



The impact of targeted subsidies on sanitation coverage in Cambodia

Evidence from a randomized control trial

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iDE

Cambodia



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What we'll be discussing today

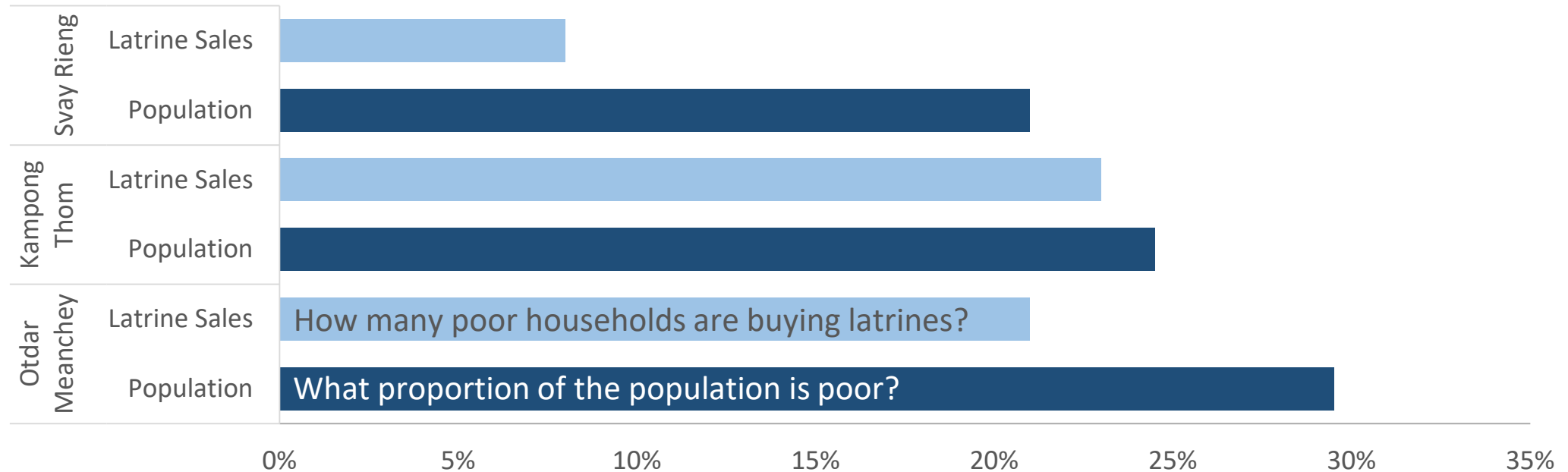
- The issues we're facing and the big questions we're trying to answer
- The study we designed to answer those questions
- Our results, and what they tell us about targeted subsidies
- How iDE intends on scaling up the use of smart subsidies in our Sanitation Marketing program in Cambodia.

The Basics of SanMark

- We work through the private sector to build markets
- We design products to context
- We train businesses to produce and distribute products
- We recruit and train independent sales agents who are paid by suppliers
- We have a fairly “hands-on” approach to sales and order management as well as supply chain management.

