

# RCT Evaluation from Start to Finish: Raskin project

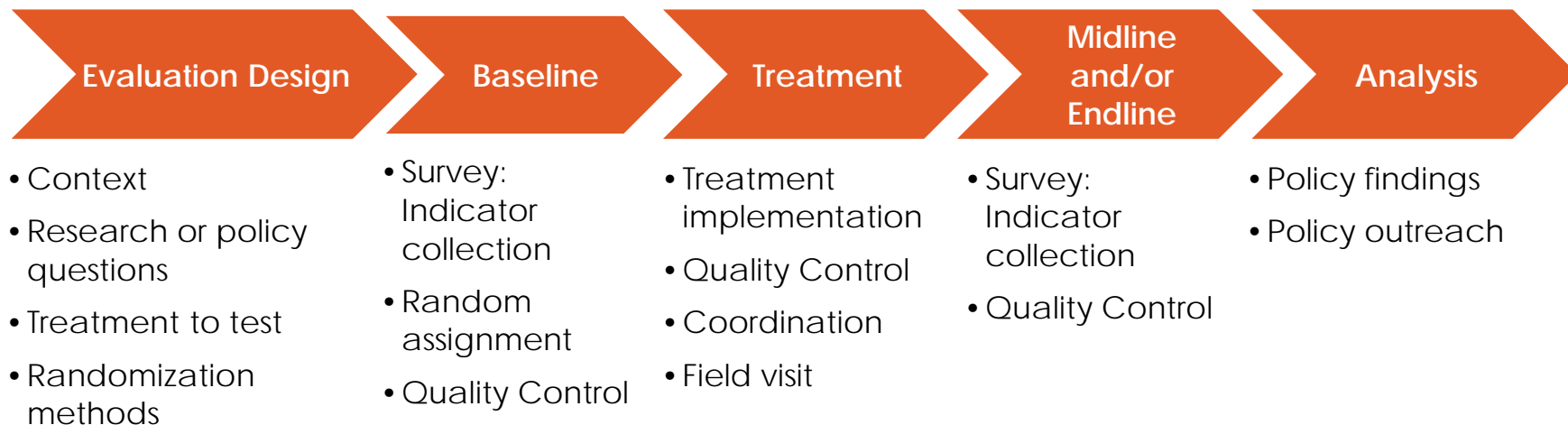
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J-PAL Southeast Asia



# Course Overview

1. What is Evaluation?
2. Outcomes, Impact, and Indicators
3. Why Randomize?
4. How to Randomize
5. Sampling and Sample Size
6. Threats and Analysis
7. Evaluation from Start to Finish
8. Evidence from Community-Driven Development, Health, and Education Programs
9. Using Evidence from Randomized Evaluations

# Evaluation flow in general



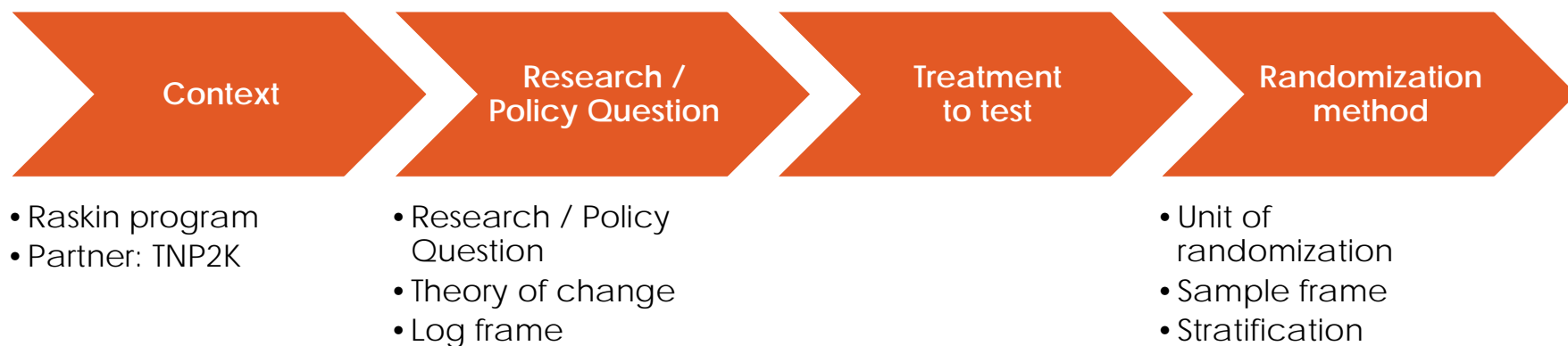
# Evaluation from Start to Finish

1. Background and Evaluation Design
2. Implementation: Treatment
3. Implementation: Data Collection
4. Analysis and Scaling up

# Evaluation Background



# Design and Background



# Design and Background



# Raskin program

- One of the largest social protection program in Indonesia
  - US \$1.5 billion annually
  - 53% of government spending for social aid (World Bank 2012)
- Providing subsidized rice to poor households
  - 15 kg of rice at Rp. 1,600 per kg
  - Target: 30% poorest RT (PPLS'11)
- Distribution run by the village officials, who pick up rice from sub-district, distribute it, and collect the co-payment



# Problems

- Targeting: 84 percent of eligible bought some rice; 67 percent of ineligible did so as well
- Leakages: comparing surveys to administrative data suggests about 23% of rice disappears
- Rice-markups: mean co-payment in our data is Rp. 2,276 per kg, instead of Rp. 1,600
- **Eligible households buy 5.3 kg/month at Rp. 2,276: 32 percent of value of intended subsidy**

# Partner: TNP2K



- Tim Nasional Percepatan Penanggulangan Kemiskinan (TNP2K; National team for the Acceleration of Poverty Reduction)
- Established by and reporting to then-Vice President Boediono
- TNP2K responsibilities:
  - To formulate evidence-based policy for increasing the effectiveness of social aid program
  - Mengordinasikan aktor-aktor pemerintahan untuk tujuan ini
- One of TNP2K priorities is to increase the quality of targeting and service delivery. Raskin belongs to Cluster 1 TNP2K.

# Design and Background



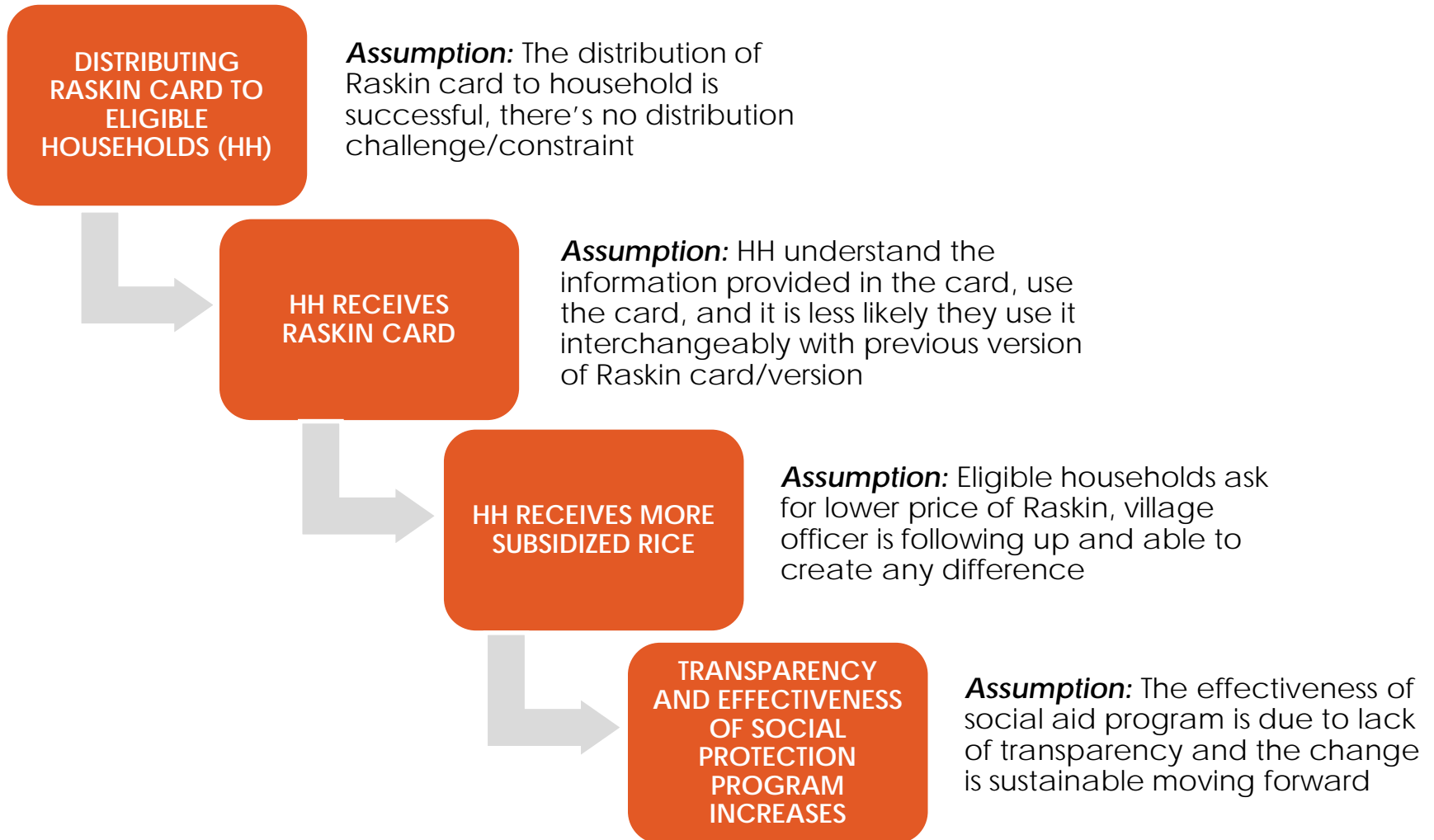
# Evaluation Objective

- To collect evidence in order to learn whether the distribution of Raskin card as proposed by TNP2K will improve the transparency and effectiveness of Raskin program

