

DBT in Fertiliser

Independent Assessment Report

NITI Aayog, New Delhi- 13 December 2017

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SOIL HEALTH CARD (SHC)



Methodology

Una –
Retailer - 31
Farmer - 404

Pali –
Retailer - 31
Farmer - 402

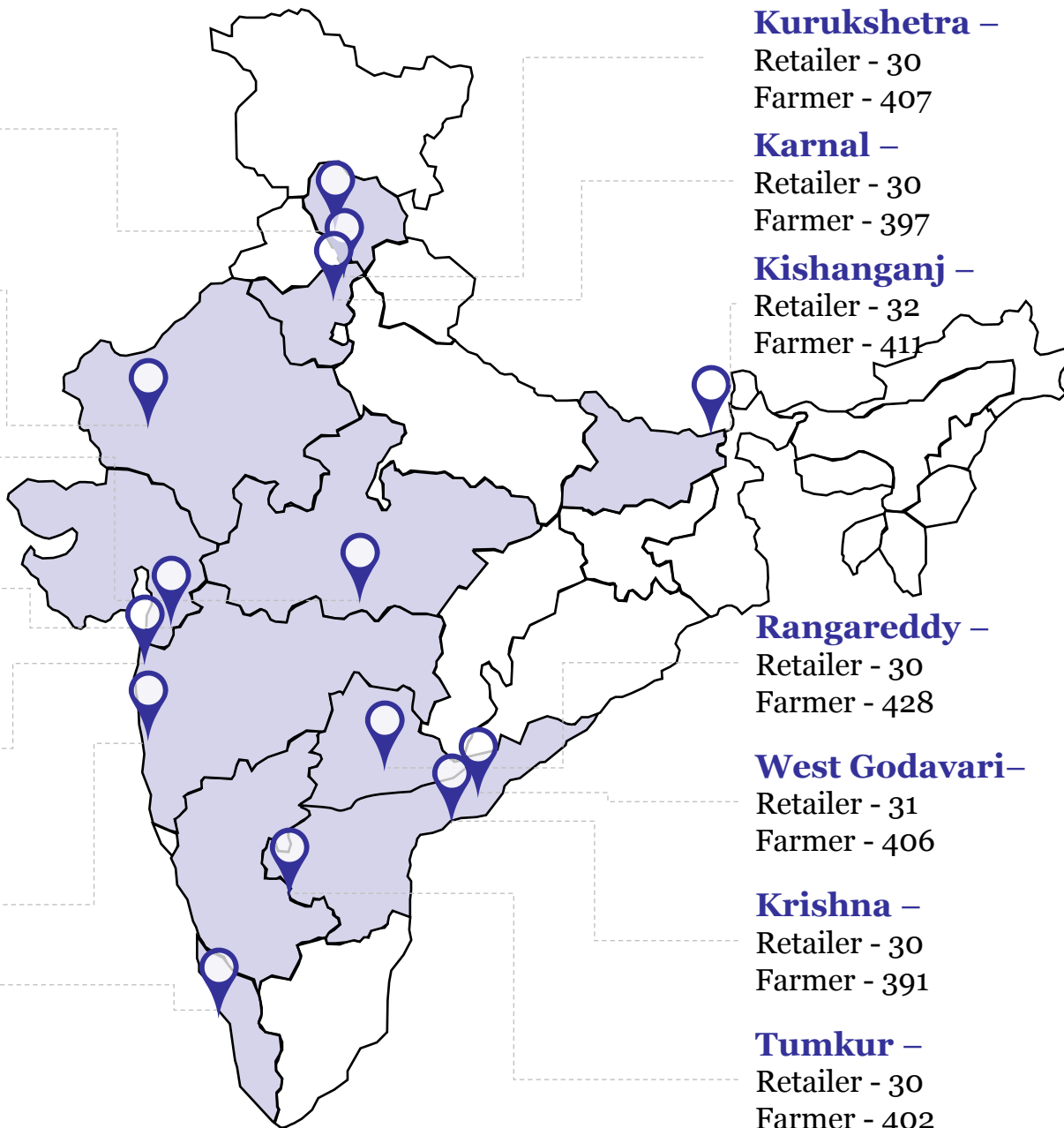
Hoshangabad –
Retailer - 31
Farmer - 406

Narmada –
Retailer - 30
Farmer - 429

Nashik –
Retailer - 30
Farmer - 382

Raigarh –
Retailer - 30
Farmer - 401

Thrissur –
Retailer - 31
Farmer - 393



Kurukshetra –
Retailer - 30
Farmer - 407

Karnal –
Retailer - 30
Farmer - 397

Kishanganj –
Retailer - 32
Farmer - 411

Rangareddy –
Retailer - 30
Farmer - 428

West Godavari–
Retailer - 31
Farmer - 406

Krishna –
Retailer - 30
Farmer - 391

Tumkur –
Retailer - 30
Farmer - 402



MicroSave undertook mixed method research - **quantitative and qualitative** surveys

Across
14 live districts
during July to September'17

The team interacted with a range of stakeholders including farmers, retailers, and district administration officials.

Quantitative Survey

 **5,659 Farmers**
 **427 Retailers**






Qualitative Interviews

 **185 Farmers**
 **138 Retailers**

in addition to government officials and district consultants.

Note: Blocks and retailers conducting manual sales without PoS transactions were not covered under our surveys.

Key Messages

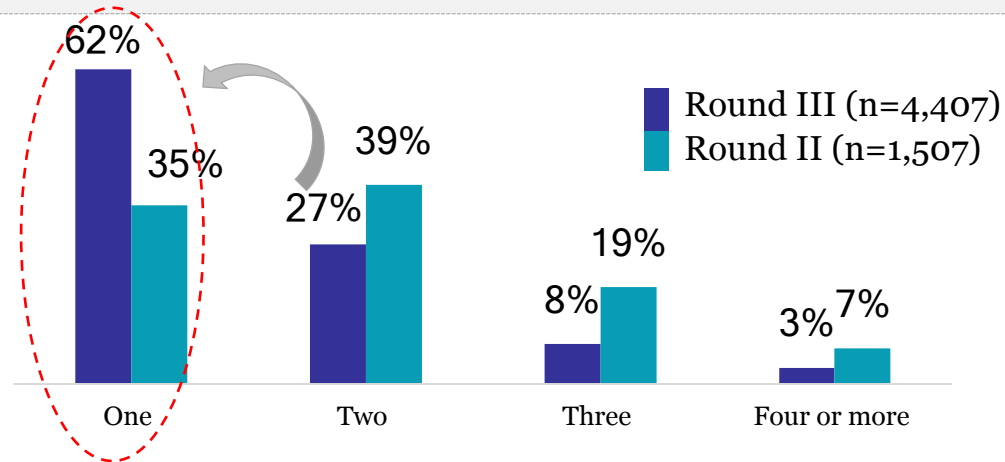
-  Transaction experience has improved for farmers as authentication success rates have increased, but peak season posed challenges.
-  DBT team's implementation efforts are worth an applause. GRM needs to be strengthened before national roll-out.
-  Squeezed margin and increased operating hassles may cause increase in dealer attrition leading to white spaces in fertiliser distribution.
-  Delay in release order (RO) module and stock acknowledgement are leading to manual sale and adjusted transactions.
-  Anecdotal evidences suggest that DBT implementation is yielding positive impact. Still, shifting to complete cash transfers to farmers is a distant possibility



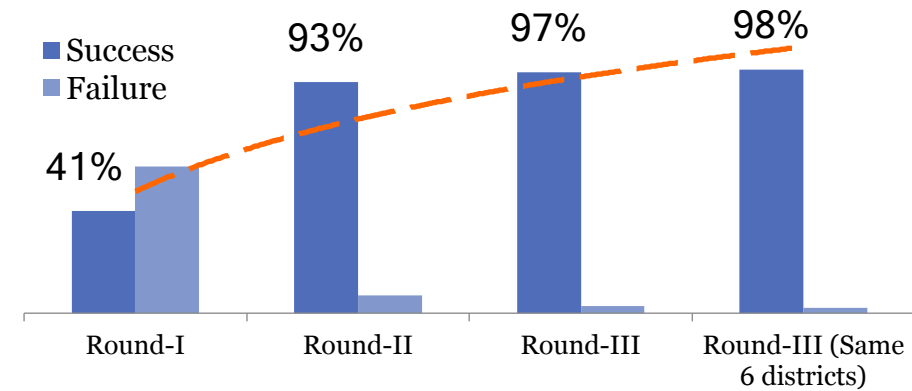
TRANSACTION EXPERIENCE

Transaction experience has improved as Aadhaar authentication strike rate has increased

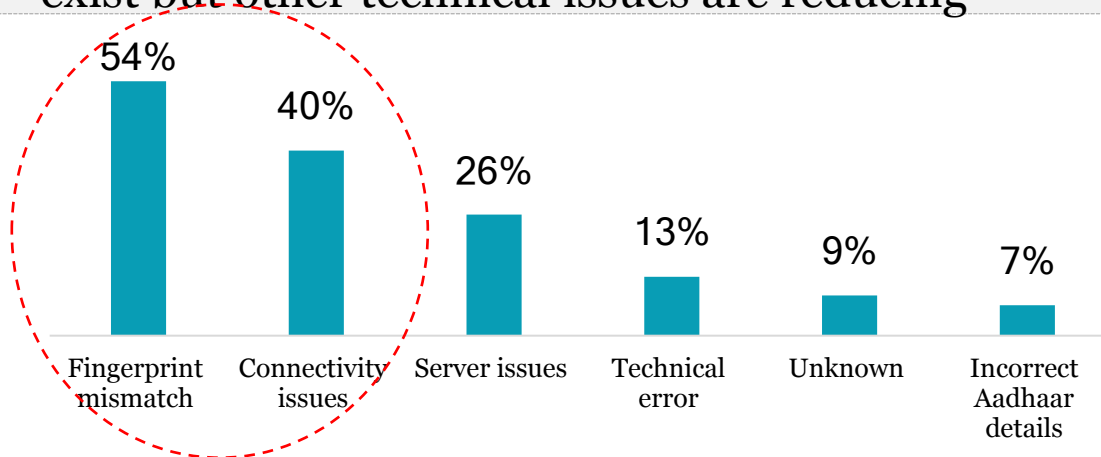
Authentication in first attempt has almost doubled