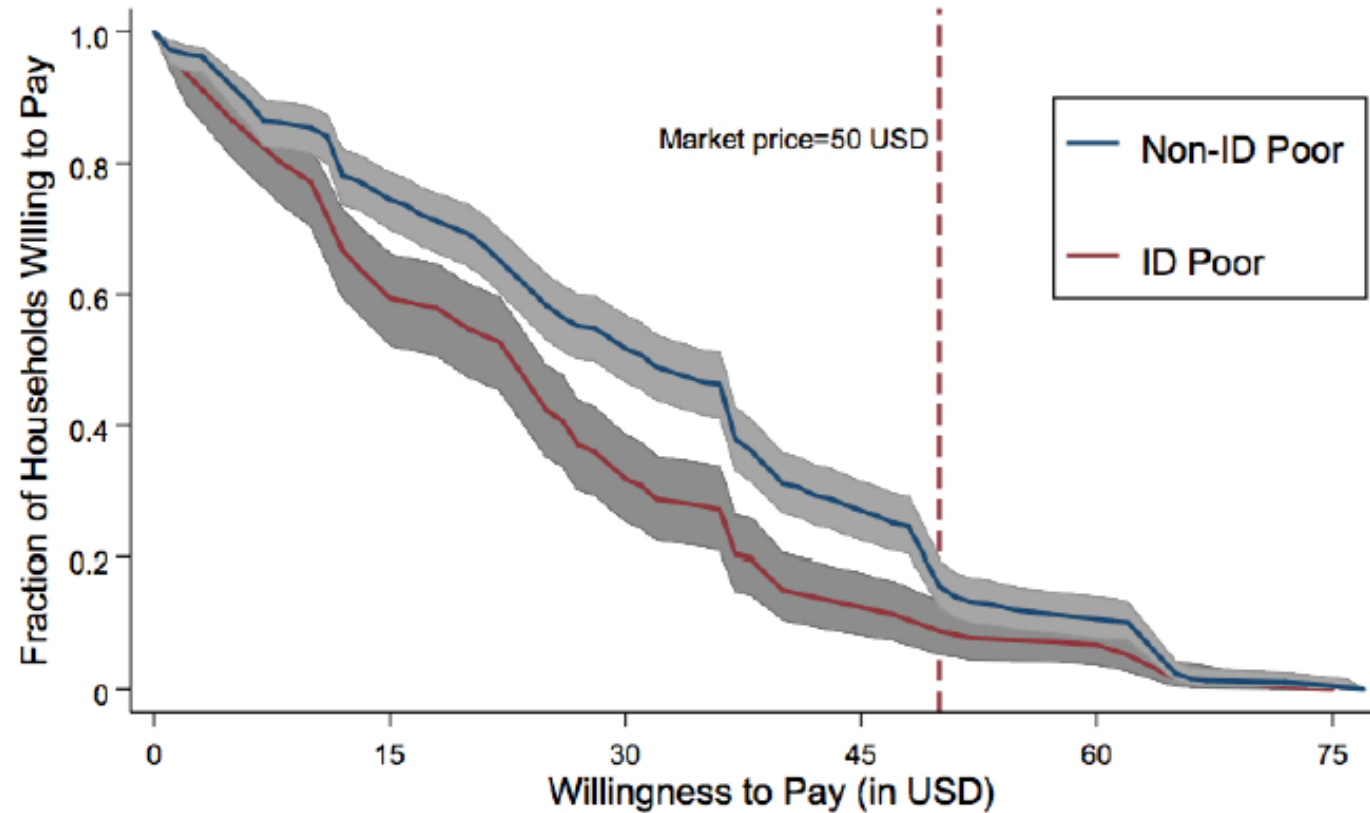
The issues we're facing

Poor HHs' share in latrine sales and in province population