## **The pilot explore four key questions:**

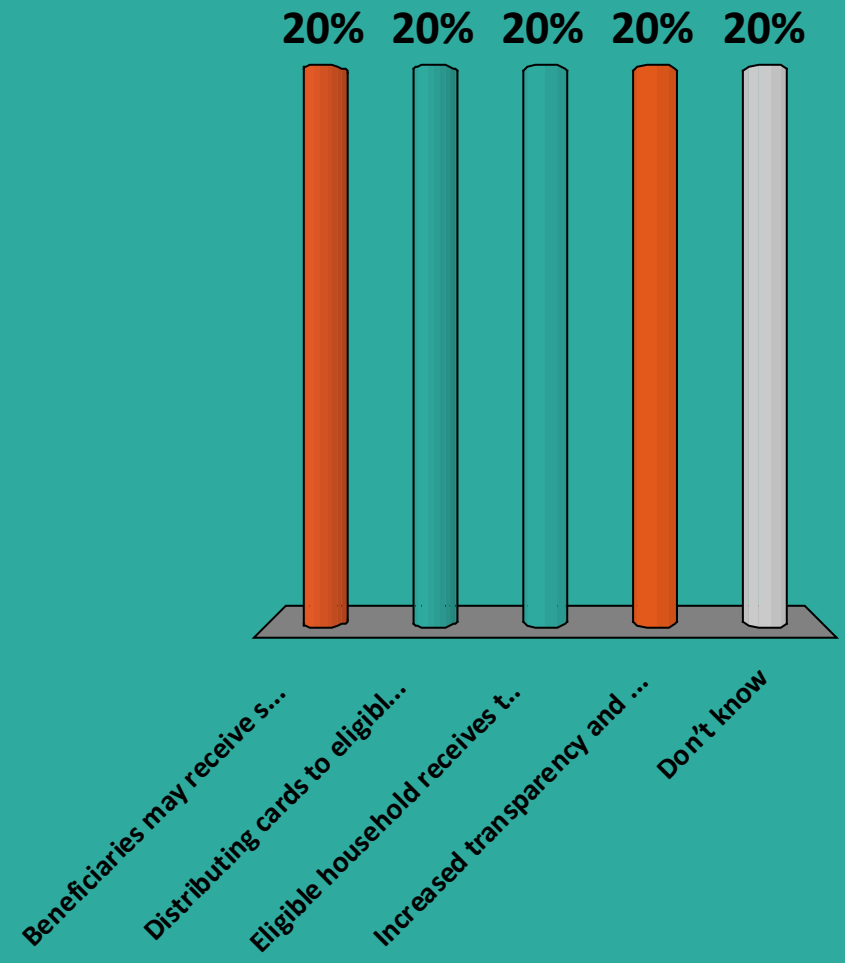
- What is the impact of providing information on both eligible and ineligible households?
- Does the information “undo” local fix of the targeting rules?
- Does the form and level of information matter?
- Is effect driven by transparency or central government accountability?

# Theory of Change



# In constructing the Log Frame, which of the following is the correct "Outcome"?

- A. Beneficiaries may receive subsidized Raskin
- B. Distributing cards to eligible household
- C. Eligible household receives the Raskin card
- D. Increased transparency and effectiveness of social distribution program
- E. Don't know



# Log Frame

	Objectives Hierarchy	Indicators	Source of Verification	Assumptions/Threats
<b>Impact (Goal/Overall Objective)</b>	Increased transparency and effectiveness of social distribution program	Quantity and price of the Raskin	Household survey	The ineffectiveness is due to lack of transparency, better implementation continues.
<b>Outcome (Project Objective)</b>	Beneficiaries may receive more subsidized Raskin	Quantity and price of the Raskin	Household survey	Eligible households ask for lower price of Raskin, village officer is following up and able to create any difference
<b>Outputs</b>	Eligible households receive Raskin card	Do eligible households receive the card?	Household survey	HH understand the information provided in the card, use the card, and it is less likely they use it interchangeably with previous version of Raskin card/version
<b>Inputs (Activities)</b>	Distributing card to eligible households	Is the card successfully delivered to eligible HH?	Household survey, administrative data from PT Pos	The distribution of Raskin card to household is successful, there's no distribution challenge/constraint

# Policy Question

## The pilot explore four key questions:

- What is the impact of providing information on both eligible and ineligible households?
- Does the information “undo” local fix of the targeting rules?
- Does the form and level of information matter?
- Is effect driven by transparency or central government accountability?



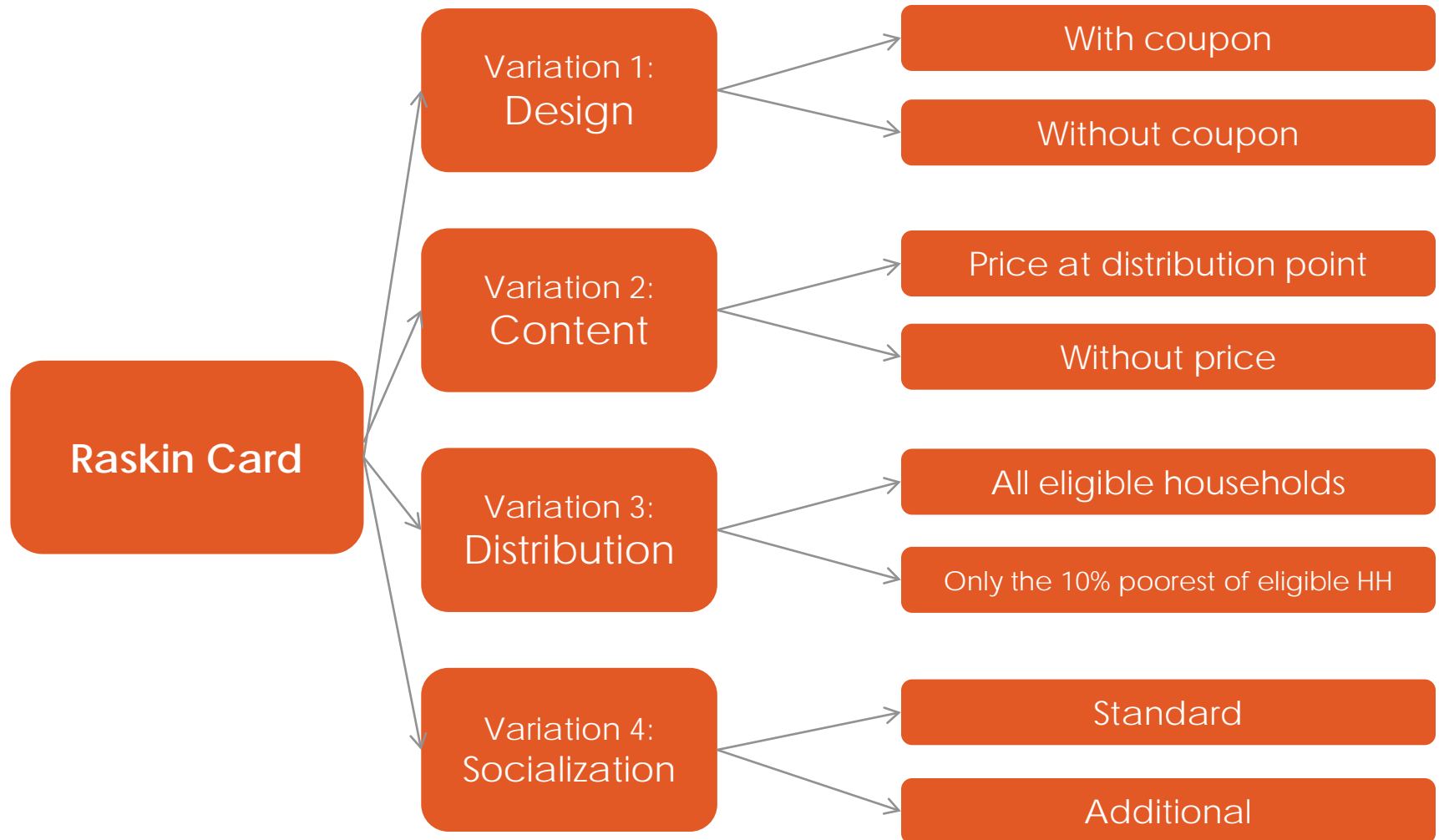
# Design and Background



# Intervention Variation

- Does the form and level of information matter?
  - What happens if you make information about who receives a card public?
  - What happens if you change the information that is printed on the card?
  - What happens if cards are only given to the very poor?
- Is effect driven by transparency or central government accountability?
  - What happens if the government requires leaders to submit back coupons for inspection?