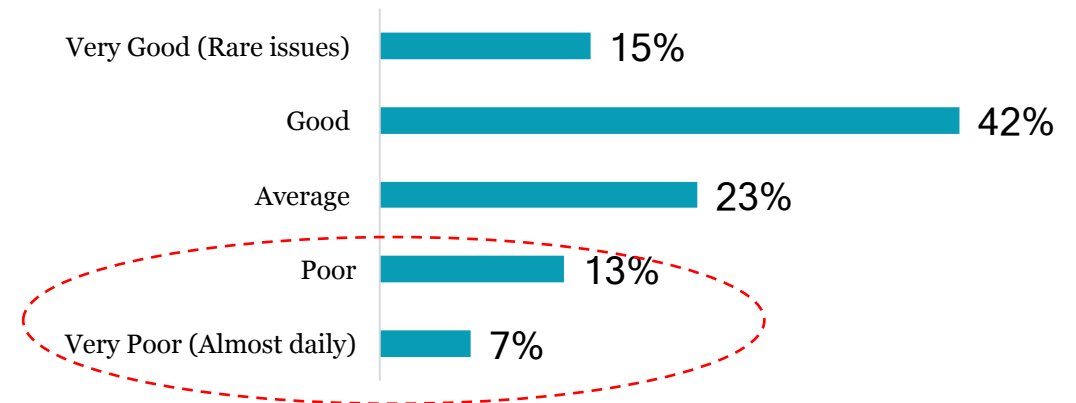
Authentication in three attempts is consistently improving



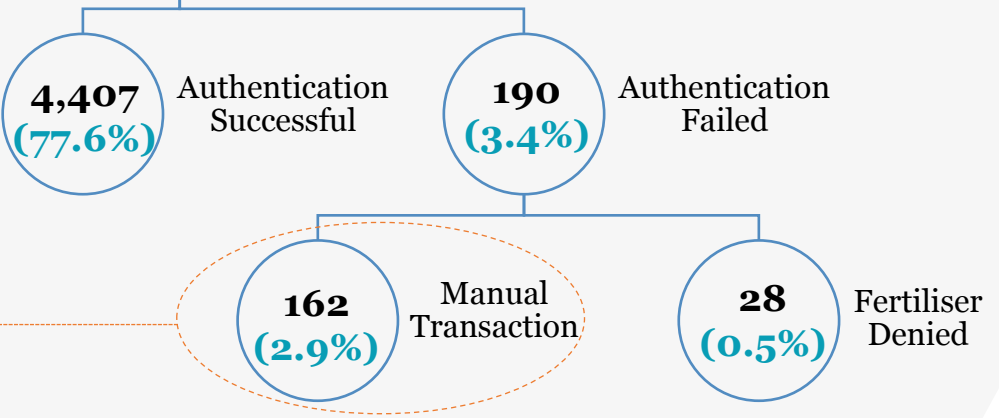
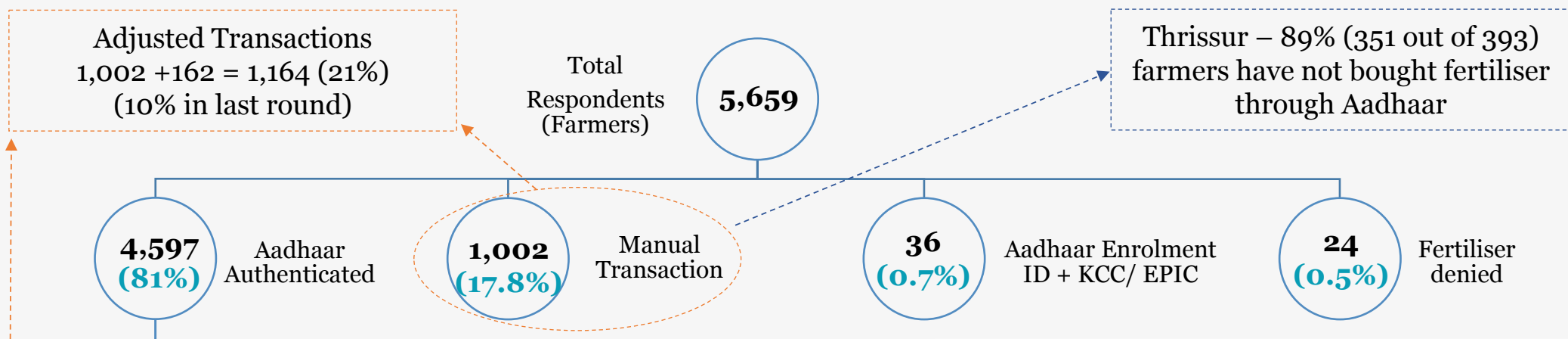
Fingerprint mismatch and connectivity issues still exist but other technical issues are reducing



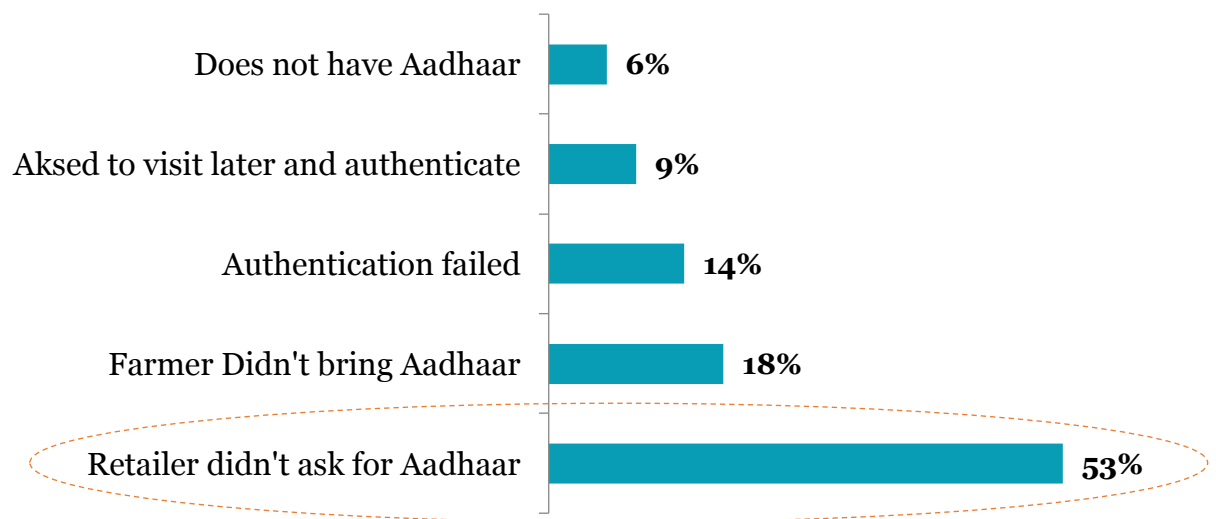
20% of the retailers face network issues (n=427)



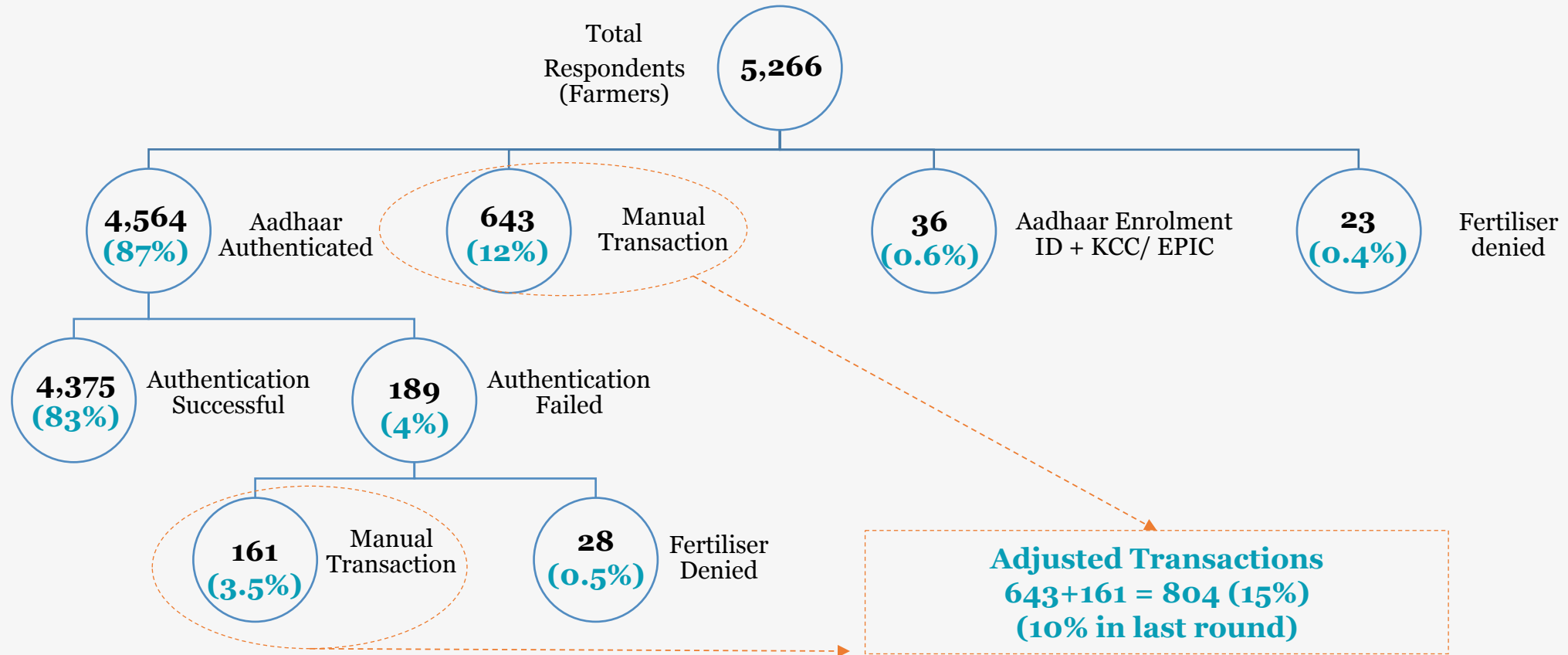
As highlighted in last round, incidences of manual sale without Aadhaar and adjusted transactions are **high at 21%** during peak season compared to 10% in last round.