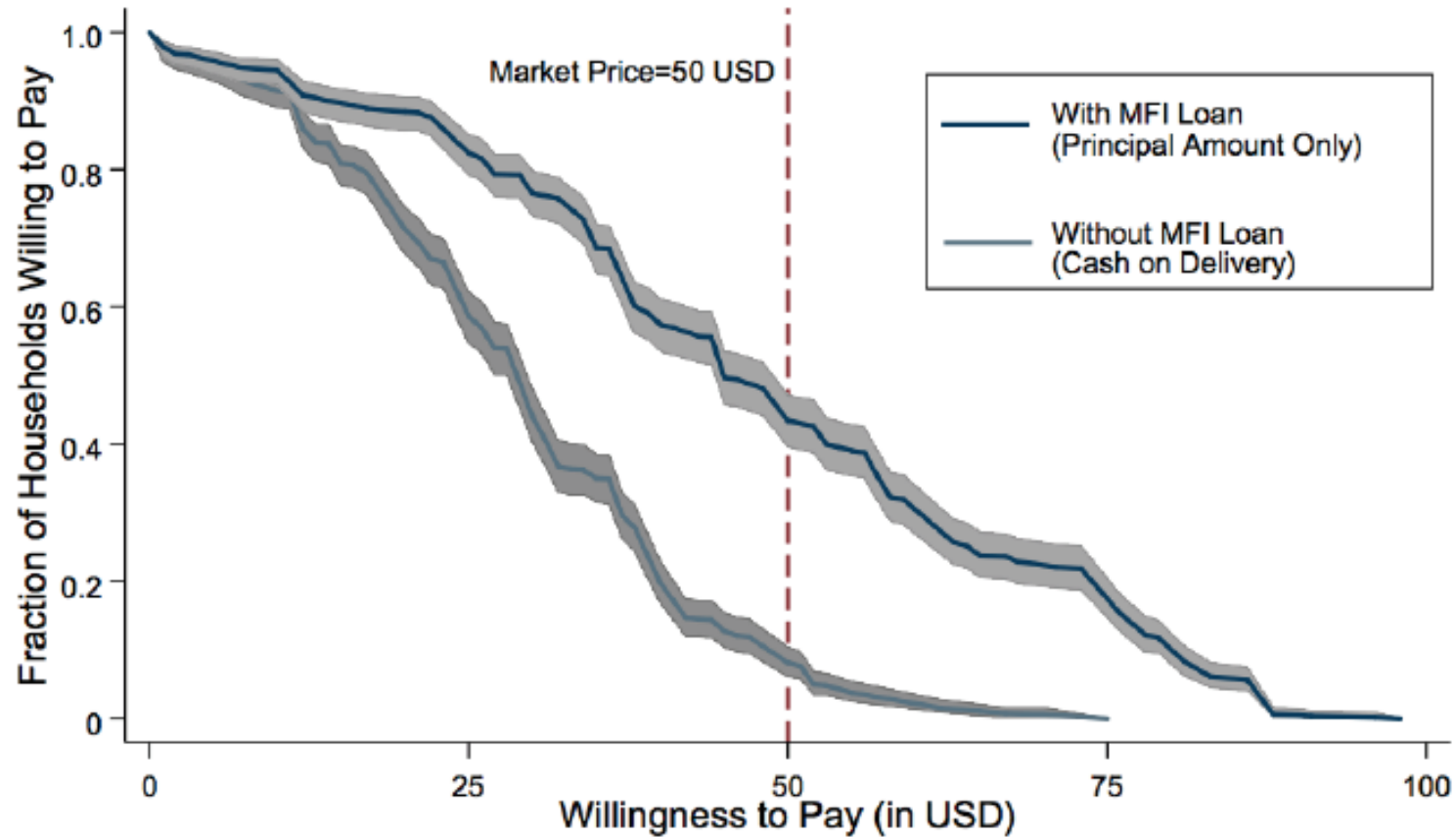
A market-based approach does not inherently establish incentives to reach the poor.