# Intervention Summary



# Public Versus Private Information



- **Common knowledge** facilitate collective action?
  - Standard: village head gets list and one copy posted
  - Public: posted many copies of list + posters

# Raskin Card



Raskin card without coupon, with price



Raskin card with both coupon and price

# Additional Socialization Poster

**1**

**MAU BELI RASKIN?**  
**GUNAKAN KARTU RASKIN ANDA!**

**PENGUMUMAN:**

1. Rumah Tangga yang berhak membeli Raskin tercatat di Daftar Penerima Manfaat (DPM)
2. Rumah tangga tersebut akan memperoleh Kartu Raskin
3. Kartu Raskin harus dibawa saat membeli Raskin

**4**

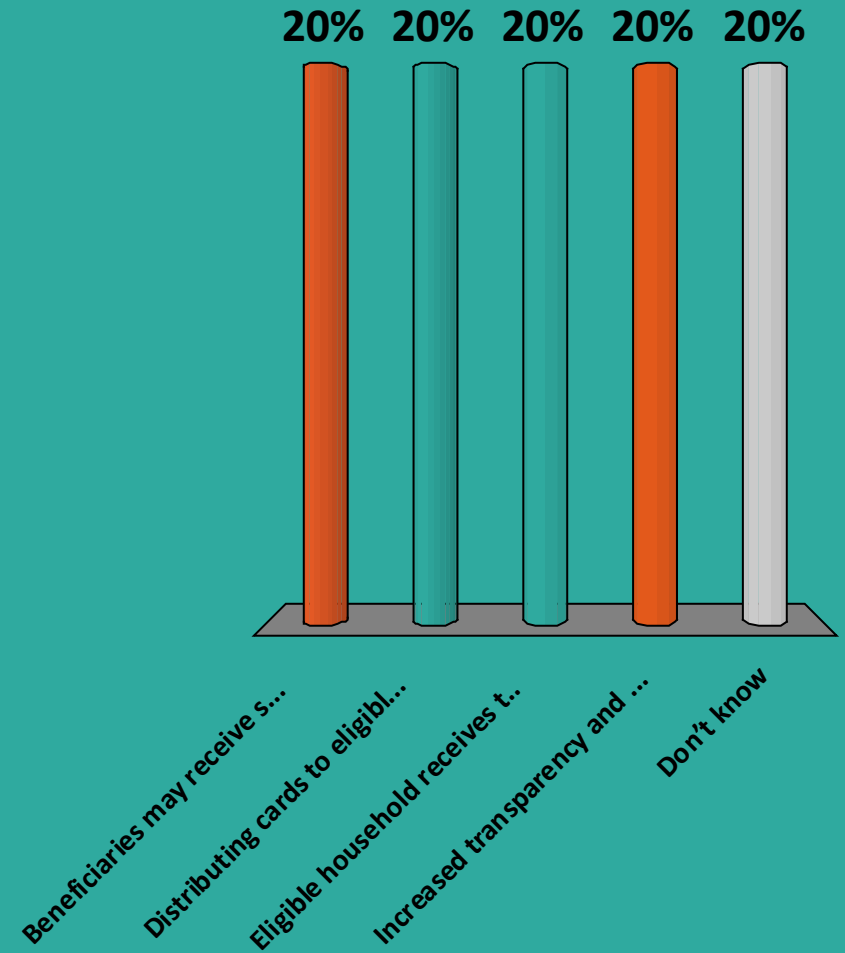
**MAU BELI RASKIN?**  
**GUNAKAN KARTU RASKIN ANDA!**

**PENGUMUMAN:**

1. Rumah Tangga yang berhak membeli Raskin tercatat di Daftar Penerima Manfaat (DPM)
2. Kelompok rumah tangga paling miskin memperoleh Kartu Raskin
3. Penerima kartu harus membawa Kartu Raskin saat membeli Raskin

# How many different interventions that we can do?

- A. 4
- B. 8
- C. 12
- D. 16
- E. Don't know

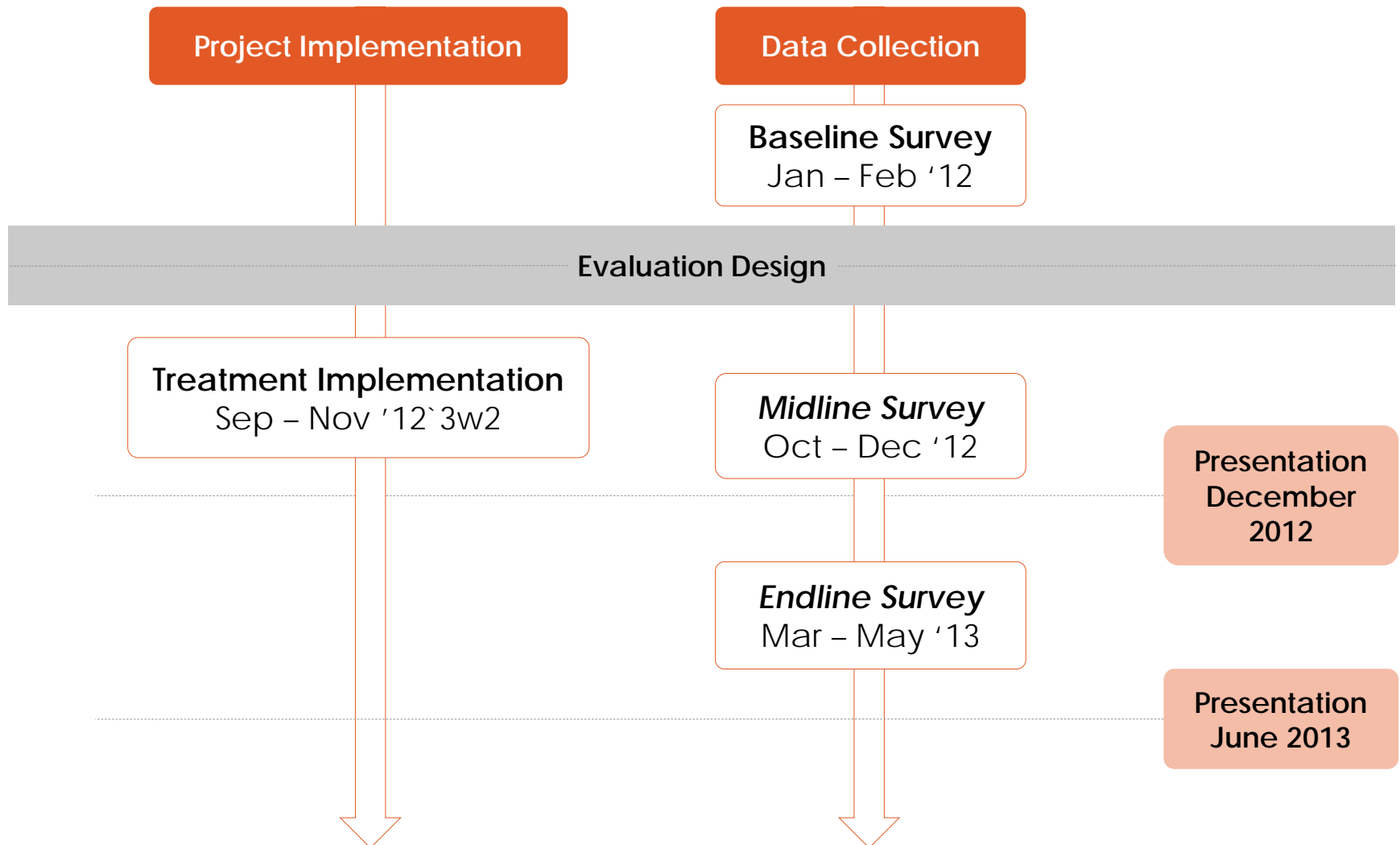


# Treatment Variation

Card variation			Standard socialization	Additional Socialization
All eligible households	With price	With coupon	Group 1	Group 2
		Without coupon	Group 3	Group 4
	Without price	Coupon	Group 5	Group 6
		Without coupon	Group 7	Group 8
Only the 10% poorest of eligible households	With price	Coupon	Group 9	Group 10
		Without coupon	Group 11	Group 12
	Without price	Coupon	Group 13	Group 14
		Without coupon	Group 15	Group 16
			Control (Without card and socialization at all)	



