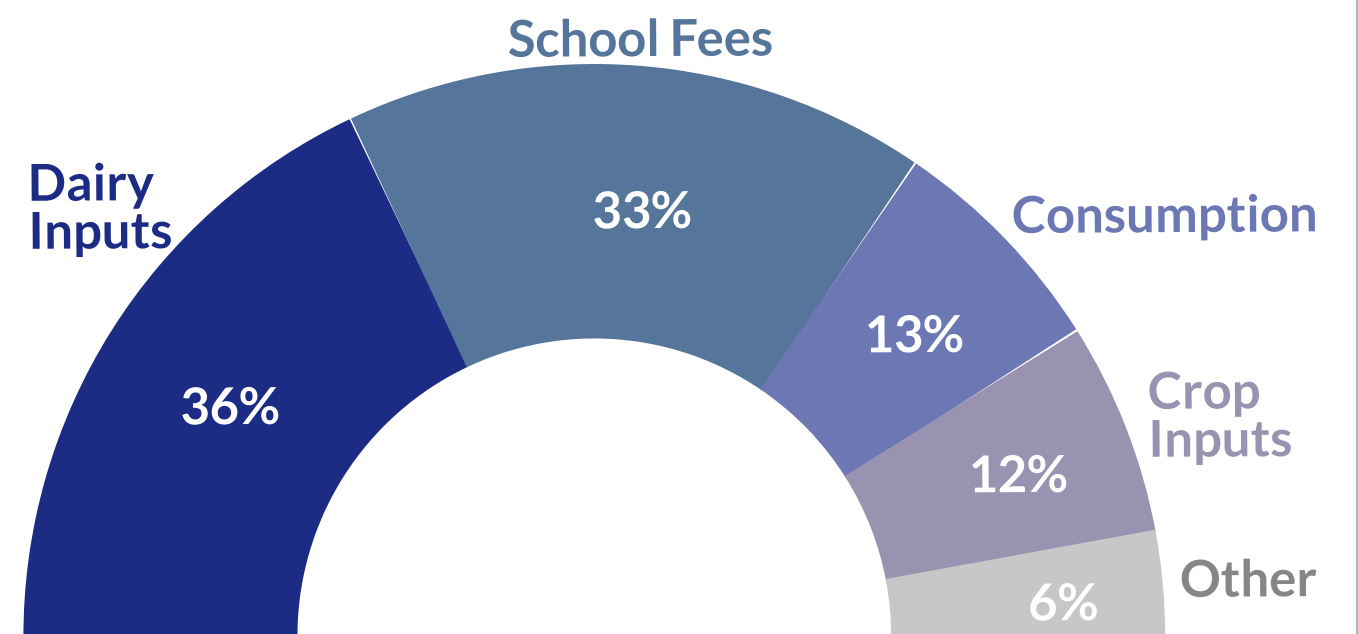
Loans

22% of households reported taking out a loan over last 12 months

Sources of Inputs at Baseline



Loan Purpose at Baseline





BASELINE CHARACTERISTICS

Best Practices: Livestock



Rabbies Vaccination

Adherence

61%

Foot & Mouth Disease

Adherence

64%

Deworming

Adherence

78%

Zero Grazing

Knowledge

88%

Adherence

10%

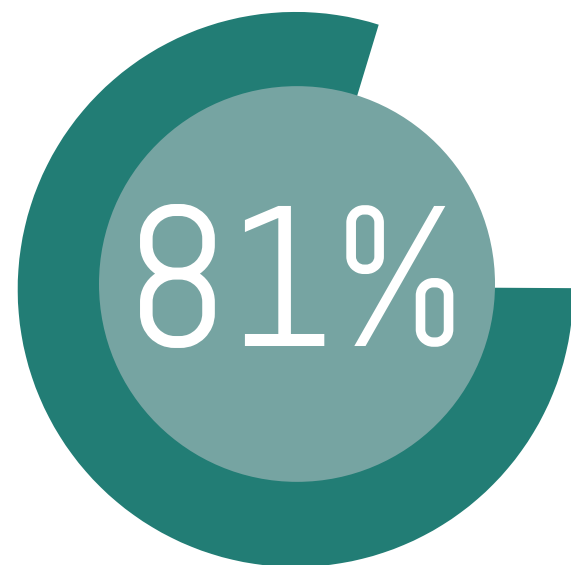
05.