The issues we're facing



Prior market research suggests that relatively few poor households can afford latrines at market price...

The issues we're facing



...and that financing can only take us so far, especially given operational complexities surrounding finance.

Given these issues, we want to know:

1. Do targeted, partial latrine subsidies increase latrine sales to poor households?
2. Do targeted, partial latrine subsidies affect latrine sales to non-poor households?

Study mechanics: targeting the subsidy

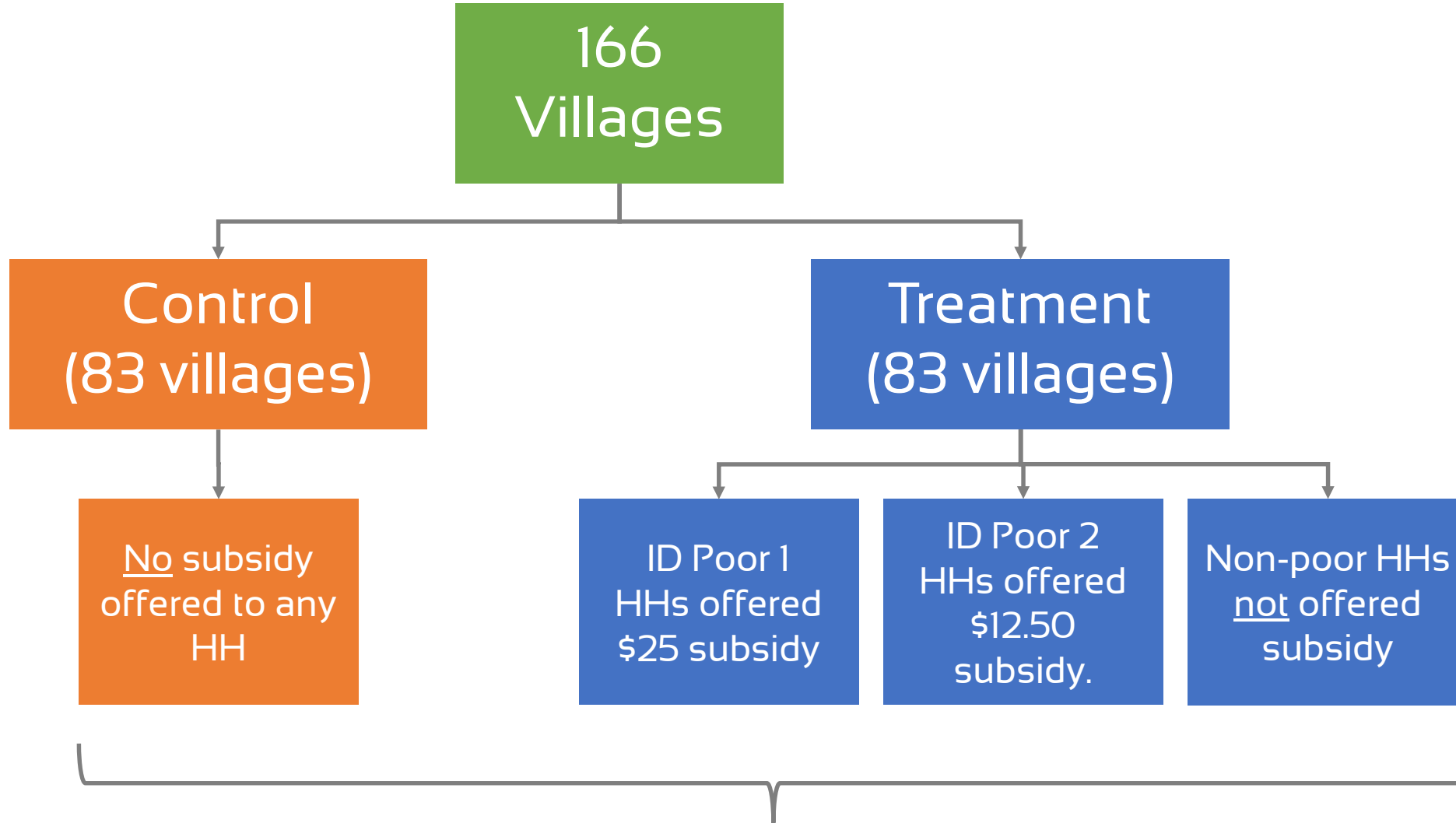
Cambodia's "ID Poor" system allows us to accurately target subsidies.