# Evaluation and Its Impact



# Design and Background

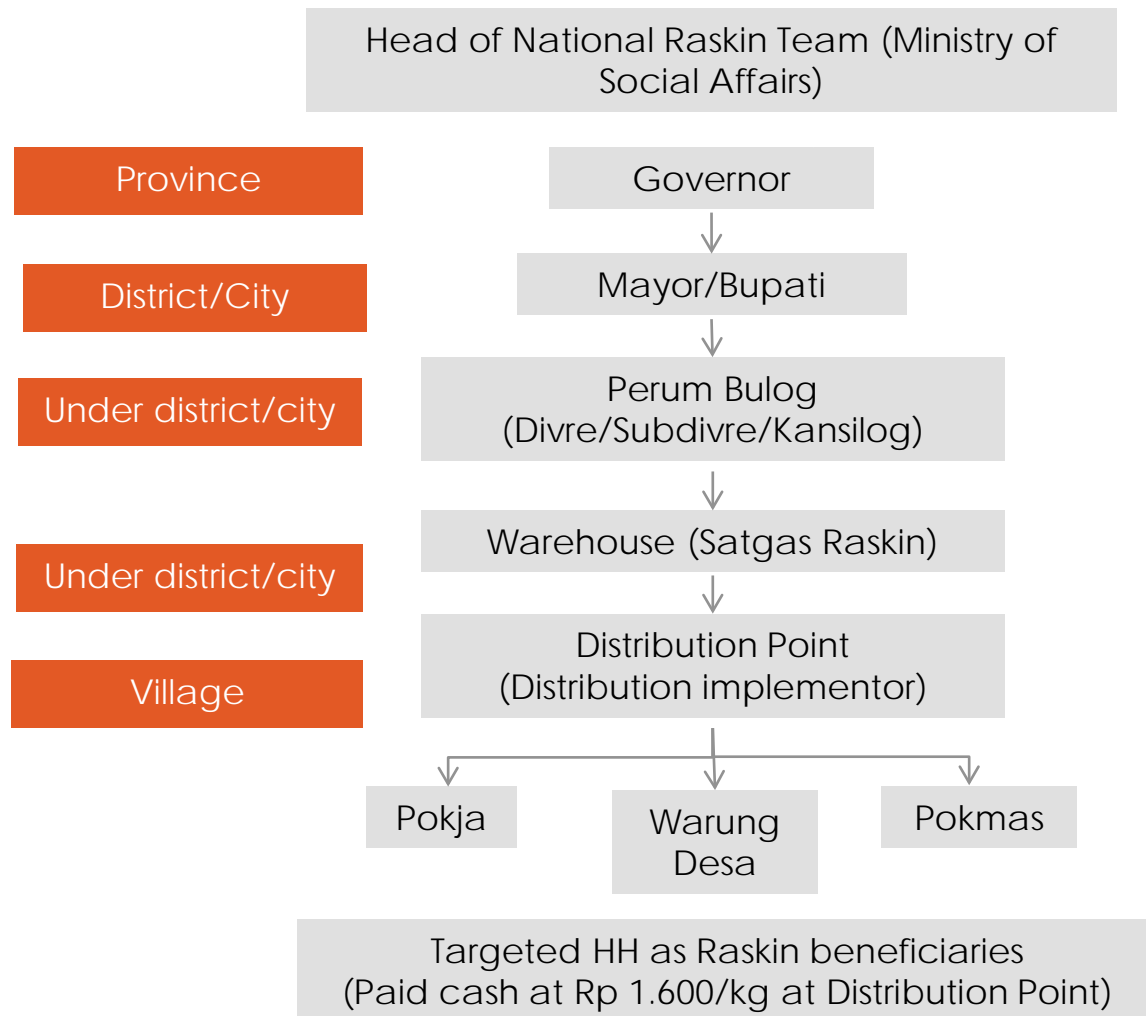


- Raskin program
- Partner: TNP2K

- Research / Policy Question
- Theory of change
- Log frame

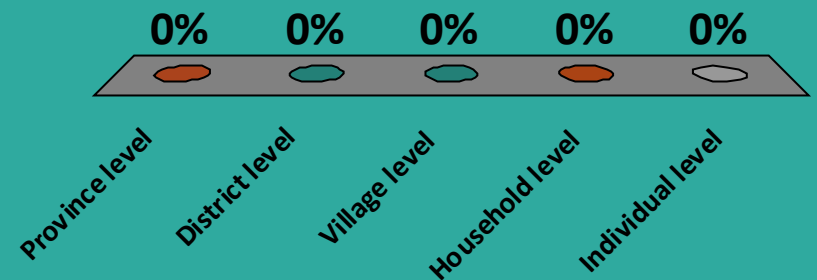
- Unit of randomization
- Sample frame
- Stratification

# Identifying Unit of Randomization



# At which level should this Raskin project be randomized?

- A. Province level
- B. District level
- C. Sub District level
- D. Village level
- E. Household level



# Sample Frame

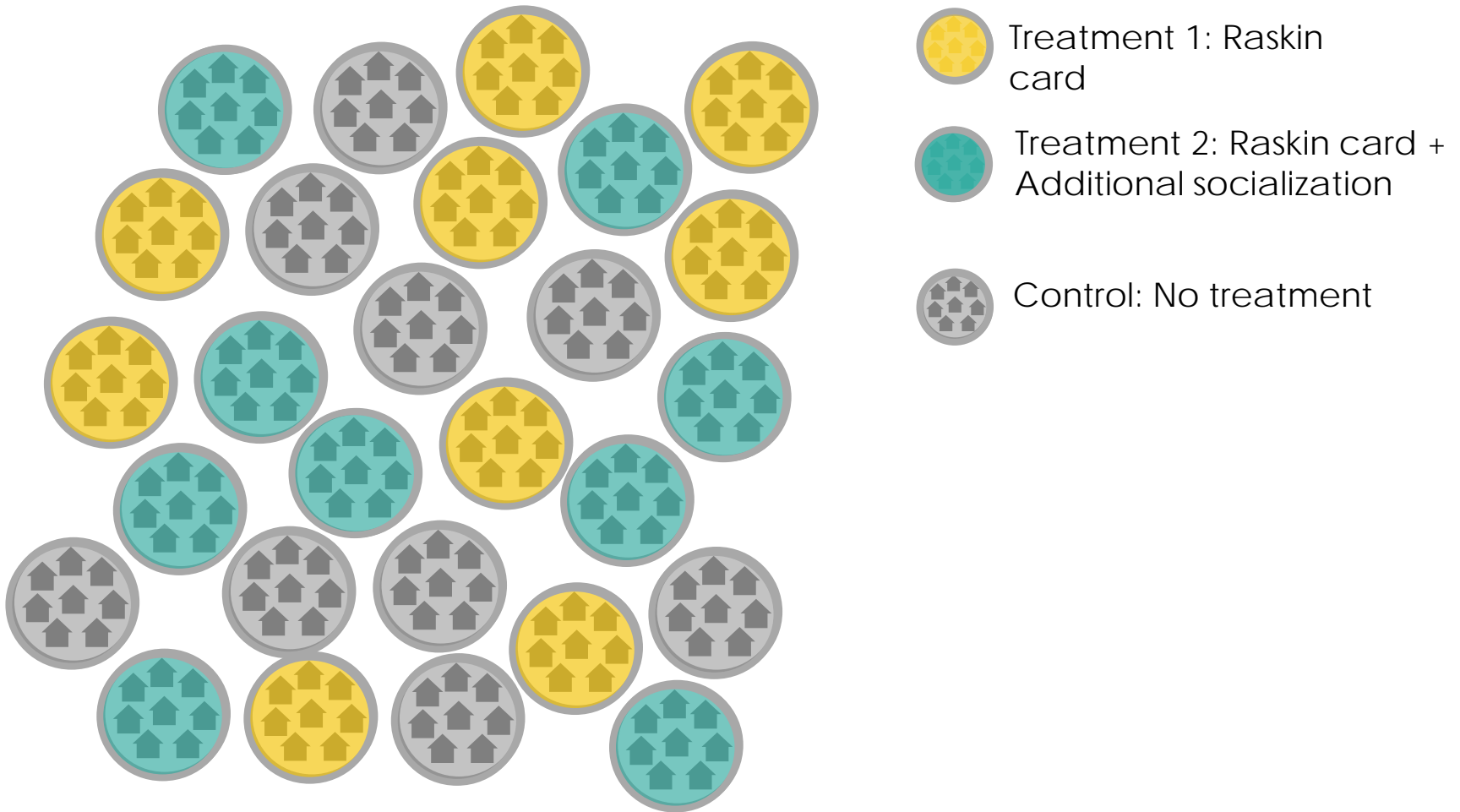
- Raskin sample is identical to previous project (Targeting II)
- 600 villages (including control village)
  - 28 is excluded from sample due to its high risk and remoteness
- 572 villages di 6 districts/cities
  - Pemalang and Wonogiri (Central Java),
  - Palembang and Ogan Komering Ilir (South Sumatera),
  - Bandar Lampung and Central Lampung (Lampung)