SEGMENTATION ANALYSIS: SAMPLE I

Post-intervention

DigiFarm Registration



Treatment
Groups with DigiFarm

*81% of households
introduced to the MVP
registered for DigiFarm*

■ **Didn't Register**

■ **Registered**

Education

No School

30%

70%

Some Primary

18%

82%

Some Secondary

14%

86%

College

19%

81%

Gender

Male

18%

82%

Female

21%

79%

Land Owned (Acres)

Didn't Register

3.2 Acres

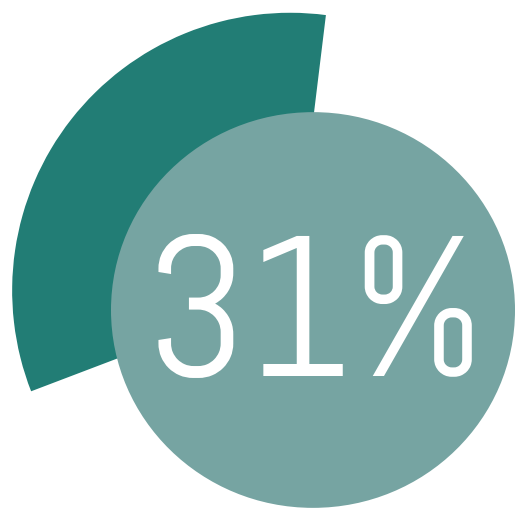
Registered

3.3 Acres



SEGMENTATION ANALYSIS: SAMPLE I

Arifu Usage



Treatment

Groups with DigiFarm

31% of households introduced to the MVP used the Arifu learning platform

Not using Arifu

Using Arifu

Education

No School

88%

12%

Some Primary

70%

30%

Some Secondary

60%

40%

College

74%

26%

Gender

Male

66%

34%

Female

80%

20%

Land Owned (Acres)