- The national government works with local government to categorize households as ID Poor 1, ID Poor 2, and Non-poor
- ID Poor households have identification cards that iDE was able to verify with local officials and the national database.
- Sales agents took photos of ID cards and uploaded directly to our management information system on Salesforce using TaroWorks.

Subsidy Amounts

- ID Poor 1 HHs → \$25 USD discount on a \$56 USD market price = 44%
- ID Poor 2 HHs → \$12.50 USD discount on a \$56 USD market price = 22%

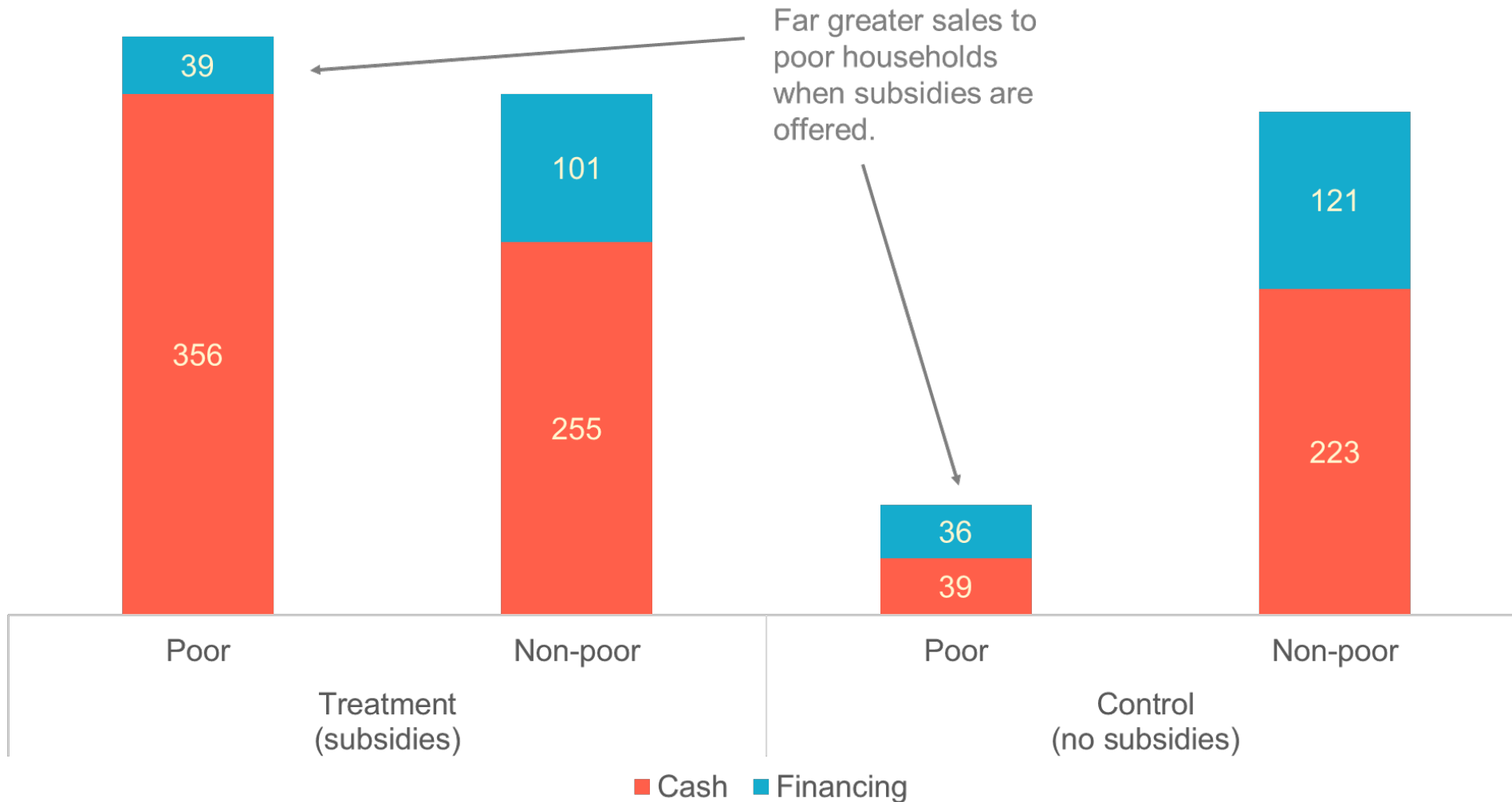
RCT study design



All HHs can pay with cash or apply for MFI loan

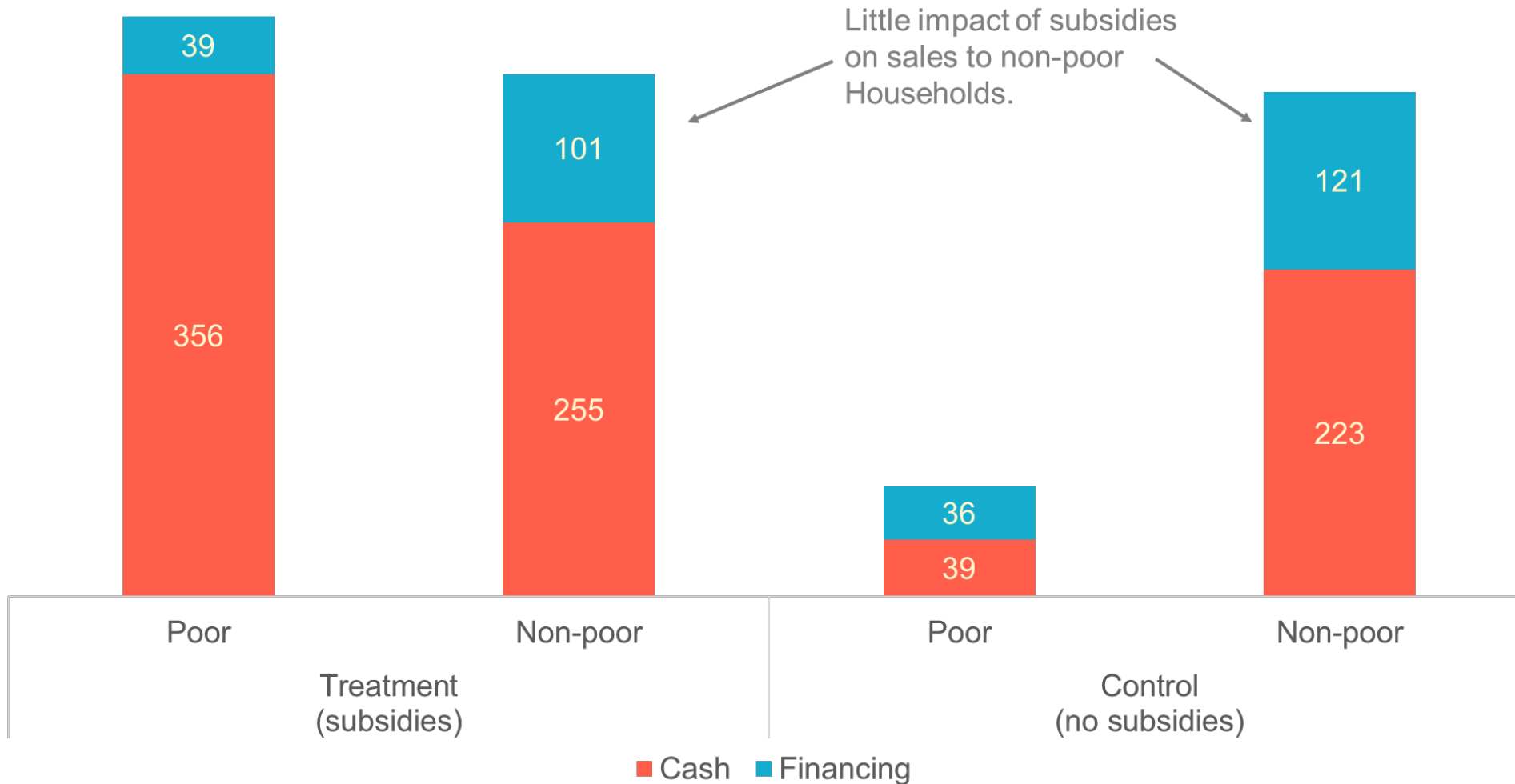
Results: Absolute sales figures

Total toilet sales by payment type and experimental group



Results: Absolute sales figures

Total toilet sales by payment type and experimental group



Results: Village-level treatment effects analysis

Outcome: Uptake rate among 'valid' households¹ : Coverage change treatment effects model²

	Non-poor	IDP 1	IDP 2	All HHs
Treatment (subsidy offer to IDP HHs)	-0.00159 (0.0403)	0.169*** (0.0586)	0.147*** (0.0499)	0.143** (0.0621)
Constant	0.283*** (0.0957)	0.0838 (0.274)	0.0841 (0.115)	0.216 (0.242)
Observations	143	140	142	150
R-squared	0.232	0.206	0.290	0.181

Robust standard errors in parentheses. [*** p<0.01, ** p<0.05, * p<0.1]

¹Valid households are those households that do not have improved sanitation, as measured by latrine census

²This table shows only truncated model results, and does not include control variables

Interpretations



Uptake increases by 16.9 and 14.7 percentage points among IDP 1 and IDP 2 households, respectively, when they are offered targeted subsidies.



Offering partial subsidy to IDP households has no statistically significant effect on the likelihood of non-poor households purchasing.



Overall uptake increases by 14.3 percentage points in villages where subsidies are offered, when compared with control villages.