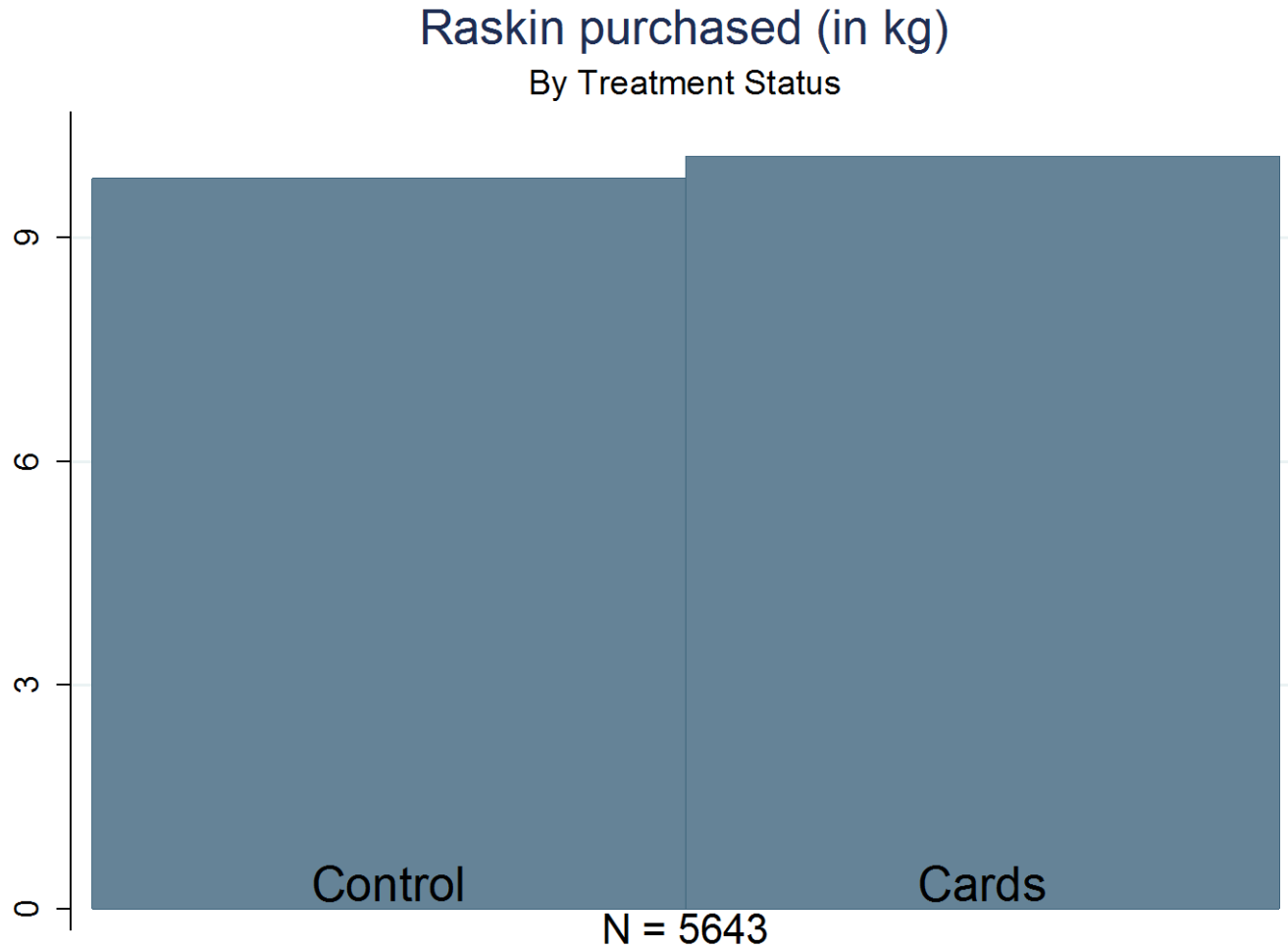
# Stratification

- The treatment is stratified based on:
  - District
  - Treatment group in Targeting II project
  - Sub-district
  - Urban to rural ratio must be at 2:3

# Illustration of Randomization



Statistically, villages who receive treatment and the control group are identical prior to pilot





Implementation: Treatment



# Implementation: Treatment



# Implementation Plan

- Identifying how to implement treatment in the field
  - Developing detailed implementation plan with facilitation specialist and government
  - Use vendor chosen by government
- Set strong internal quality management
  - Random checks during the printing of cards
  - Standards for facilitator recruitment
  - Documenting treatment implementation with standardized forms
  - Clear reporting procedure

# Implementation Plan

- Coordination with government
  - Workshop in Jakarta for representatives from province, district/city.
  - Pre-field work coordination with head of district/city, sub-district, and village
- Treatment preparation and launching
  - Scheduling, training, and logistic coordination
- Field visit: to observe response from treatment given

# Treatment variation

Card variation		Standard socialization	Additional Socialization	
All eligible households	With price	With coupon	Group 1	Group 2
		Without coupon	Group 3	Group 4
	Without price	Coupon	Group 5	Group 6
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		Without coupon	Group 11	Group 12
	Without price	Coupon	Group 13	Group 14
		Without coupon	Group 15	Group 16
		Control (Without card and socialization at all)		

# Recap: Raskin card variation

- Randomly, card is customized based on:
  - *Design*: with or without coupon
  - *Content*: with or without price
  - *Distribution*: to all eligible households or only 10% poorest

## – Distribution of Raskin card to eligible households

Sept. to mid of Oct. '12

- 378 villages received card;
- 194 control villages (did not receive card)

# Recap: Raskin card variation

Randomly, village with Raskin card receive:

- *Standard socialization*: Letter, DPM; or
- *Additional Socialization*:
  - + 3 DPM per sub-village
  - + 3 information poster per sub-village
  - Socialization to tokoh masyarakat
  - Announcement through mosque

# Recap: Raskin card variation

- End of Sept. to mid-Nov. '12
- 378 villages who receive card and socialization
  - 186 villages: Standard socialization
  - 192 villages: Additional socialization
- 194 control villages did not receive socialization

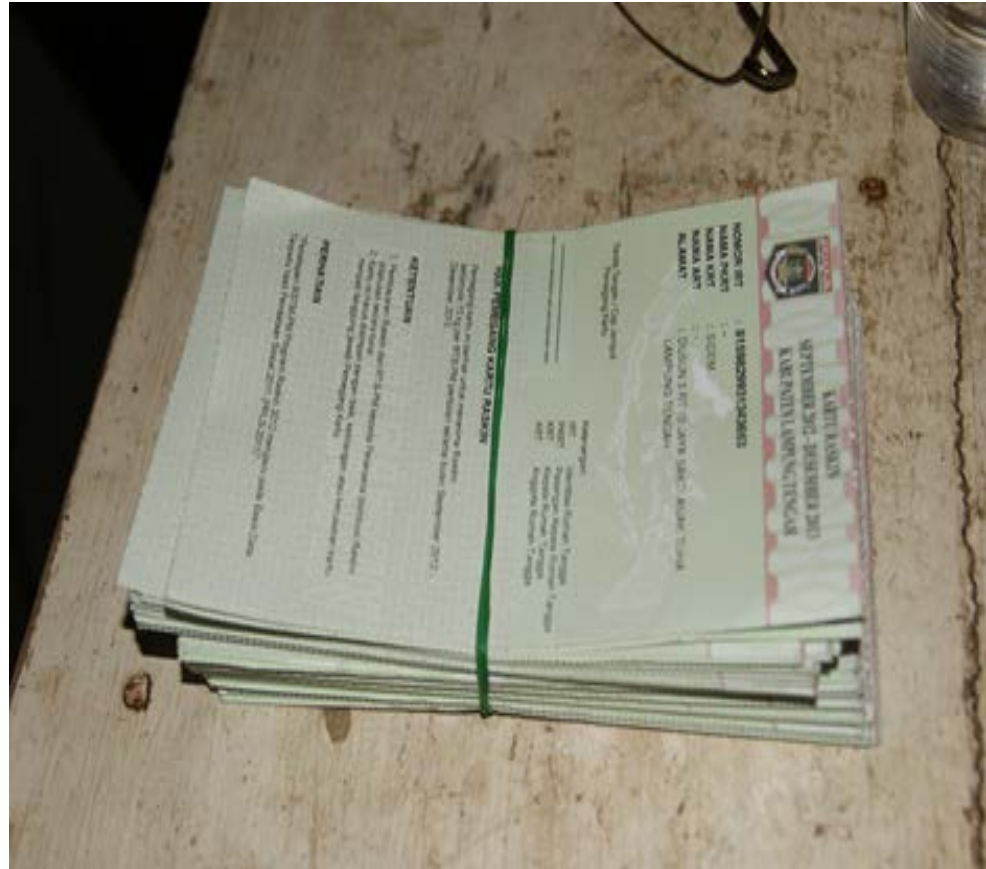


*Seorang fasilitator menjelaskan mengenai kartu Raskin kepada pemimpin kampung di Lampung Tengah*



# Challenges in Implementing Treatment

- Some treatment villages are not safe and easily accessible
- There's a lot of card who are not distributed to beneficiaries



# Challenges in Implementing Treatment

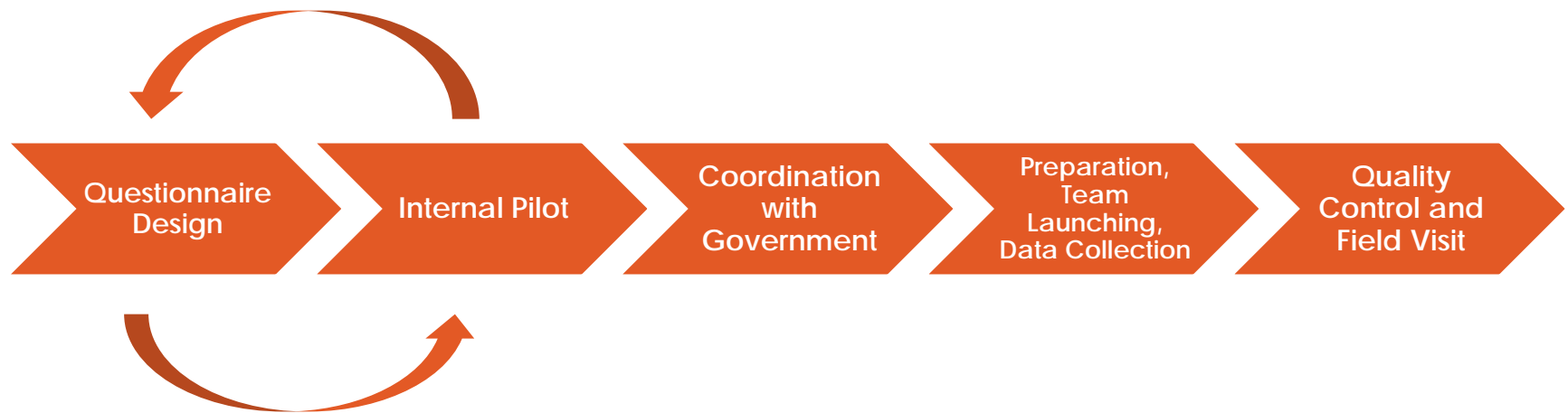
- The availability of poster explaining the beneficiaries list was not sufficient for facilitators
- During the meeting, participants were complaining on other aspect of the Raskin/government