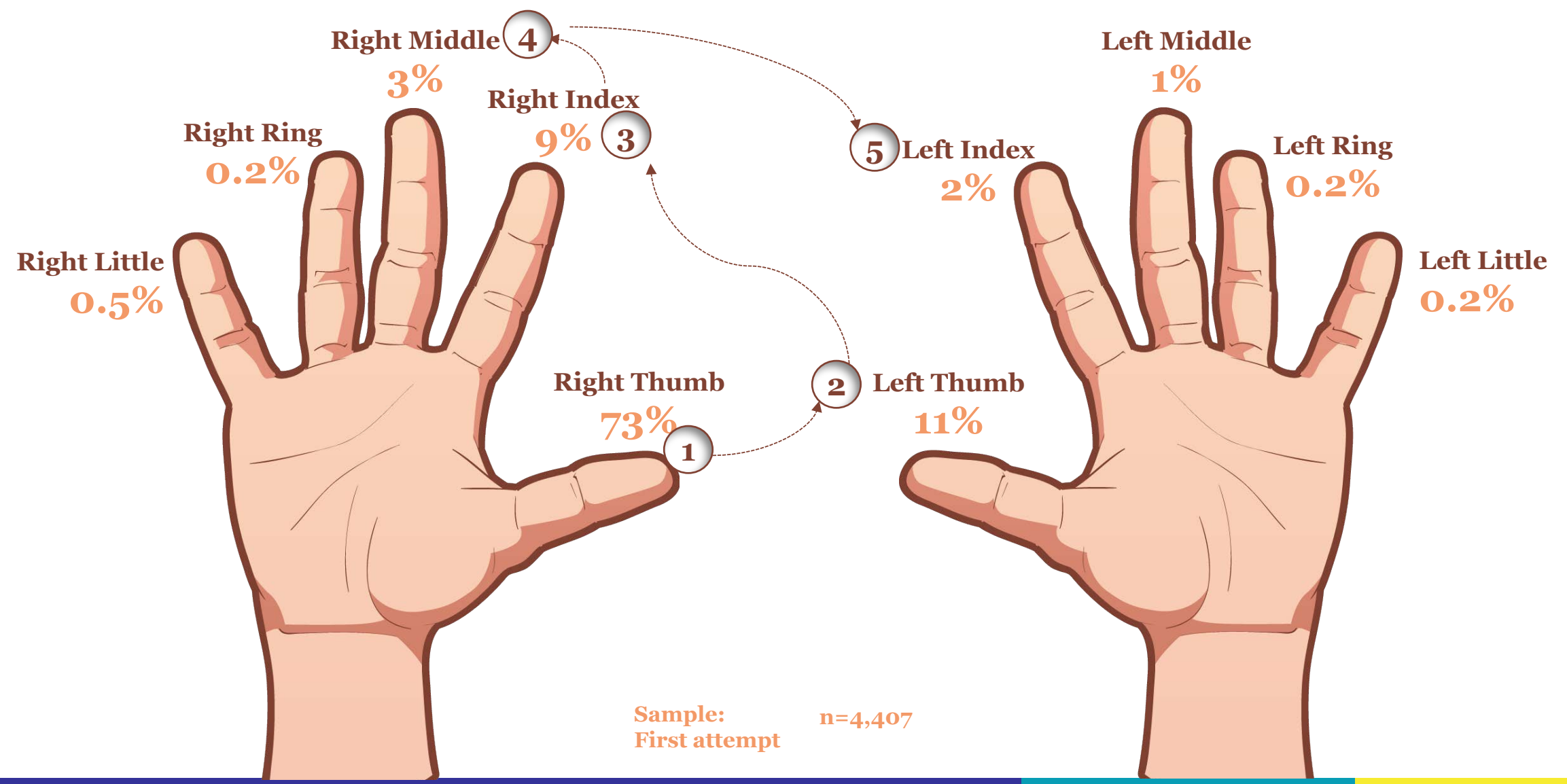
Reason for Manual transaction (N=1164)



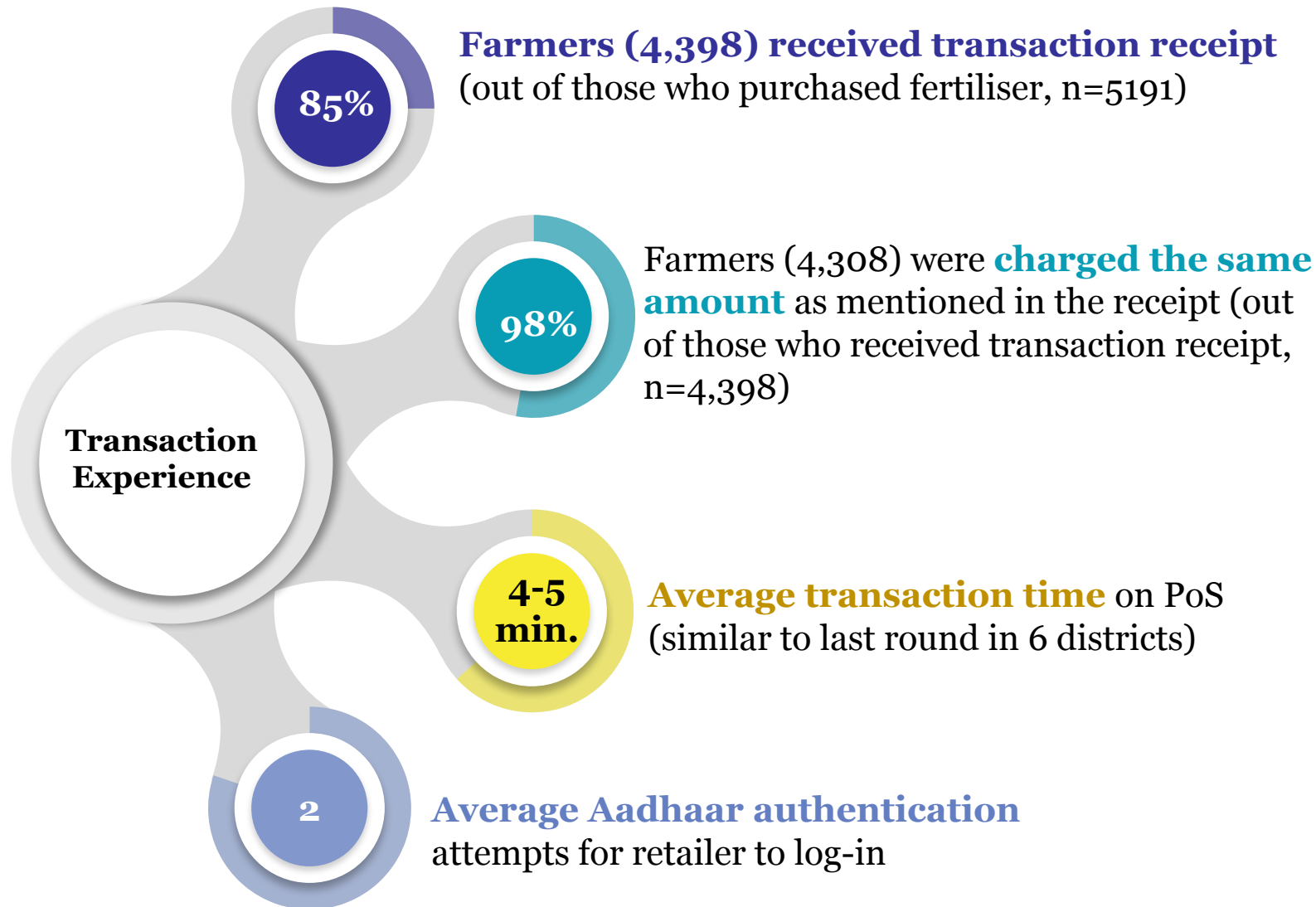
Transaction status-Excluding Thrissur adjusted transactions are at 15% vis-à-vis 10% in last round



Most people tend to use right thumb for first attempt



Farmers' transaction experience has improved as retailers do not charge more price than mentioned in transaction receipts



- **Average price paid by farmers is INR 305**, which is higher than the MRP indicating farmers who do not receive transaction receipts may be overcharged
- **In Kishanganj district average price paid per bag of urea is INR 398.** This is mostly due to diversion of urea from Kishanganj to Bangladesh and Nepal, where it is sold at INR 700-800 per bag.