Not using Arifu

3.3 Acres

Using Arifu

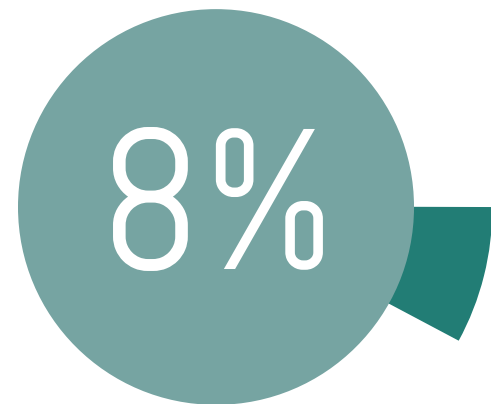
3.1 Acres



SEGMENTATION ANALYSIS: SAMPLE II

DigiFarm Loans

Loans Applied



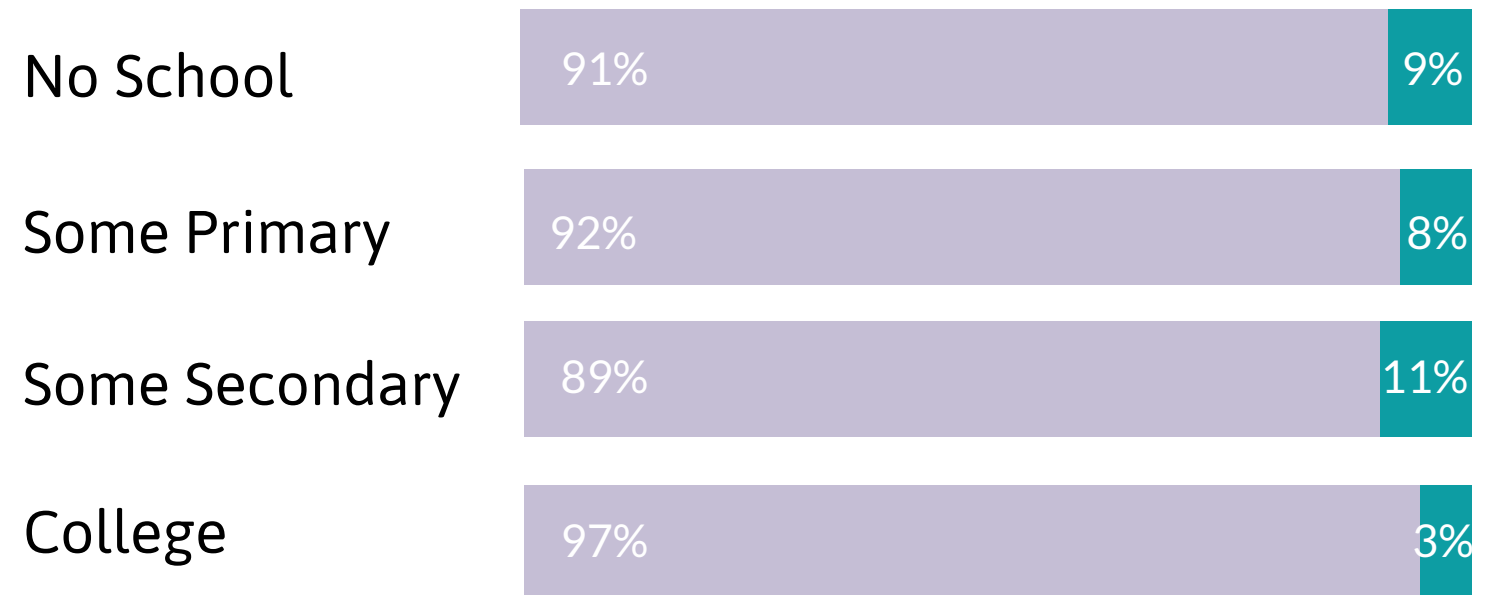
Treatment

MVP+loans

8% of households introduced to the MVP+loans applied for a DigiFarm loan

Non-applicants Loan Applicants

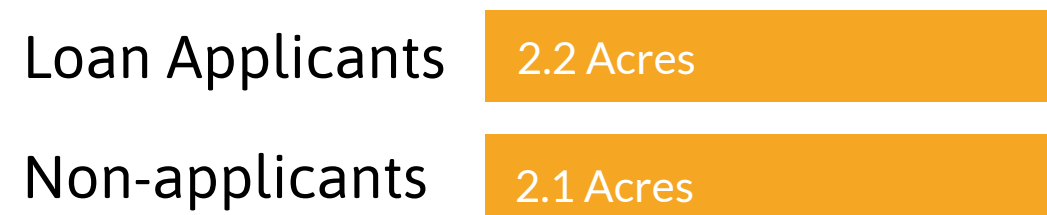
Education



Gender



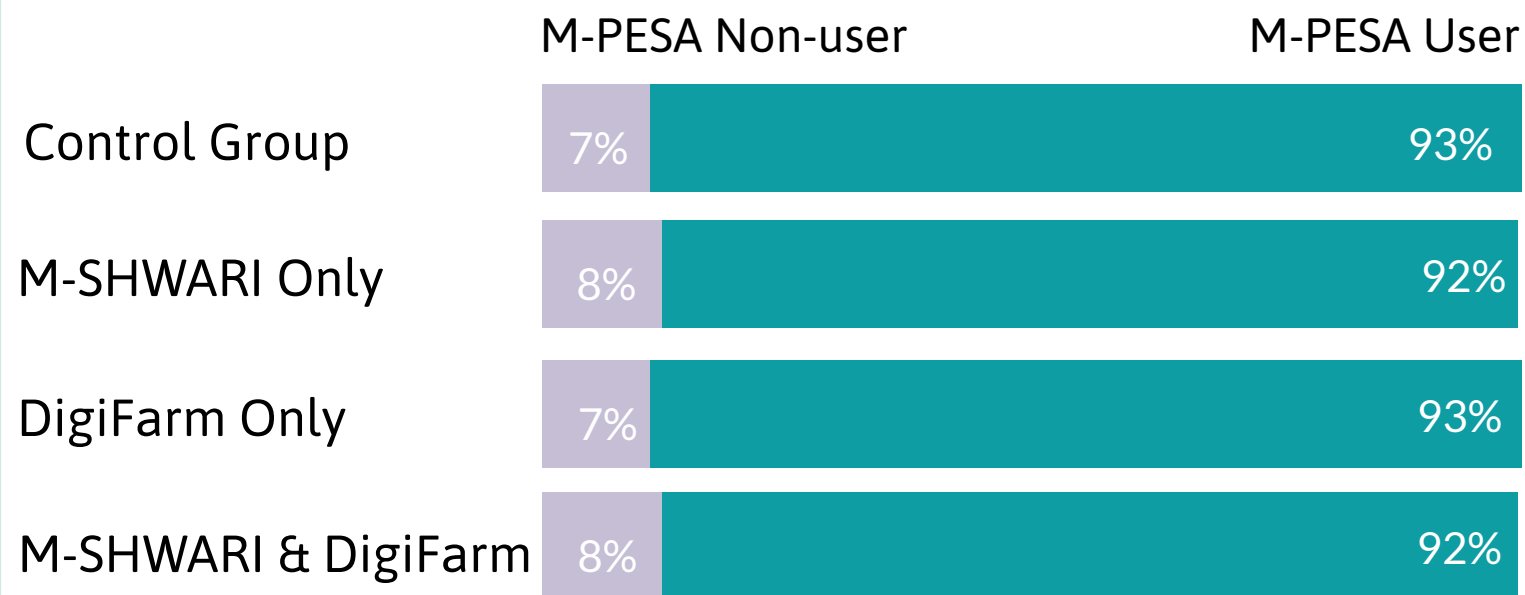
Land Owned (Acres)