# Implementation: Data Collection



# Implementation: Data Collection



# Data Collection Plan

- Survey instrument: HH survey and people
- Baseline survey—use *endline survey* from previous project
  - Ensure that both treatment and control group are statistically indifferent
- Respondent identification
  - Respondent:
    - Eligible households (poor)
    - Eligible households (extremely poor/10% poorest)
    - Ineligible households
  - *Listing*, to identify ineligible households
  - Use PPLS' 10 data, to identify eligible households

# Challenges in Data Collection

- To match administrative data and field data
  - *Human error*, change of poverty status/address
- To accommodate change in administrative area i.e. new province/district
- Time constraint
- To collect enough human resource to collect data
- Other challenges: how can respondent recall the memory? How to explain “Distribution Point”?

# Data Collection

Survey	Sumber	Responden	Data yang dikumpulkan
<b>Baseline</b> 2011	Endline from Targeting II, previous project	PKH recipient, non-poor	Main objective: to ensure control and treatment group are statistically indifferent
<b>Midline</b> Oct-Dec '12	5,148 HHs, through HH survey and community survey (target: Head of village)	Non-poor, eligible HHs (poor and non-poor)	Quantity and price of Raskin purchased, knowledge about Raskin program, satisfaction rate, HH consumption, relative wealth level, etc.
<b>Endline</b> Mar-May '13	6,292 HHs, through HH and community survey	<i>Ibid</i>	<i>Ibid</i>

# Challenges in Program Evaluation

- **Attrition:** when evaluator failed to collect data from selected individuals as part of original sample
  - *Midline:* 9% was replaced (418/4,572), *Endline:* 9.8% (561/5,706)
  - Respondent change was integrated within data collection process
  - Excluded 28 villages from evaluation



DAFTAR SAMPLE - SUMSEL

[A-D]-E C-3

Sample A	Donor	Iqur	BBGD	u1a1	u1a2	u1a3	Nama KRT	Nama PERT	Alamat	Informa	Kelurahan	Desa	U
	12345	Sampled B1	123456783	Dusun B3	Rw B4	RT B2	XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
	12345	Sampled B2	123456783	Dusun B3	Rw B4	RT B2	XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
	12345	Sampled B3	123456783	Dusun B3	Rw B4	RT B2	XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
	12345	Replacement B1	123456783	Dusun B3	Rw B4	RT B2	XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
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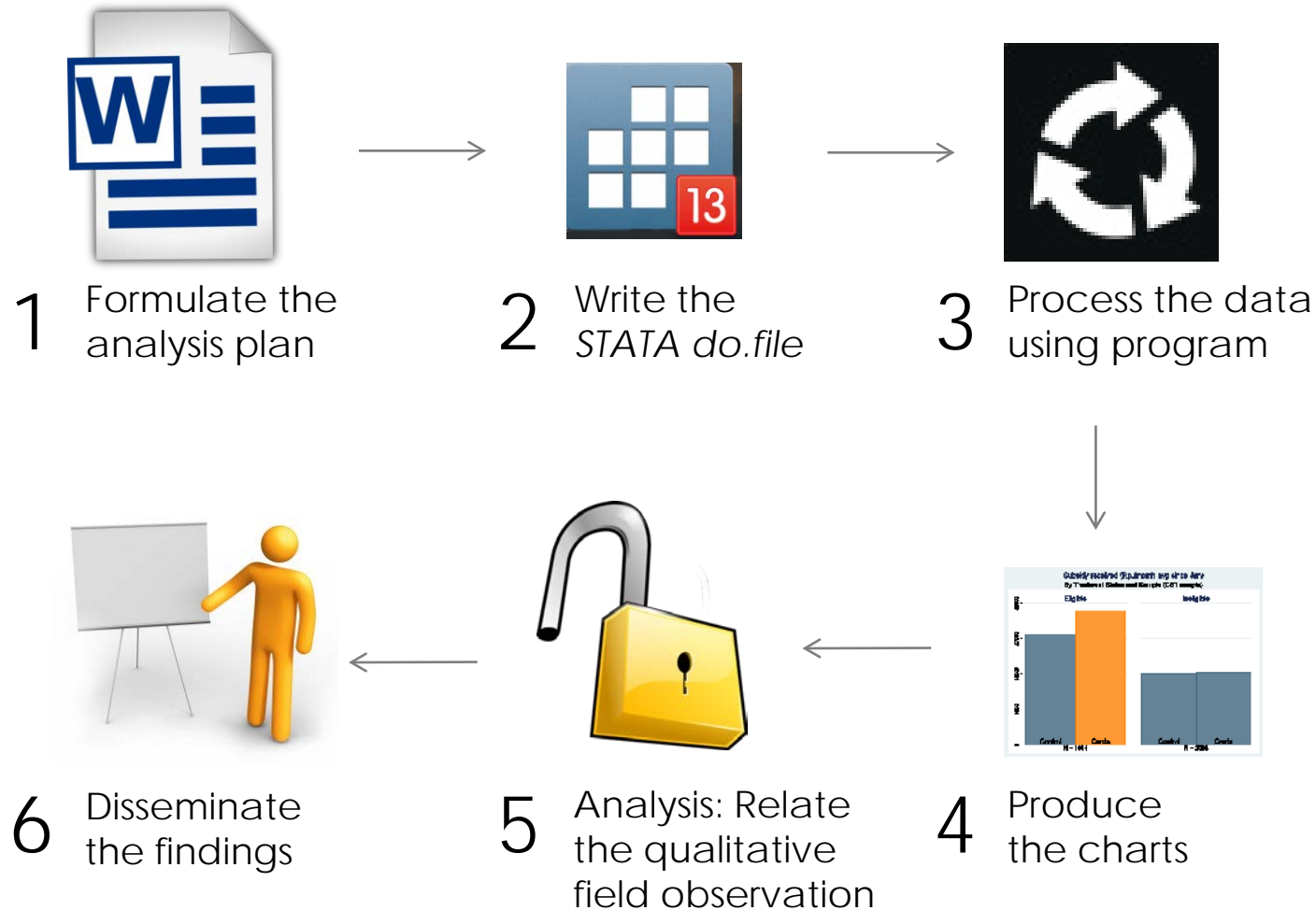
Sample B	Donor	Iqur	BBGD	u1a1	u1a2	u1a3	Nama KRT	Nama PERT	Alamat	Informa	Kelurahan	Desa	Instruksi	U
	12345	Sampled B1	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	Periksa SL5!	
	12345	Sampled B2	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	Periksa SL5!	
	12345	Sampled B3	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	Periksa SL5!	
	12345	Replacement B1	123456783	Dusun B3	Rw B4	RT B2	XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	Periksa SL5!	
	12345	Replacement B2	123456783	Dusun B3	Rw B4	RT B3	XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	Periksa SL5!	
	12345	Replacement B3	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	Periksa SL5!	
	12345	Replacement B4	123456798	Dusun B4	Rw B5		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456798	Periksa SL5!	
	12345	Replacement B5	123456791	Dusun B5	Rw B6		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456791	Periksa SL5!	
	12345	Replacement B6	123456792	Dusun B6	Rw B7		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456792	Periksa SL5!	
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Sample C	Donor	Iqur	BBGD	u1a1	u1a2		Nama KRT	Nama PERT	Alamat	Informa	Kelurahan	Desa	U
	12345	Sampled B1	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
	12345	Sampled B2	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
	12345	Sampled B3	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
	12345	Replacement B1	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
	12345	Replacement B2	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
	12345	Replacement B3	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
	12345	Replacement B4	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
	12345	Replacement B5	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
	12345	Replacement B6	123456783	Dusun B3	Rw B4		XXXXXXXX	YYYYYYY	222222	AAAAAAA	DDDDDDDD	123456783	
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Analysis