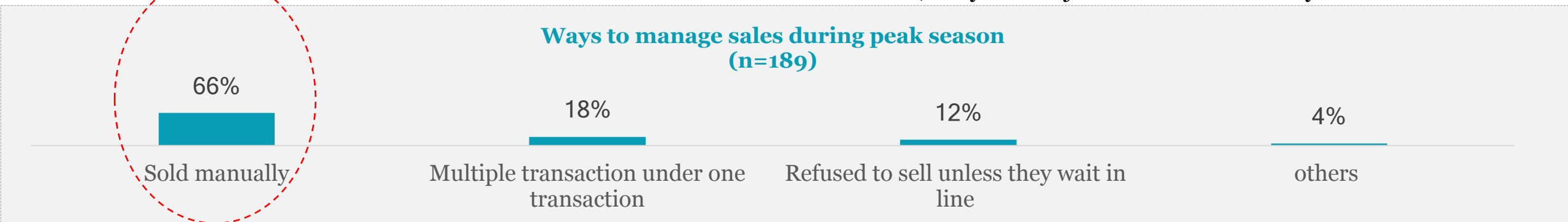
Peak Season Sales – As expected, retailers manage peak season sales by adjusting transaction.

44% retailers complained of difficulty in serving customers during peak season as an average of maximum **65 customers** remain present together at any given time on a single day.

However, they managed the sales by adjusting transactions through various means

Adjusted transactions have increased to **21% as compared to 10%** in the last round.

Moreover, retailers are using an average **1 PoS to manage sales**. They do not show inclination to use more than 1 PoS as it would require additional manpower. Moreover, they can adjust transaction easily.



“Bheed me manual de dete hain, baad me adjust kar dete hain (I sell manually if the shop is crowded and adjust transactions later -Retailer, Raigarh)

Adjusted transactions – MFMS data

Sale to Farmer Through POS

/2016

To Date::10/10/2017

RetailerName	InvoiceDate	Buyer AadharNo	Owner AadharNo	BuyerName	CompanyName	PlantName	ProductName	Quantity	Unit Name	Price	Total Amount	
Agarwal Traders	2017-01-02	*****8099	*****8099	Harshit Agrawal	CIL	CIL Import	Imported Urea	7.00	50 Kg Bag	300.0	2100.00	
Agarwal Traders	2017-01-02	*****8099	*****8099	Harshit Agrawal	IPL	IPL	Imported Urea	180.00	50 Kg Bag	300.0	54000.00	
Agarwal Traders	2017-01-02	*****8099	*****8099	Harshit Agrawal	MOSAIC	MOSAIC	Imported DAP	9.00	50 Kg Bag	1100.0	9900.00	
Agarwal Traders	2017-01-02	*****8099	*****8099	Harshit Agrawal	NFCL	NFCL Import	Imported Urea	20.00	50 Kg Bag	300.0	6000.00	
Agarwal Traders	2017-07-21	*****6266	*****6266	Ramgopal Mina	SFC-MBAgro	SFC-MBAgro	SSP-Zincated(Powder)	220.00	50 Kg Bag	270.0	59400.00	
Agarwal Traders	2017-07-21	*****6266	*****6266	Ramgopal Mina	SFC-MBPhosJhabua	SFC-MBPhosJhabua	SSP-Zincated(Powder)	820.00	50 Kg Bag	270.0	221400.00	
Vidya Ram Associates Pvt Ltd	2017-09-27	*****6516	*****6516	Ajay Kumar	CFCL	CFCL Gadepan-II	CFCL Gadepan-II Urea	999.00	50 Kg Bag	285.0	284715.00	49.95
Vidya Ram Associates Pvt Ltd	2017-09-27	*****6516	*****6516	Ajay Kumar	IPL	IPL	Imported DAP	999.00	50 Kg Bag	1050.0	1048950.00	49.95
Vidya Ram Associates Pvt Ltd	2017-09-27	*****6516	*****6516	Ajay Kumar	IPL	IPL	Imported Urea	999.00	50 Kg Bag	285.0	284715.00	49.95
Vidya Ram Associates Pvt Ltd	2017-09-27	*****6516	*****6516	Ajay Kumar	IPL	IPL	MOP	999.00	50 Kg Bag	530.0	529470.00	49.95

1. Same person purchased 1,043 (422 urea, 467 DAP, and 154 SSP) bags of fertiliser between January, 2017 and July 2017. Also, seems that the person owns the fertiliser shop. (Snapshot for January only)

2. On same date, the person purchased 1,040 bags of SSP. The person purchased total 1,510 bags of fertiliser between January, 2017 and July 2017.

3. Retailer in Karnal, selling 3,387 bags of fertiliser per invoice



IMPACT OF DBT

59% farmers & 54% retailers prefer new system to earlier method; However...

 **30%**
Farmers

Prefer the old system of fertiliser distribution. Remaining 11% farmers are indifferent towards both the systems

 **44%**
Retailers

Do not prefer the new PoS based system whereas only 2% retailers are indifferent towards both the systems

Why Farmers & Retailers prefer DBT in fertiliser?

Farmer (n=3,088)

- Track actual buyer (72%)
- Reduce black market and diversion (64%)
- Availability of fertiliser has improved (25%)
- Overcharging has reduced (21%)
- Aware about the quantity and price of fertiliser purchased (17%)

Retailer (n=229)

- Improves real time record keeping (92%)
- Identify buyers properly (50%)
- Reduce diversion of urea (40%)
- To ease paper work and record keeping (44%)

Why Farmers & Retailers don't prefer DBT in fertiliser?

Farmer (n=1,594)

- Finger print does not work (79%)
- Connectivity/ server issues (77%)
- Increased transaction time (62%)
- Increased waiting time (55%)
- Don't like to carry Aadhaar all the time (32%)

Retailer (n=189)

- High transaction time (79%)
- Documents required (44%)
- Connectivity issues (56%)

Unattractive retailer margin along with additional hassle due to GST/ PoS may lead to retailer attrition in future

*“We don’t want to become bankrupt by selling urea. We get profits from other products such as pesticides” –
Retailer Thrissur*

- Retailers earn a low net margin in the range of INR 0 – INR 9 (approximately) per bag of urea
- Introduction of MFMS and DBT in fertiliser has reduced avenues for earnings through dubious means
- Further, introduction of PoS has added hassle for retailers
- “Labour charges k baad kuch margin nahi bachta” – retailer Hoshangabad
- PoS does not generate receipt with GST. It has final MRP only. Retailers manually calculate the GST on fertiliser and provide additional (manual) receipt for farmers. This has led to additional burden of record management
- In such case, the transaction receipt is of no use

FORM 'M'
Retail Invoice

Sl.No. 581
Date 31.8.17

GSTIN-10AGPO192511
Vat No. -10471102083
F.L.No. -09/14-15(R)
IDNo.-352818

M/S वर्द्धमान इंटरप्राइजेज
पौ - टाकुसंग, जिला - किसानगंज (बिहार)

किसान का नाम अरविंद रजवार
पिता का नाम अरविंद शर्मा
ग्राम जं.पि.रा. पंचायत

क्र०स०	उर्वरक का नाम	कम्पनी का नाम	बेच नं.	मात्रा	दर	कीमत
	DAP HS code - 31053000	TCL		4 Bag	1034.29	4137.16
	SSP HS code - 31031000	Roast Agro		1 Bag	313.15	313.15
					111.35	4454.31
					111.35	5565.66
Total						4633