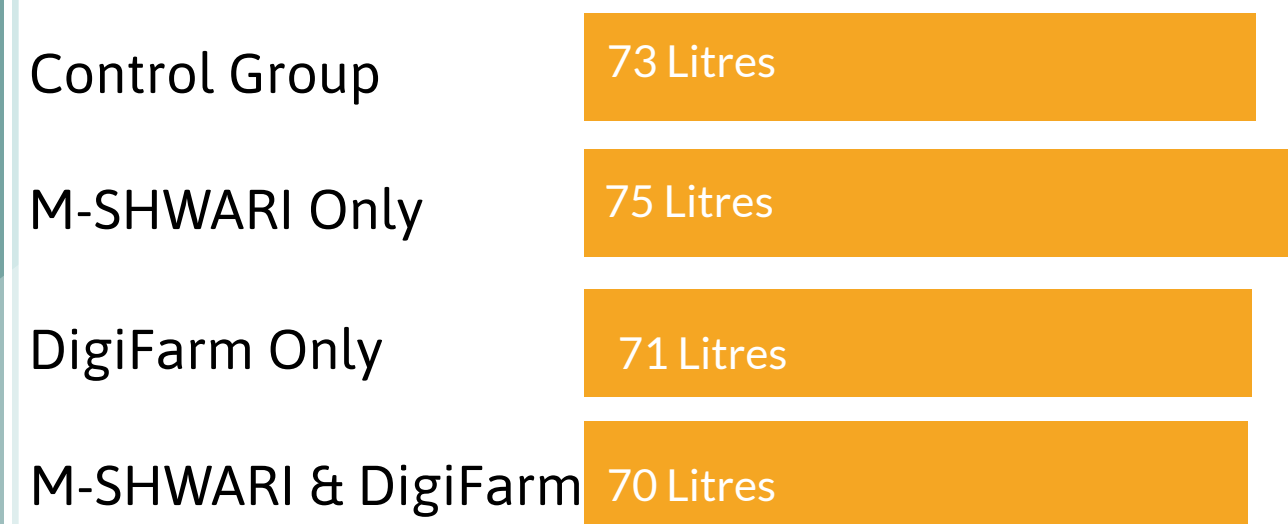


IMPACT EVALUATION: SAMPLE I

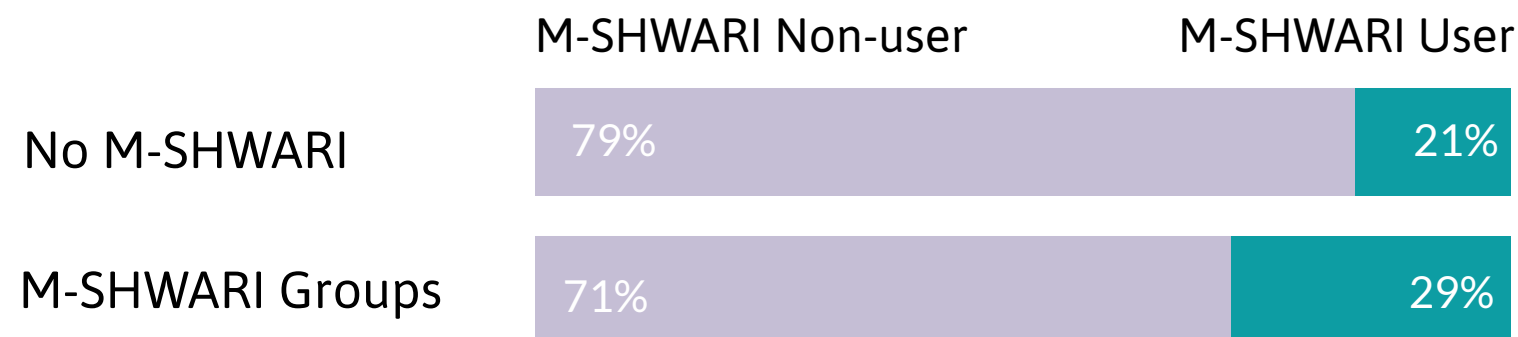
M-PESA Usage (Self-reported)



Milk Produced (Last Week)