Challenges & Limitations

- The study took place in a province with high coverage rates – how would results differ in different circumstances?
- High turnover of Sales Agents, requiring considerable training and oversight.
- MFI reluctance, combined with increased indebtedness resulted in very few sanitation loans.
- The ID Poor system is by no means a worldwide standard – how do we target in the absence of such systems?
- The study design may have impacted sales agent motivation to sell in control villages.

Scale Up Plans

- No longer pursuing formal sanitation finance.
- Instalment plans offered to customers by suppliers.
- Government of Cambodia adopted the recommended subsidy guidelines → coverage must be 60% before subsidy can be offered.
- Smart subsidy will be fully integrated into the existing sanitation marketing program under SMSU 3.0.
- Continue to share findings in hopes of influencing others in the sector – in Cambodia, but also in other contexts.

Takeaways

- This study provides promising evidence that targeted subsidies can increase sanitation coverage among poor households and overall.
- It also shows that well-targeted subsidies need not have market distortion effects.
- Targeted subsidies may provide a cost-effective complement to financing.

Thank you very much!

iDE would like to thank all of the project partners that helped with this research, as well as our peers at SNV, WaterSHED and East Meets West for sharing your findings with us and being so open to collaboration.

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Given these issues, we want to know:

1. Do targeted, partial latrine subsidies increase latrine sales to poor households?
2. Do targeted, partial latrine subsidies affect latrine sales to non-poor households?
3. Are targeted subsidies or sanitation financing options—or a combination of the two—the most cost-effective means of increasing latrine sales to poor households?