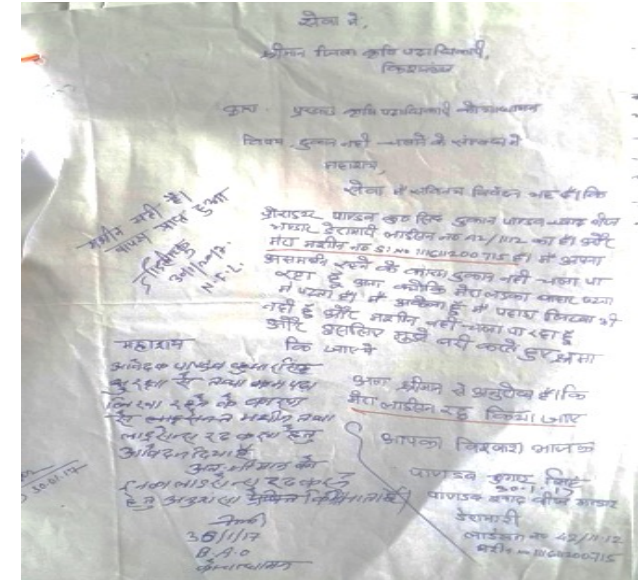
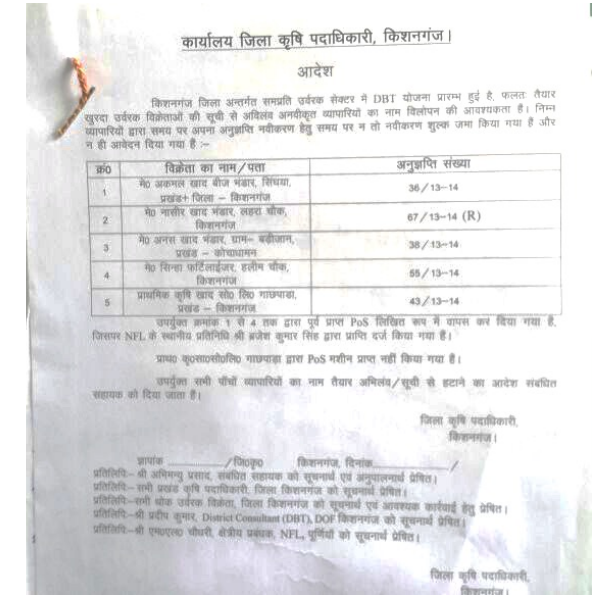
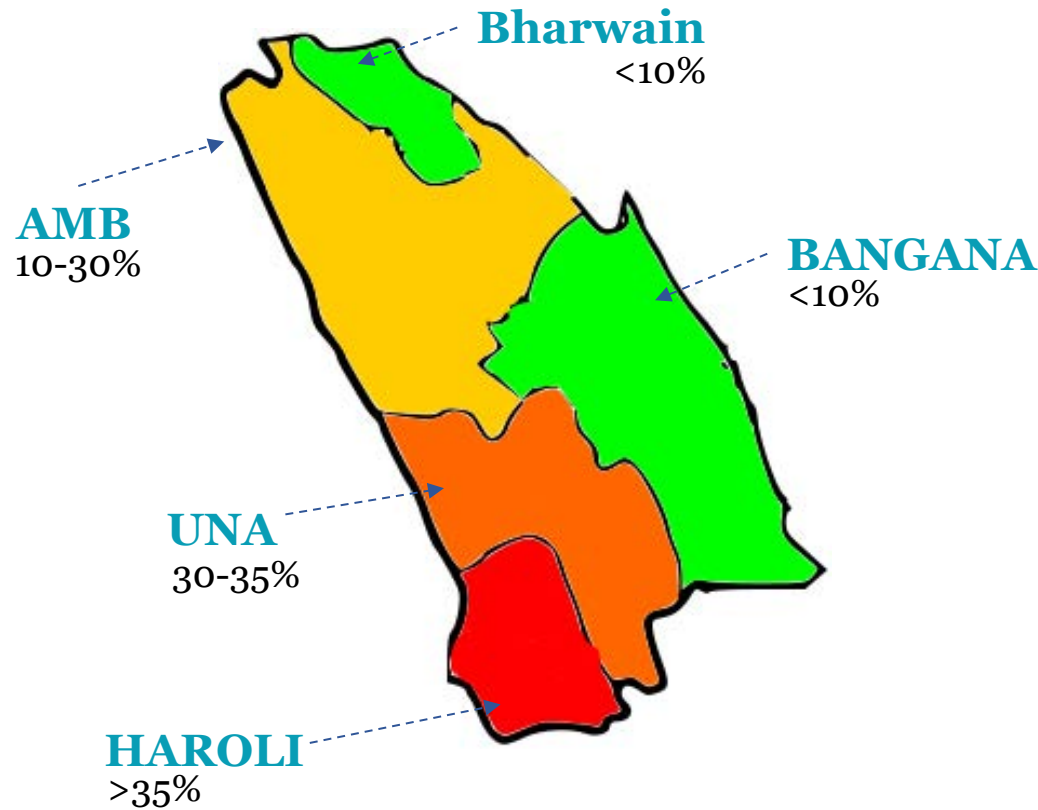
Note - Goods once sold not be taken back

3037 L... किसान का ह० विक्रेता का ह०

Dealer attrition may create white spaces and hence hassle to framers

A reference map of UNA based on data collected during research

% based on total attrition in Una District

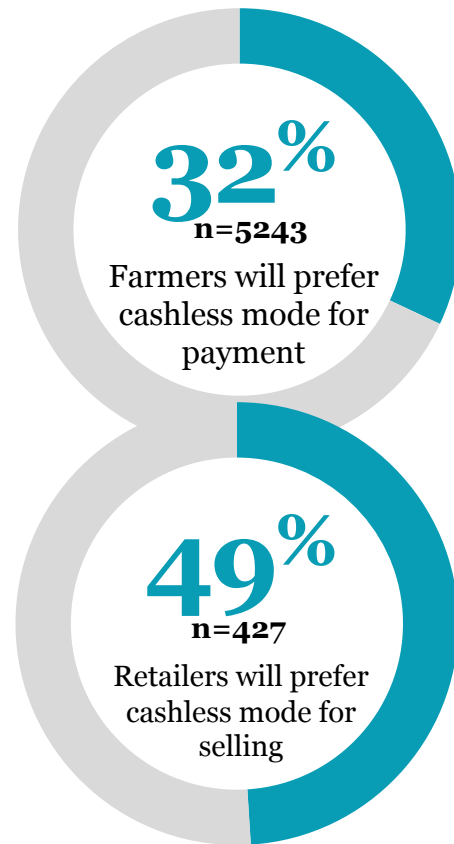




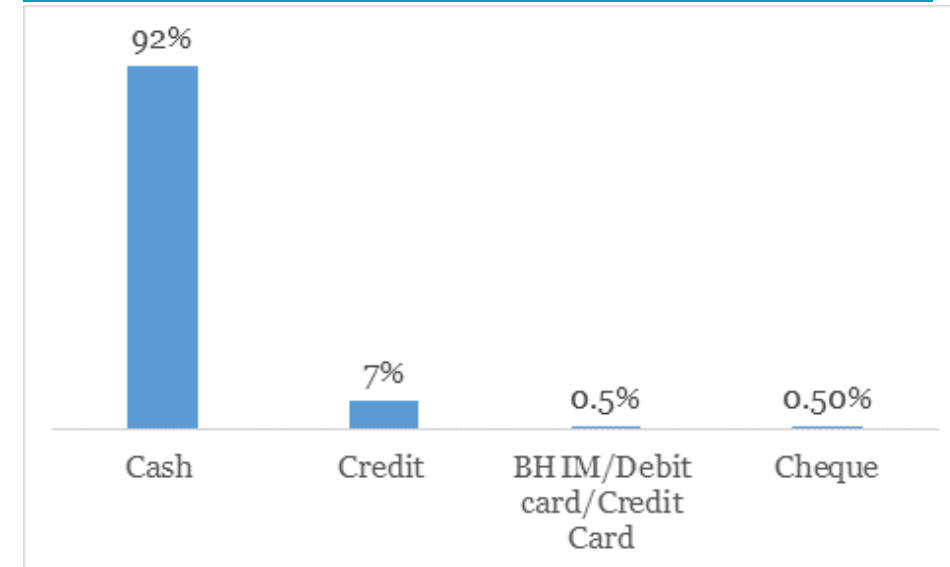
A CASE FOR COMPLETE DBT IN FERTILISER

Cashless fertiliser distribution gets mixed response from farmers and retailers

Preference for buying/ selling cashless



How Farmer's paid for fertilizer?



But there are some concerns from retailers:

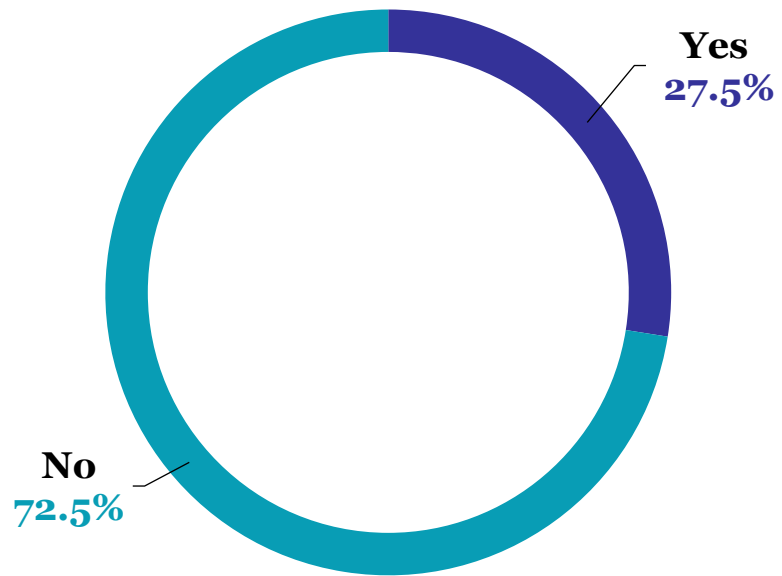
- **81%** of retailers (out of 51% (217) who do not prefer cashless mode) pointed farmer's inability to pay in cash less mode
- Fertilizer business especially urea yields a profit of **1%-2%** and on card transaction MDR fee of **~2%** levied by the bank would eat away the slim margin

"Bihar ka banking system to pata hi hai aap ko!" (You are aware of Bihar's banking system

– Retailer Kishanganj

Shifting to Direct Cash Transfer Into Farmer's Account- A Distant Possibility

Would you want to receive fertiliser subsidy in bank account?



Farmers purchase an average of **32 bags annually**. Assuming a cost of **INR 1200**, farmers would pay **INR 38,400** upfront and receive **INR 28,800** into the bank account.