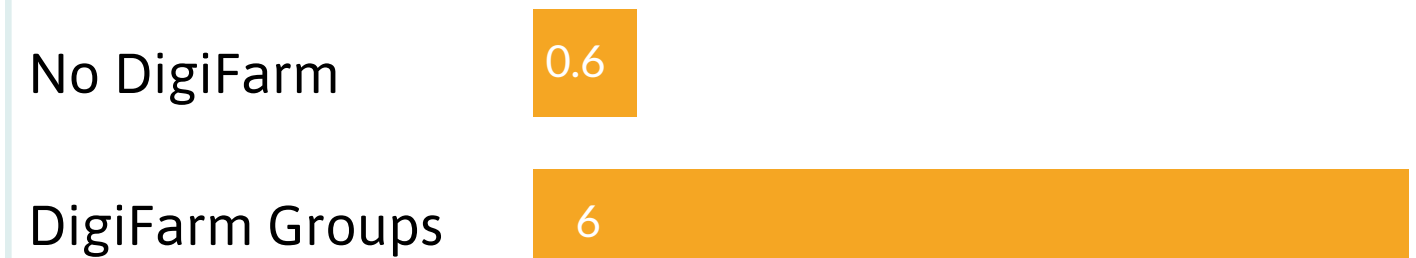


M-SHWARI Usage (Self-reported)



Arifu Usage

Number of Interactions





IMPACT EVALUATION: SAMPLE II

Loan Applications



Control
MVP only

4.4%

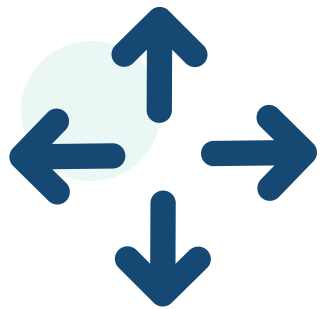
Treatment
MVP+loans

8.4%

Average Loan Amount

1,285
KSh

Loan Disbursements



Control
MVP only

3.7%

Treatment
MVP+loans

7.2%

Control
MVP only

1,023
KSh

Arifu Usage

Number of Interactions



Control
MVP only

5.8

Treatment
MVP+loans

3.5

Treatment
MVP+loans

08.