Results: Cost-effectiveness analysis

Cost-Effectiveness Ratio =

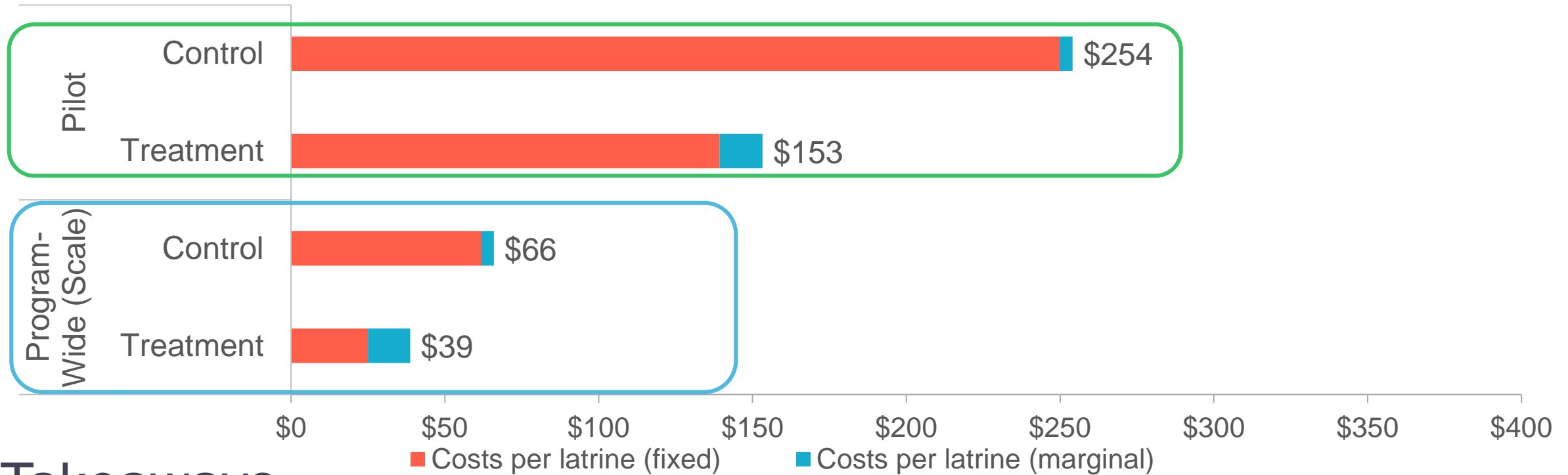
$$\frac{\text{Total Fixed Costs} + (\text{Marginal Costs} * \text{Number of Latrines Sold})}{\text{Number of Latrines Sold}}$$

Marginal Costs

Control: sales agent commissions and loan processing costs

Treatment: subsidy amount, sales agent commissions, and loan processing costs

Results: Cost-effectiveness analysis

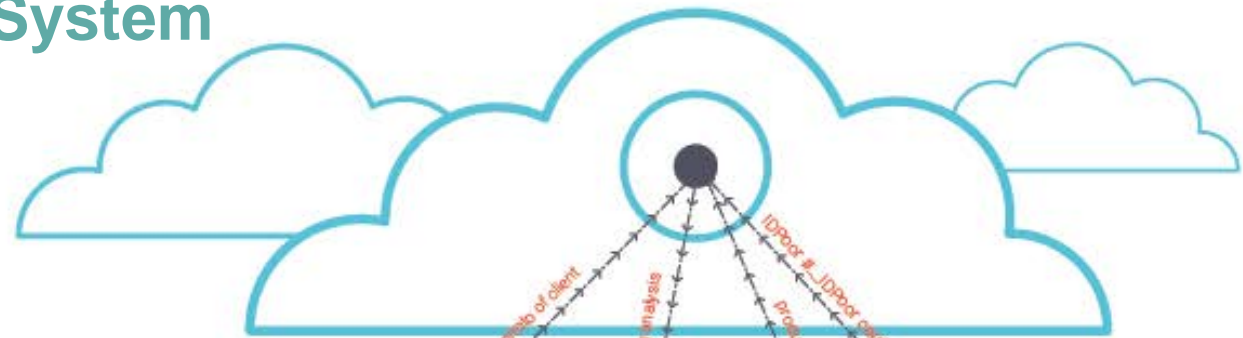


Takeaways

Higher sales in the pilot Treatment group “spread” fixed costs across a greater number of latrines, resulting in a higher cost-effectiveness ratio

If we project calculations out to a scaled version of the program, smart subsidies still look like a cost-effective way to drive increases in sanitation coverage

Data Sources – iDE’s Cloud-based Order Management System



customer details_location_order details_price_signature from client_photo of client

average order processing time_cancellation rates_backlog analysis

IDPoot #_IDPoot gold photo_actual delivery date_sample weight for 2nd stage verification



ORDER Orders are entered into Taroko's point of sale app by sales agents and entered in iDE's order application.



ASSIGN Opened orders are assigned to supply coordinators, when they are assigned to the system they are notified and send an alert to customer and producer to confirm booking.