24%

Farmers borrowed an average of INR 51,933 in last six months for agriculture (n=5,243)

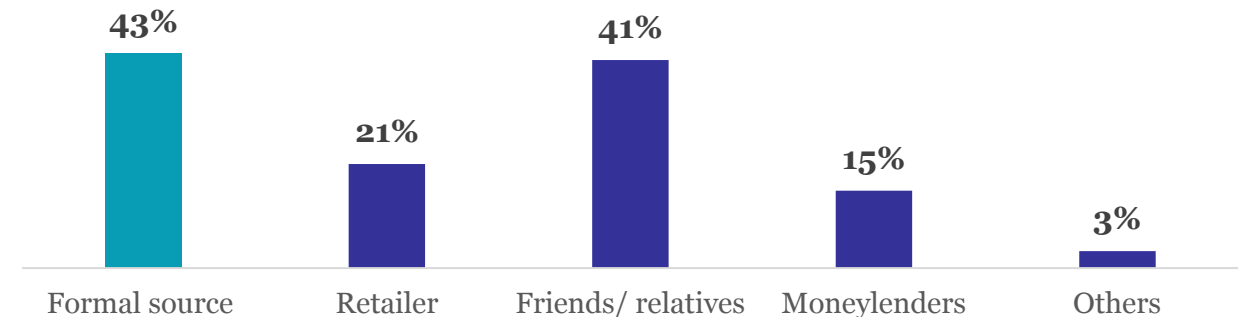
92%

Farmers purchased on cash and only 7% on credit (n=5,191)

14%

Is the average annual interest rate that farmer borrowed at (n=1,251)

Borrowings source for farmers (n=1251)



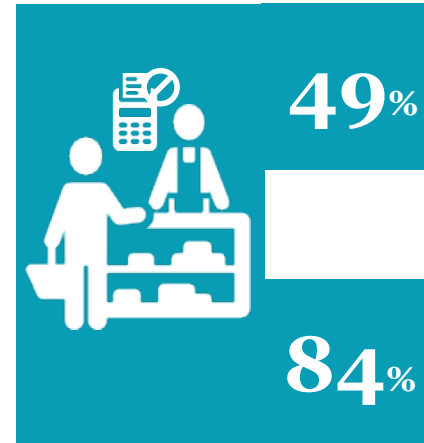
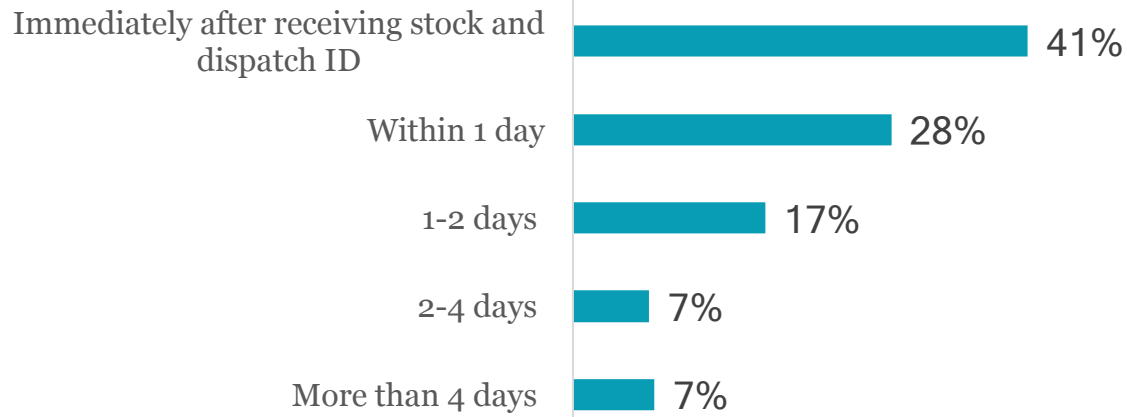
Shifting to DBT in real sense may push farmers to borrow more from informal sources



COMPLIANCE

Delay in RO module updation delays receipt acknowledgement and compels retailers to adjust transactions

Dispatch ID Acknowledgement in RO Module (n = 427)



Retailers said that stock updation is **not immediate** after acknowledgement due to server/ PoS issues

Retailers said that the stock updates correctly after each transaction.



Receipt acknowledgement is delayed due to:

- Delay in updation of RO module at wholesaler, warehouse, and/ or rake point level
- Retailers still receive hand made challan and do not receive printed challan with dispatch ID. They confirm the dispatch ID over phone
- Retailers receiving physical stock before dispatch ID
- Lack of IT infrastructure at the rake point
- Lack of training on RO module

Hand made challan

Name & Address of Consignor: SEWA SAHAKARI SAMITI BADA TALUKA - BANKHEDI HOSHANGABAD (M.P.)		Name & Address of Buyer: M/s. S.F. STATE CO-OP. LTD. MARKETING FORATION LTD. D.M.O. - HOSHANGABAD (M.P.)		D.C. cum PI No. JHB/098	
Date: 23.05.2017		D.I. No. M.P. 194		Date: 15.05.2017	
L/R No. 194		Date: 23.05.2017		Freight: TO BE BILLED	
Advance:		Transporter: SHREE KRISHNA ROAD LINES		Vehicle No. MP13H9850	
Name of Fertiliser & Brand Name: GODAVARI SINGLE SUPER PHOSPHATE (GRANULATED)		Batch Number: RC/17/G/14	Number of Bags: 600	Quantity: 25	Unit: MT
P2O5 (Available)-16% Min., P2O5 (WS)-14.5% Min., Sulphur(S)- 11% Min. Packing : 50 Kg. Per Bag		Rate Rs. 3055		Amount Rs. 130075	
SUB TOTAL				138875	
ENTRY TAX @ 1%				1389	
TOTAL AFTER ENTRY TAX				140264	
LESS : DISCOUNT				0	
AMOUNT AFTER DISCOUNT				140264	
VAT 5%				7013	
Total Rs.				147277	
LESS : FREIGHT TO BE BILLED				0	
Net Payable Rs.				147277	

Handwritten Challan from M/S. MAHALUXMI TRANSPORT COMPANY, KARNAL. The document includes details of the sender (Baby Balraj), receiver (Ak Anil), and a table of goods transported. The table shows 25 bags of Godavari Single Super Phosphate with a total weight of 1250 kg and a value of Rs. 147,277. The document is signed by the sender and the transporter.

No. of Package	Content as said to be contained	Actual Weight Kgs	Weight Charge Kgs	RATE	Freight	To Pay	Remarks
450	SSP	2250	1980	1980	4455	4455	
1	Godavari Single Super Phosphate	25			1	1	
Total					4455	4455	

Handwritten receipt from J. A. ANAND, Transport Contractor & Carting Agent. The receipt is dated 21/3/2017 and is for 300 bags of Godavari Single Super Phosphate. The receipt is signed by the transporter and includes a stamp from the Union.

Particulars	Bag	Weight	Freight
Godavari Single Super Phosphate	300	1500	4455

“Acknowledgment 3 din baad aata hai, usse pehle machine me nai dikhta, 3 din me to gadi bech dete hain (I receive acknowledgement after delay of up to 3 days. By the time acknowledgement is received, I sold the physical stock)

-Retailer, Raigarh

Company ka acknowledgement receipt jaldi nahi aata, dispatch ID bhi phone pe galat de dete hain, 2 din baad milta hai aur fir hum acknowledge karte hain” (I do not receive acknowledgement receipt on time and receive wrong dispatch ID over phone)

- Retailer Raigarh



TRAINING AND COMMUNICATION

Retailer readiness – awareness and training efforts are laudable

Farmers communication - needs to improve

Retailers' Training and Awareness



93%

received training (average 2 trainings)



90%

believed that the training helped them in handling PoS



58%

aware of KCC/EPIC availability for authentication.



23%

referring to online material is low. Remaining either have not used or are not aware of such source

Farmer Communication and Awareness



85%

knew that Aadhaar is necessary to purchase fertiliser



32%

aware of the subsidy amount per bag of urea provided by government. 43% are not aware of the subsidy amount and 25% do not know that the government provides subsidy on urea



2%

assume that the government will transfer the subsidy amount into their bank accounts

Rumours

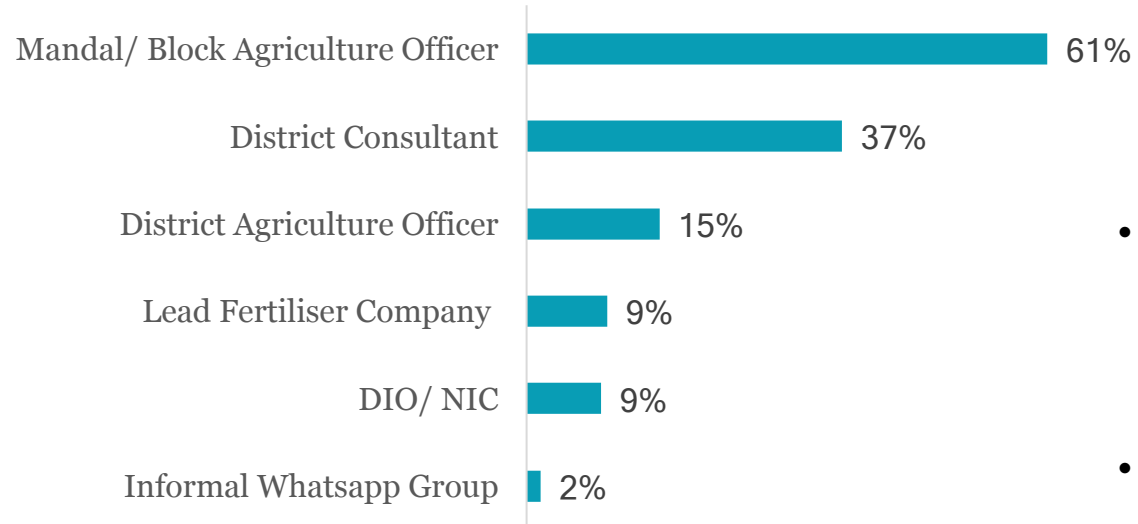
- Plan to estimate land of the farmers to either tax them or cease their landholdings by deciding a ceiling on land size
- Farmers will have to buy fertiliser at non-subsidized price and the government will transfer the differential into their bank accounts
- Farmers are afraid to submit Aadhaar as they fear government may cease their land and cancel their BPL status