AGROVET ANALYSIS

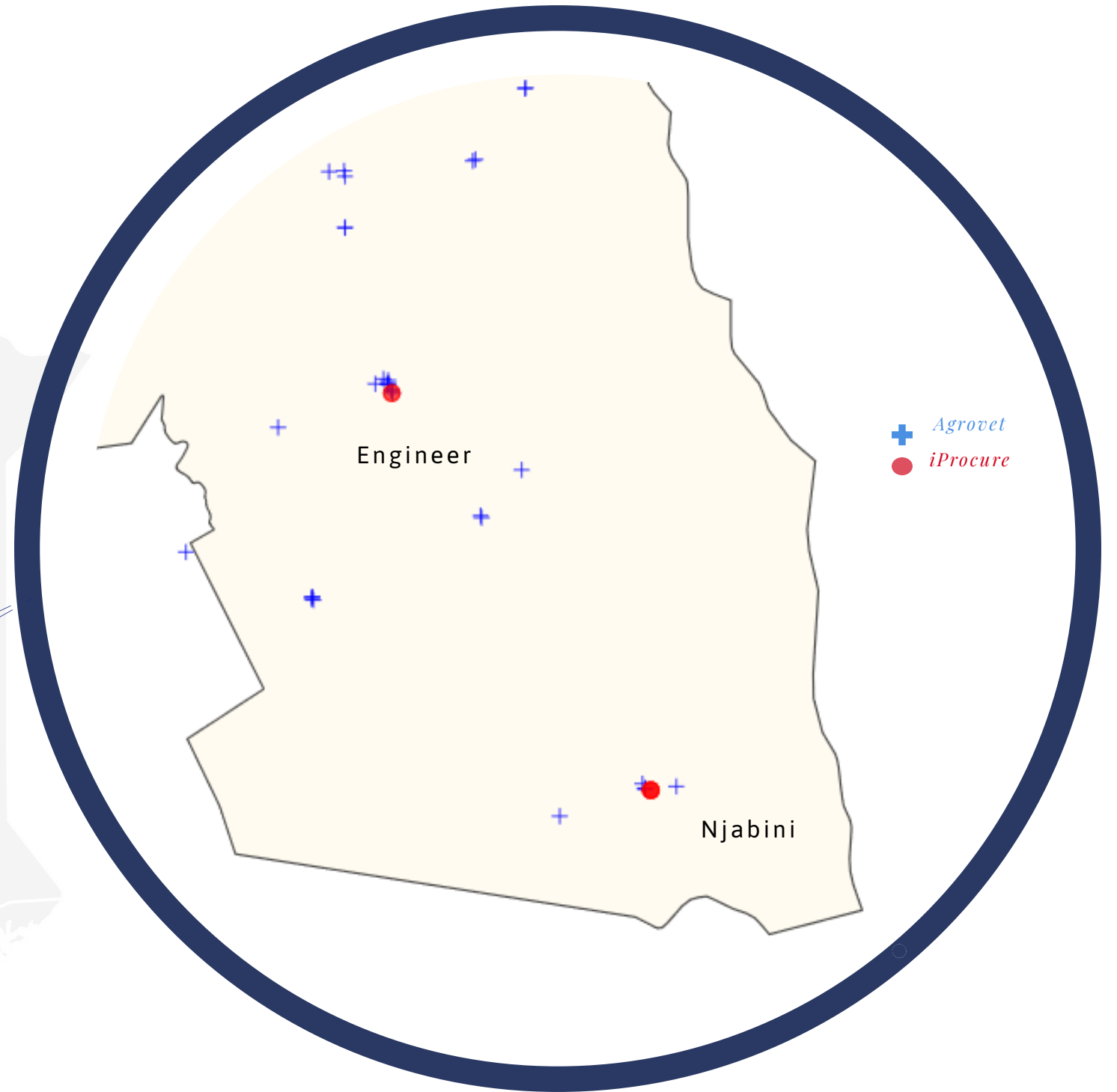
SAMPLE REGION

Number of Agrovets Visited

40

Number of iProcure Visited

2



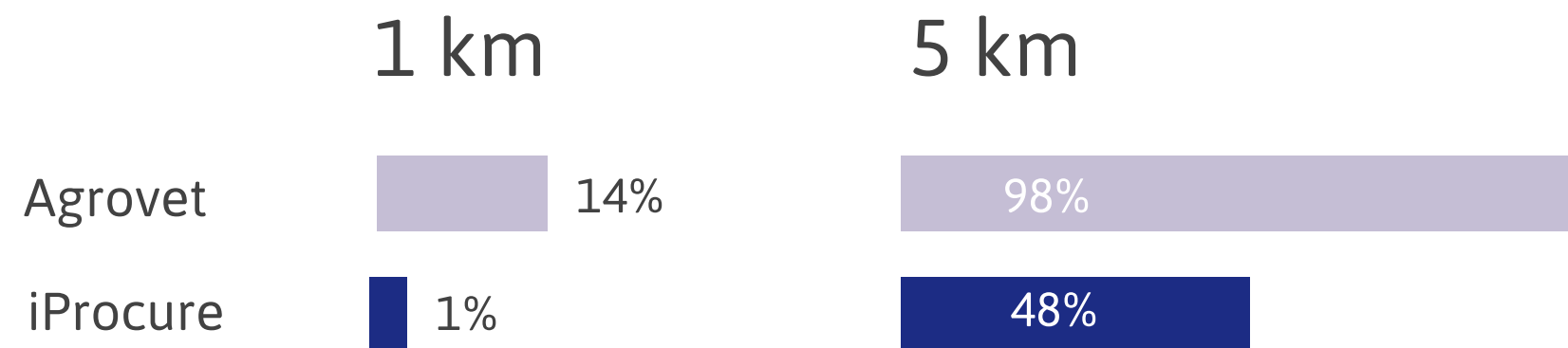


AGROVET ANALYSIS

Average distance to the nearest



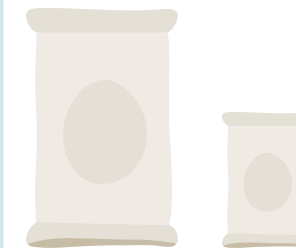
Percentage of sample living within:



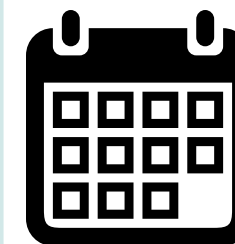
Price Comparison Exercise

- ✓ We visited all the agrovvet and iProcure depots in Engineer, Njabini and Kitiri
- ✓ These depots were visited three times: May 2017, April 2018 & July 2018
- ✓ Prices of iProcure products were compared with the 5 nearest Agrovvets

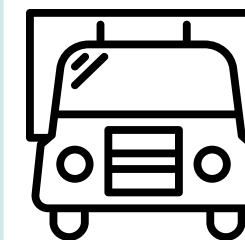
Farmers' Feedback



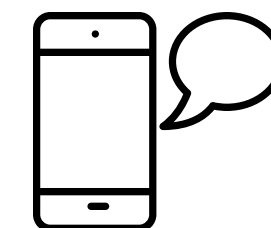
iProcure lacks smaller quantities of inputs