# Analysis



# Preliminary Result

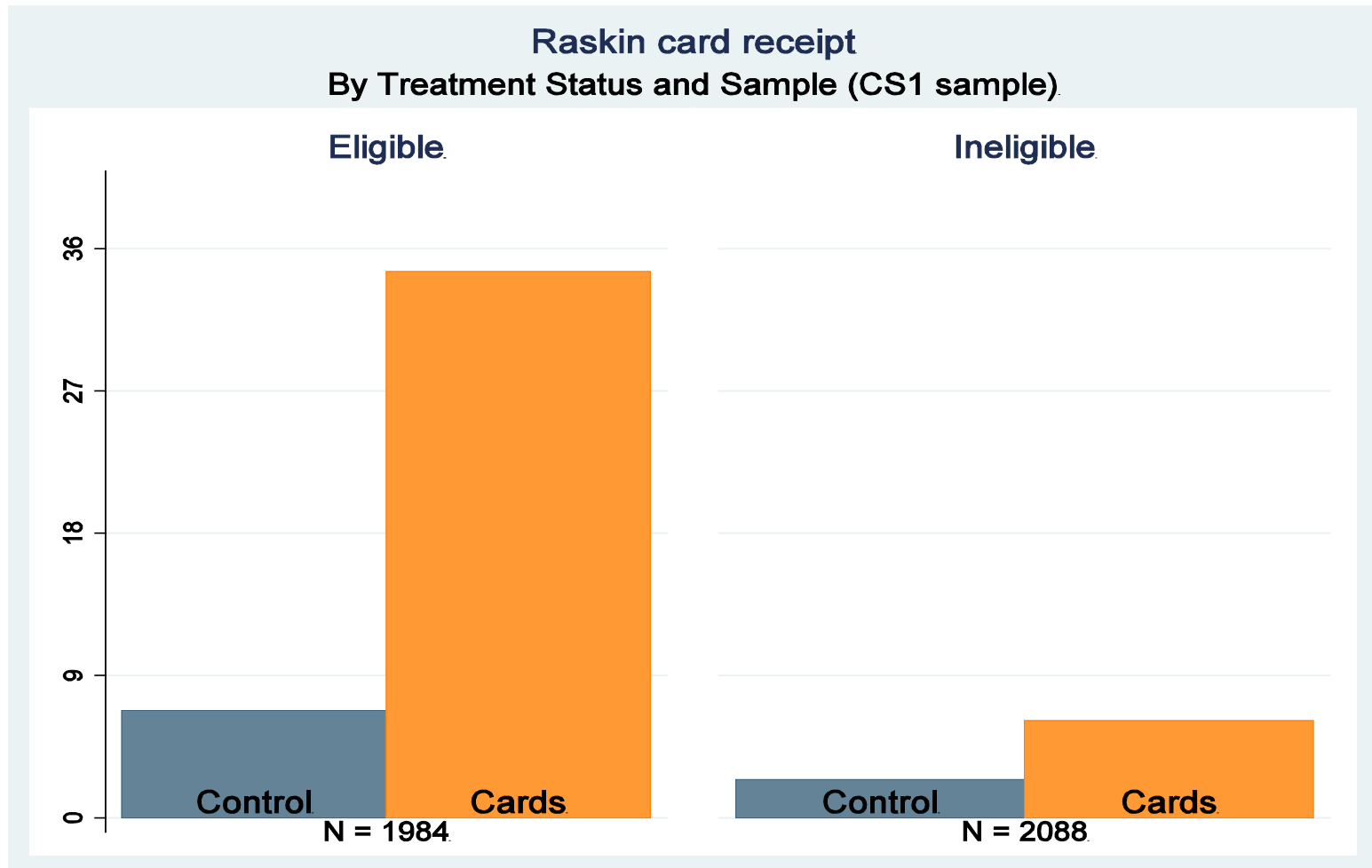
# Empirical Analysis

$$\text{Outcome} = \beta_0 + \beta_1 \text{Treatment} + \varepsilon$$

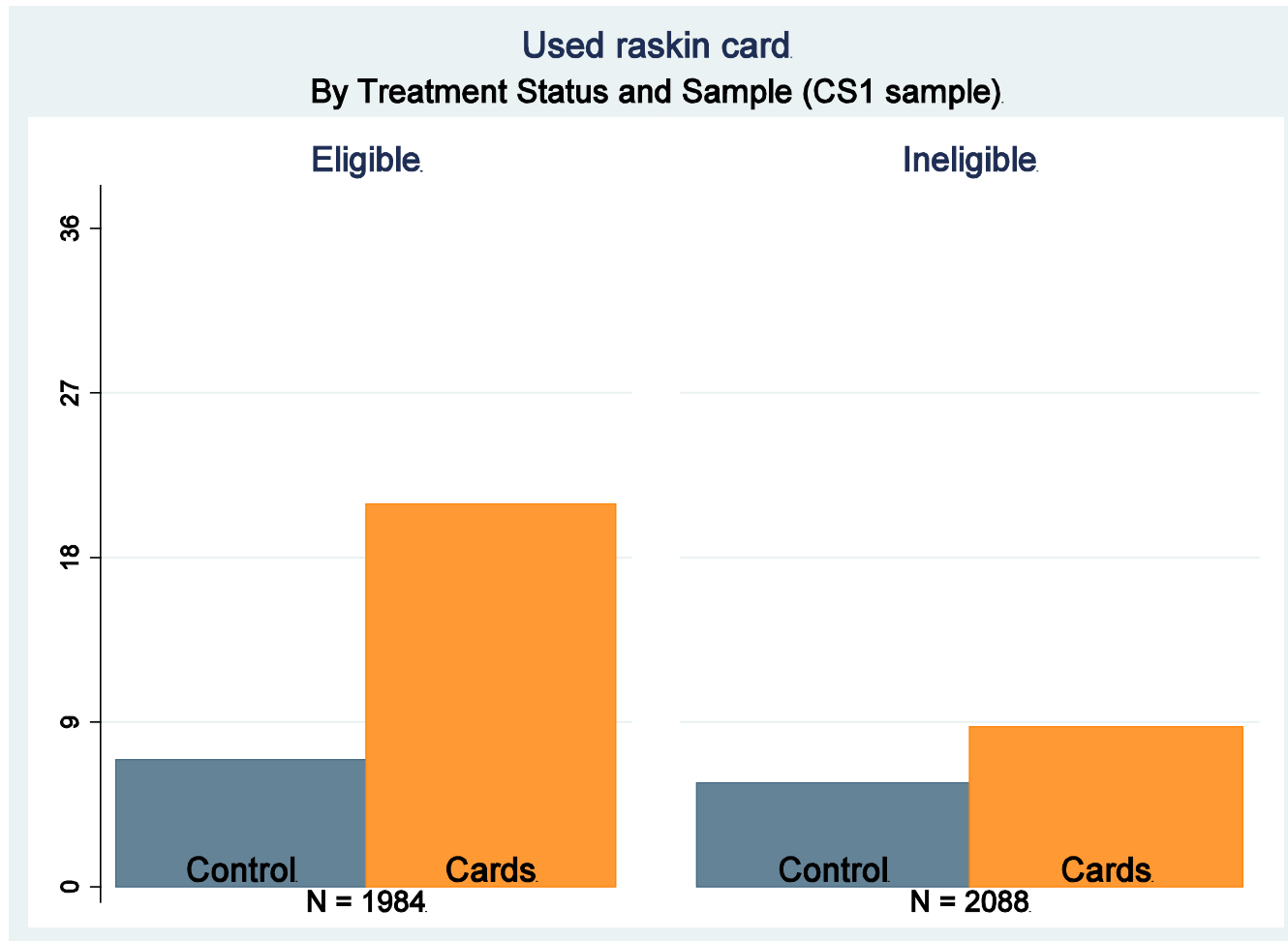
- Pre-analysis plan for government
- All analysis is intent to treat
- Conduct analysis separately by eligibility status
- Cluster by village
- Randomization check confirms balance

# Effects on Card Distribution

# Increase in receipt of Raskin card by eligible by 27 percentage points



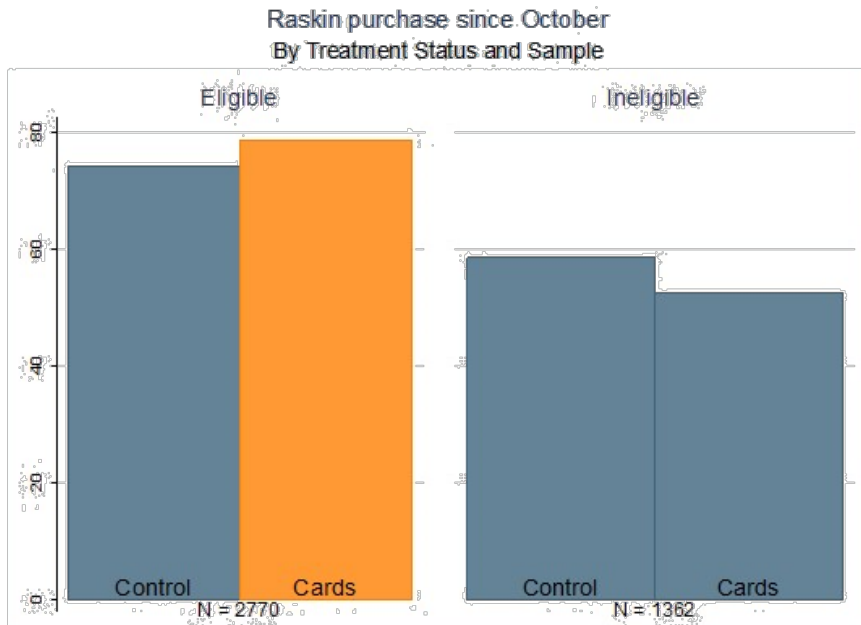
# Increase in usage of Raskin card by eligible by 14 percentage points