GRIEVANCE REDRESS MECHANISM (GRM)

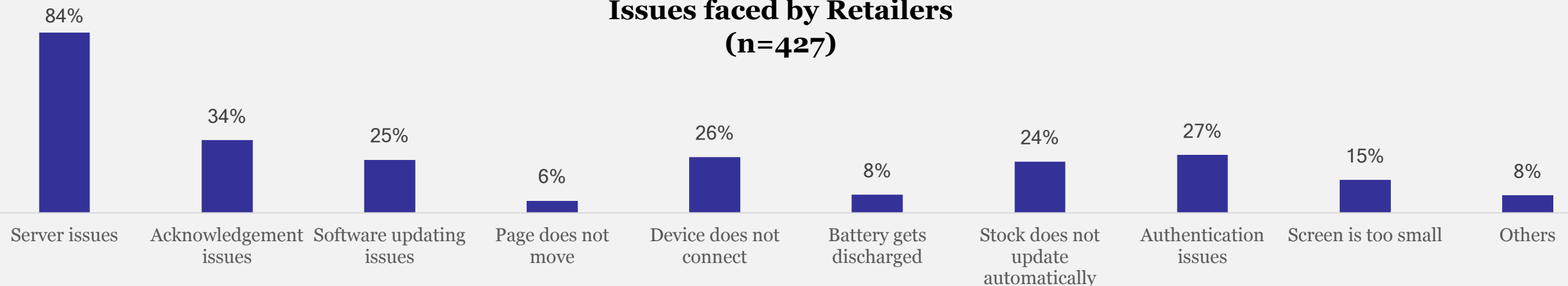
79% retailers are satisfied with grievance redressal mechanism as compared to 91% in the last round

**Source for GRM
(n=427)**



- Informal platforms like WhatsApp and emails have yielded a 92% satisfaction rate from the 6 pilot districts in the last round. However, latest data from all 16 districts revealed a 79% satisfaction which is indicative of compromised efficacy of the informal system. Interestingly the 6 original districts still report a 91% satisfaction rate
- District consultants are given responsibility of more than one district while bringing new districts into DBT mode. Manpower shortage can adversely impact the GRM as district consultants are major source for GRM
- The government has launched “toll free no., however it has limitations

**Issues faced by Retailers
(n=427)**



Toll free number does not allow conversation in regional languages and lacks features of an ideal grievance redress mechanism

Toll Free Number for grievance redressal

- Department of Fertilisers recently launched a “toll free number – 1800115501” for retailers
- Allows conversation only in two languages i.e. Hindi and English; should also enable conversation in regional languages
- It should also have following features -



Well advertised and communicated toll free number

#86543

Receive a complaint ID once the grievance is registered



Tracking the resolution status through the complaint ID



Turnaround Time (TAT) for grievance resolution



Escalation/ responsibility matrix



RECOMMENDATIONS AND ACTIONABLE SOLUTIONS

Recommendations – Policy level

Issues

Suggestions to Streamline Operations



Hardware issues (PoS)

- Screen is too small - have to scroll left-right or up-down to enter sales data; Battery life is shortening
- Maintenance and repair services not available easily



Grievance redressal system

- Informal system will not work at national level
- Recently launched 'toll free no' has limitations



Retailer margin is unattractive

- Retailer earn net margin of INR 0 – 4 per bag of urea



Possible attrition of retailers in near future

- Retailer may leave the system due to increased hassles and unattractive margin
- This would have a greater impact when DBT is launched in more districts or across states



Authentication failure

- Time taken in authentication (especially more than one attempt) and authentication failure leads to adjusted transaction

- MFMS application should be **device agnostic**. Web and app based application can be launched. Retailers can use desktops, laptops, tablets, and smart phones to run the application

- The GRM should have features of an ideal GRM system
- Retailers' margin on urea bags to be increased. The government has plans to do so. However, the impact would be seen after increased margins are provided

- Government should issue new licenses so that availability and supply is not affected

- Operating instructions based on fingerprint strike rate
- Should install IRIS scanner at retailer shops

Recommendations – Software issues

Issues

Suggestions to Streamline Operations



Doubling of stock

- 'Initial stock not declared' – initial stock not updated as zero at the time of 'go live'
- Same stock received through RO module and module prior to RO module



Sales receipt

- Sales receipt is in English
- Font size on the sales receipt is not easily readable
- Text does not fit properly on the receipt



Difference in PoS and server time

- Due to time difference between actual time in PoS and server time retailers are unable to operate the device



Report printing through PoS

- Does not print reports for more than one month
- Prints only 10 transactions while printing duplicate bills

- Proper reporting of initial stock and communication to update initial stock as zero for all the fertiliser products available in PoS
- Course correction with the help of DC and NIC
- Sales receipt should be generated in vernacular languages also.
- Menu option to sync PoS time with server time
- Should allow printing old reports also
- Making the system device agnostic can help
- Retailers can print the report from MFMS site

Recommendations – Operational Issues

Issues

Suggestions to Streamline Operations



Manpower shortage

- Districts, especially new districts do not have manpower (district consultant) to monitor implementation.

- Dedicated manpower at district level for all live districts, at least during initial phase of the project



Increased record keeping burden

- Retailers have to operate two system i.e. ERPs and PoS
- Print on transaction receipts fade away and not suitable for record keeping

- MFMS (PoS) can be linked with tally/ ERPs to download daily sales record in a tally/ ERPs
- “agar ye machine computer pe link ho jaye to achha hao, usse hum hisab nikal sakege”
– Retailer Raigarh



Delay in RO module updation

- Delay in RO module updation also delays receipt acknowledgement

- Allow the stock on the POS to go negative to some extent (time and quantity) so that sales can continue
- PoS devices should be used at rake points, wholesaler, and warehouse level to update stock
- Dispatch ID as notification should appear in PoS
- Send Dispatch ID through SMS



Retailers with same name

- Stock being sent to wrong retailer, in case more than 1 retailer exist with same name.
- Wholesaler selecting wrong retailer by selecting another retailer with same name while forwarding stock

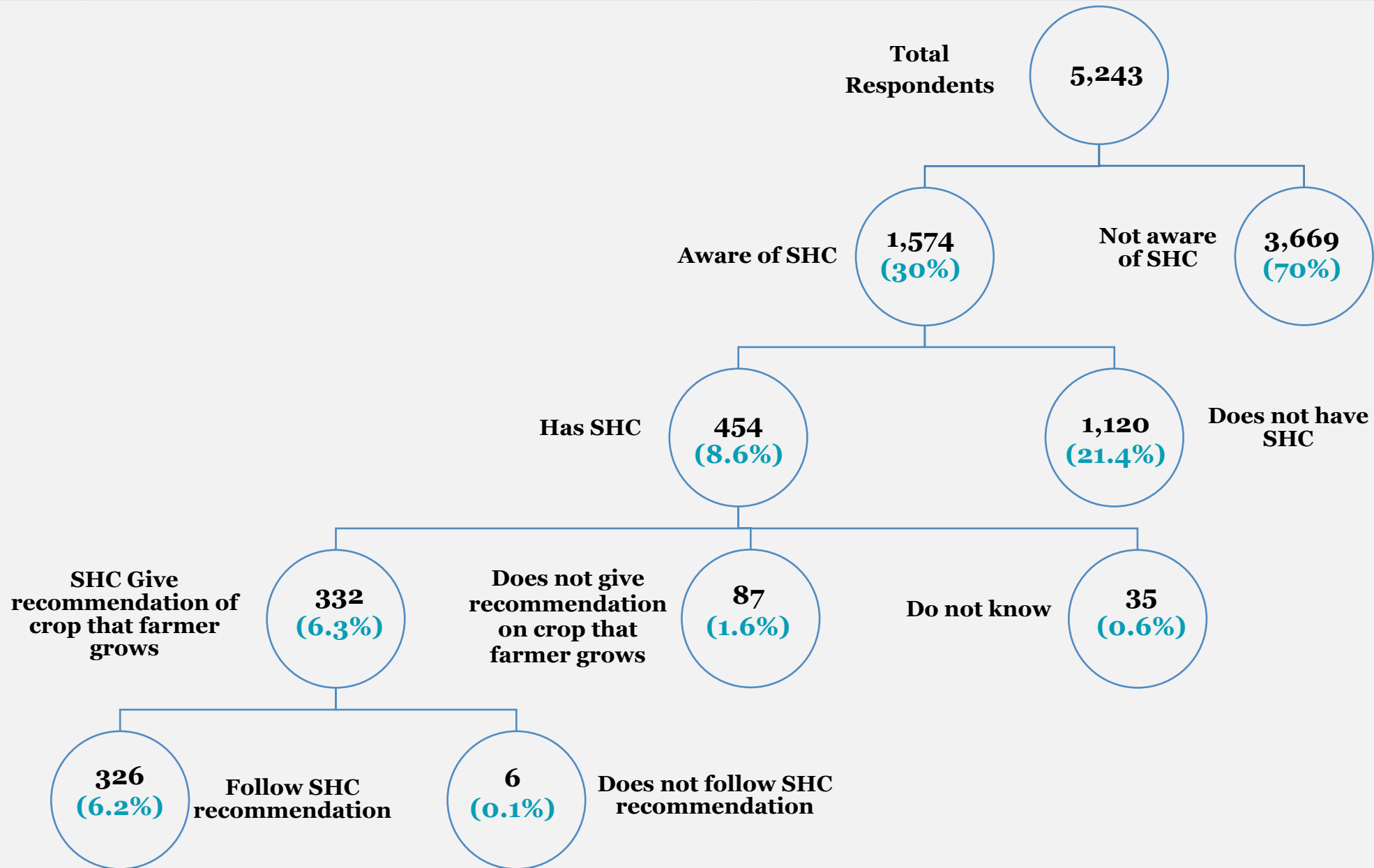
- Double check option with retailer ID while dispatching stock through MFMS