iProcure is closed on Sundays which is a market day



Transportation costs are high

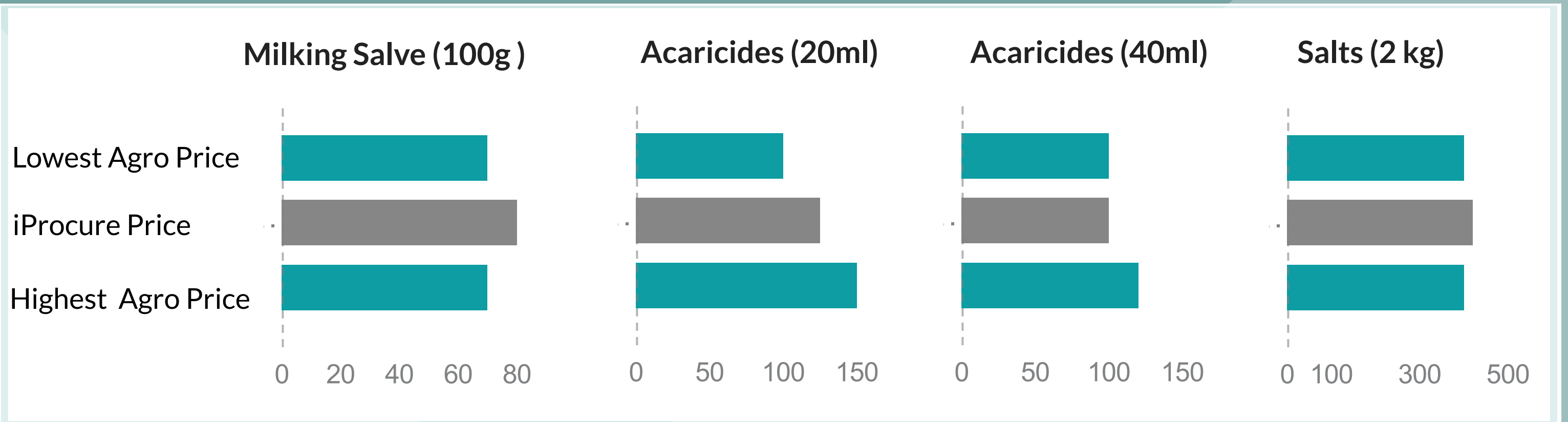


iProcure voucher doesn't work. Farmers are told by depot staff that it's not needed