CONFIRM Supply coordinators assess or call the local producer to confirm an agreement of order. If the producer confirms, a delivery date is set and the supply coordinator updates the order report.



DELIVER Producers record delivered tonnes on paper-based record book and the supply coordinator visits the producer weekly to update status of all orders.



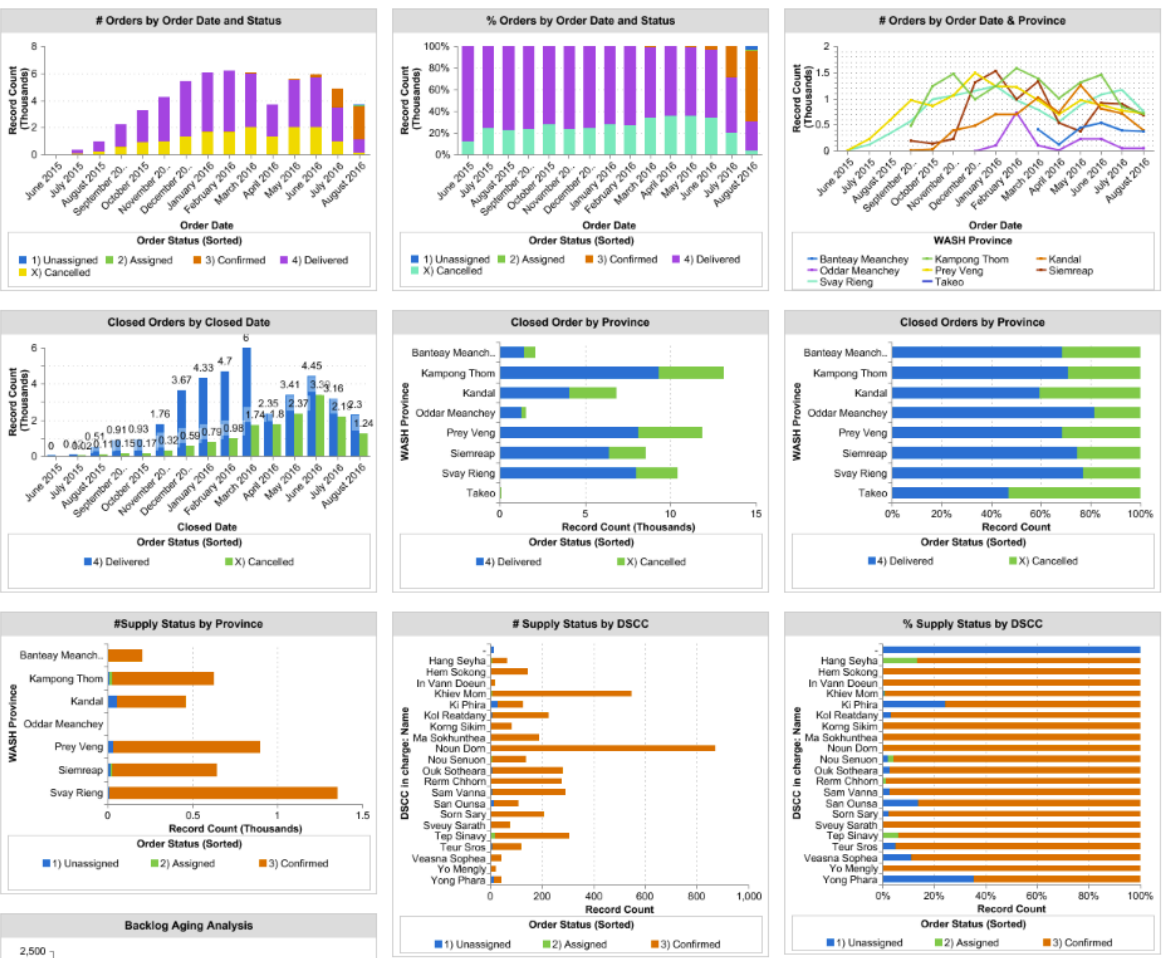
Data Sources – Data visualization and ongoing performance monitoring

Master Dashboard (Sales & Supply)

Show Feed

Find a dashboard... Edit Clone Refresh As of Two days ago at 12:54 AM

Filter By: WASH Province North DSCC South DSCC



Kandal Pilot Main Dashboard

Show Feed

Find a dashboard... Edit Clone Refresh As of Two days ago at 10:01 PM

Filter By: Control vs Treatment equals Treatment