सॉयल हैल्थ
कार्ड



SOIL HEALTH CARD (SHC)

Soil Health Card



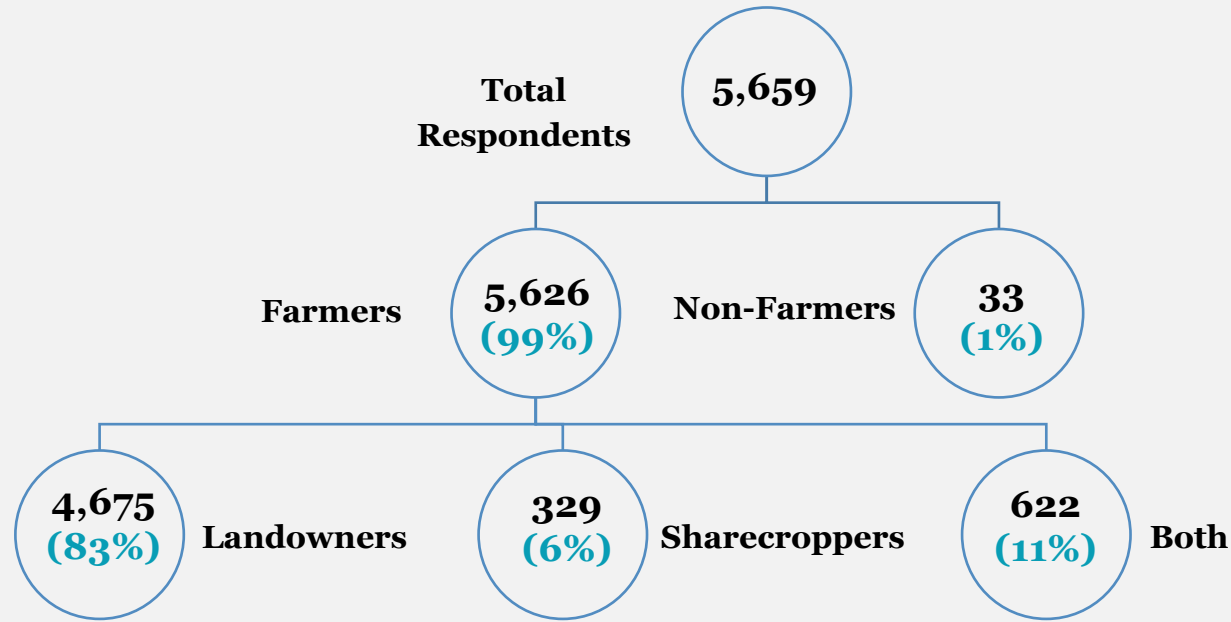


RESPONDENT PROFILE

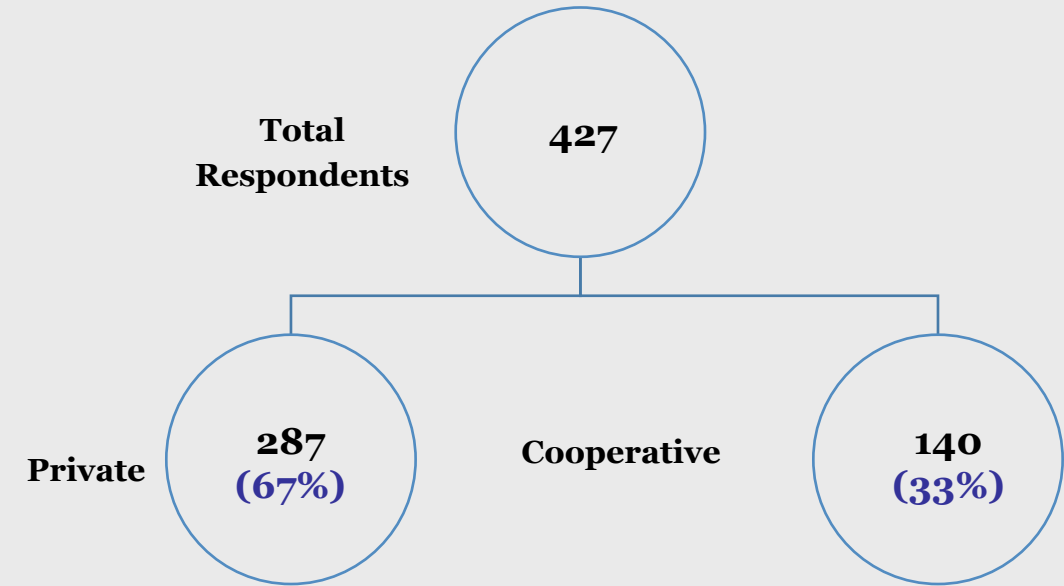
Respondent Profile



Farmer Profile



Retailer Profile



4.54 Acre –
Average land
size



32 urea bags
– average bags
purchased in a
year



99% - buy
fertiliser for
self



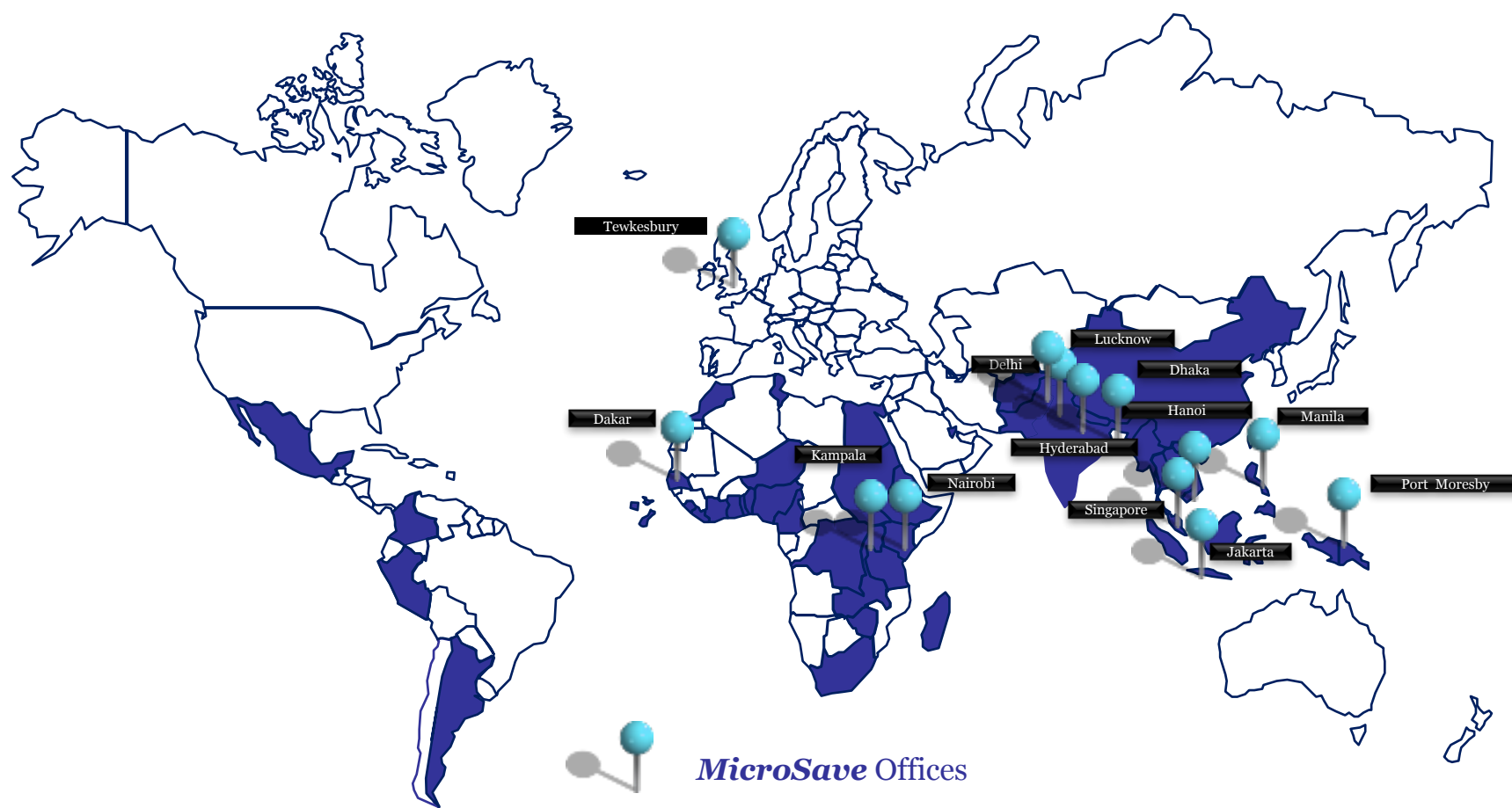
9 hours –
average a shop
remains open
in a day



**Rs.1.02
crore** –
average sales
in last one year



78% -
fertiliser sales
in cash



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