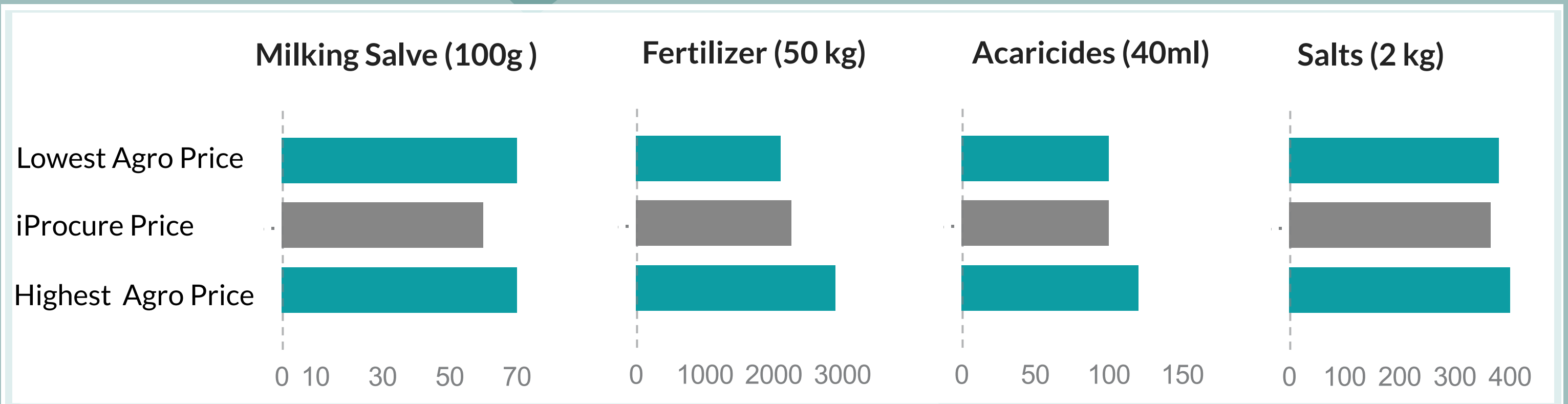


AGROVET ANALYSIS

Price Comparison: iProcure Engineer vs Five Nearest Agrovets



Price Comparison: iProcure Njabini vs Five Nearest Agrovets

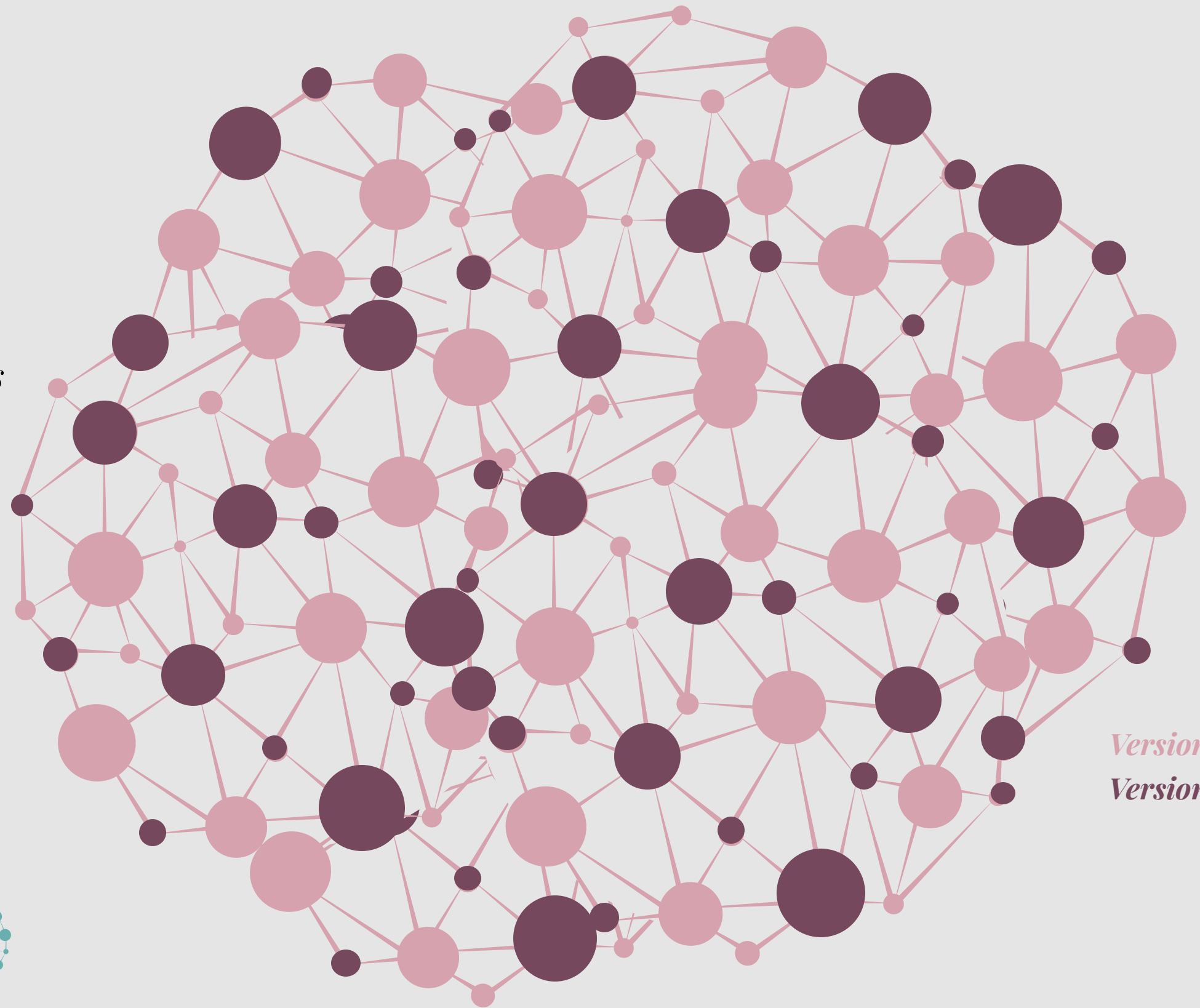
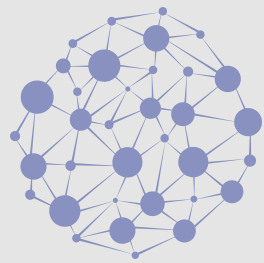


09.



A/B TESTING

We are conducting *A/B Testing* with a much larger sample of users outside of the *MVP* and *MVP+loans* studies.



Version A
Version B



A/B TESTING



Test A

VS.



Test B

*Two **pilot tests** were conducted to determine required sample sizes, which didn't include a control SMS.*

Pilot Test Case No. 1 *Loans pilot*

Pilot Test Case No. 2 *Learning pilot*

*Four **tests at scale** have been initiated, however, we do not yet have outcome data to report on results.*

Test Case No. 1 *Register for FarmDrive*

Test Case No. 2 *Request a loan*

Test Case No. 3 *Use the learning platform*

Test Case No. 4 *Use a specific module on the learning platform*

*This research is funded by:
the Bill & Melinda Gates Foundation
and Mercy Corps.*

BILL & MELINDA
GATES *foundation*



Thank you.



**Georgetown University Initiative on
Innovation, Development and Evaluation**

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