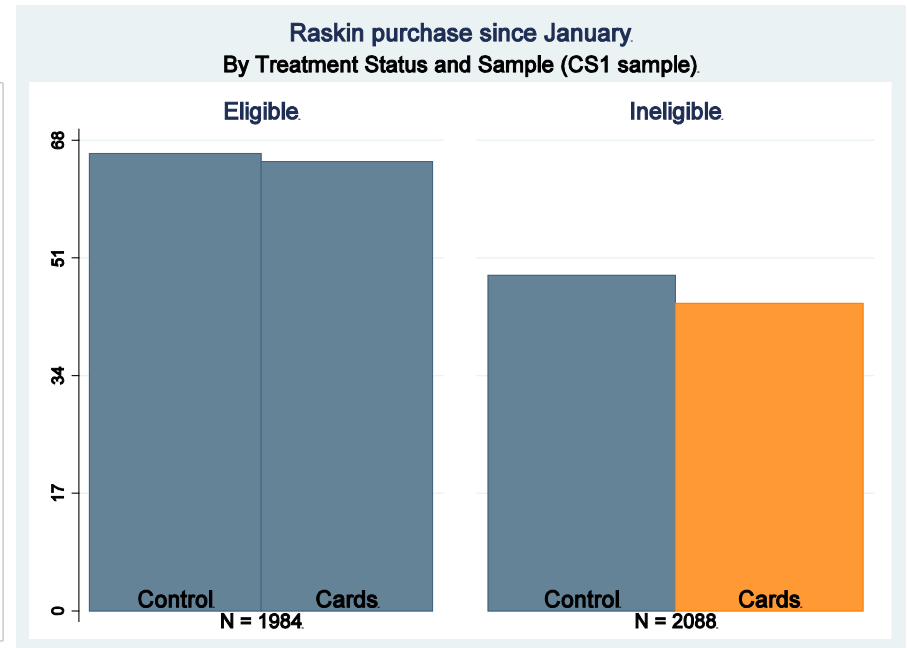


# Cards decrease purchase of Raskin by ineligible, no longer increase purchase by eligible

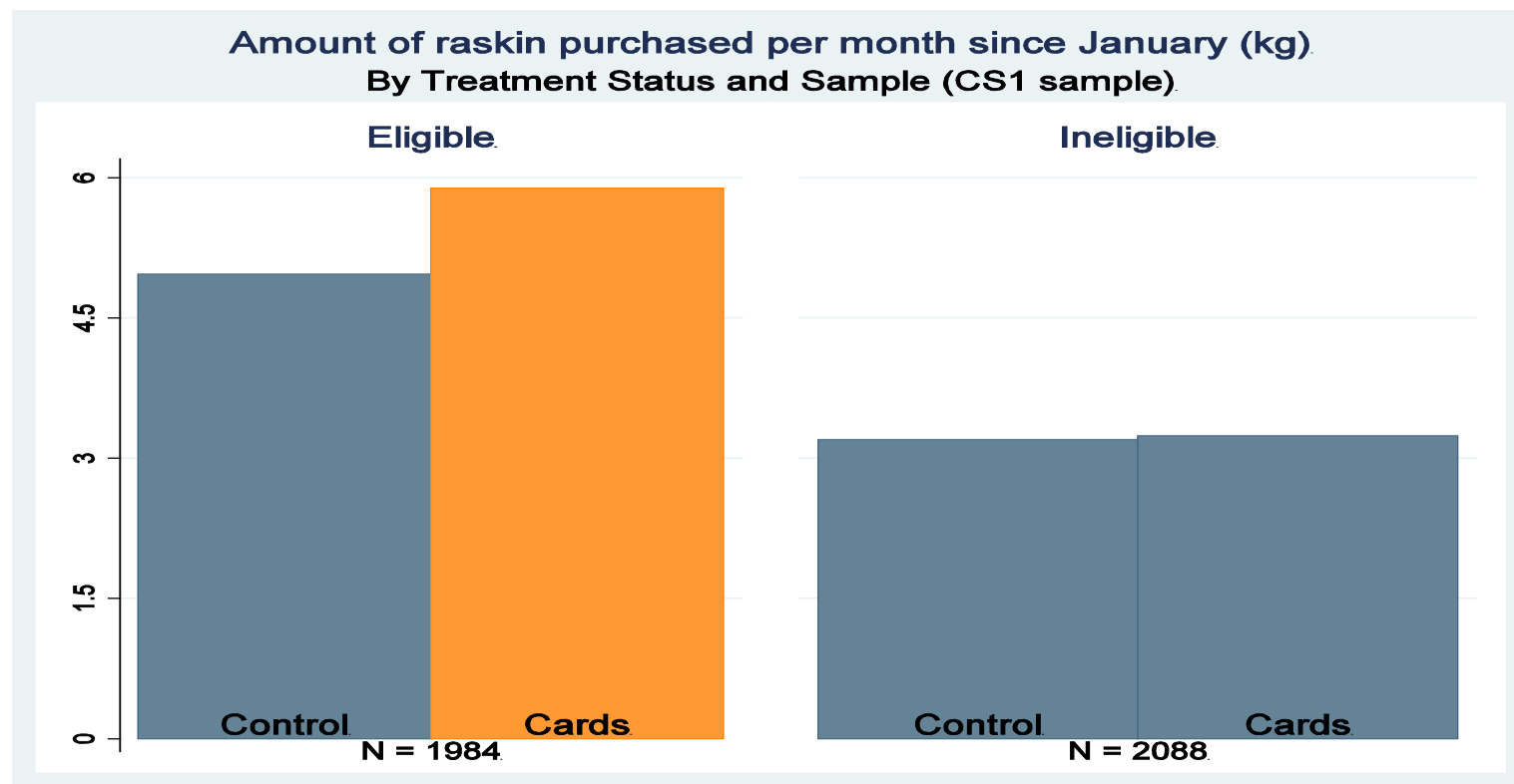
- December 2012



- April 2013

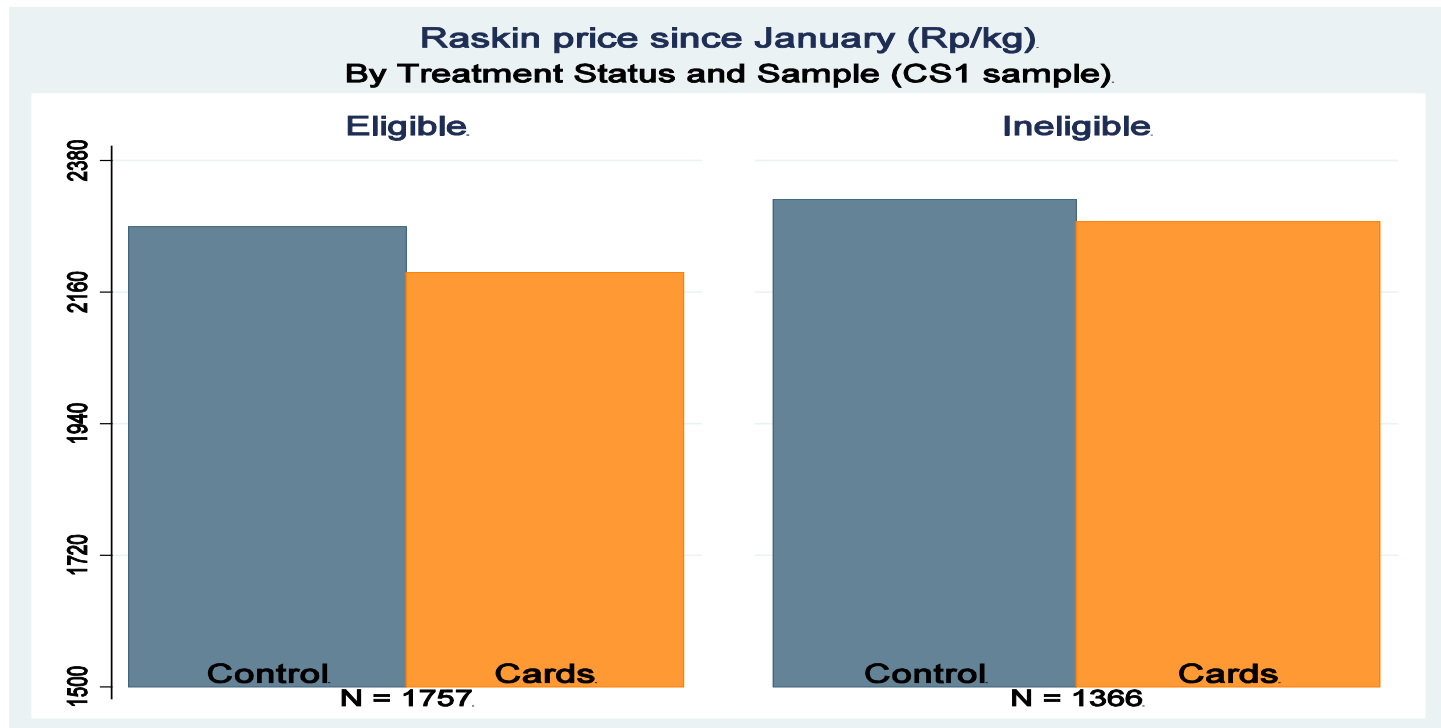


# Eligible households in treatment villages purchase more rice



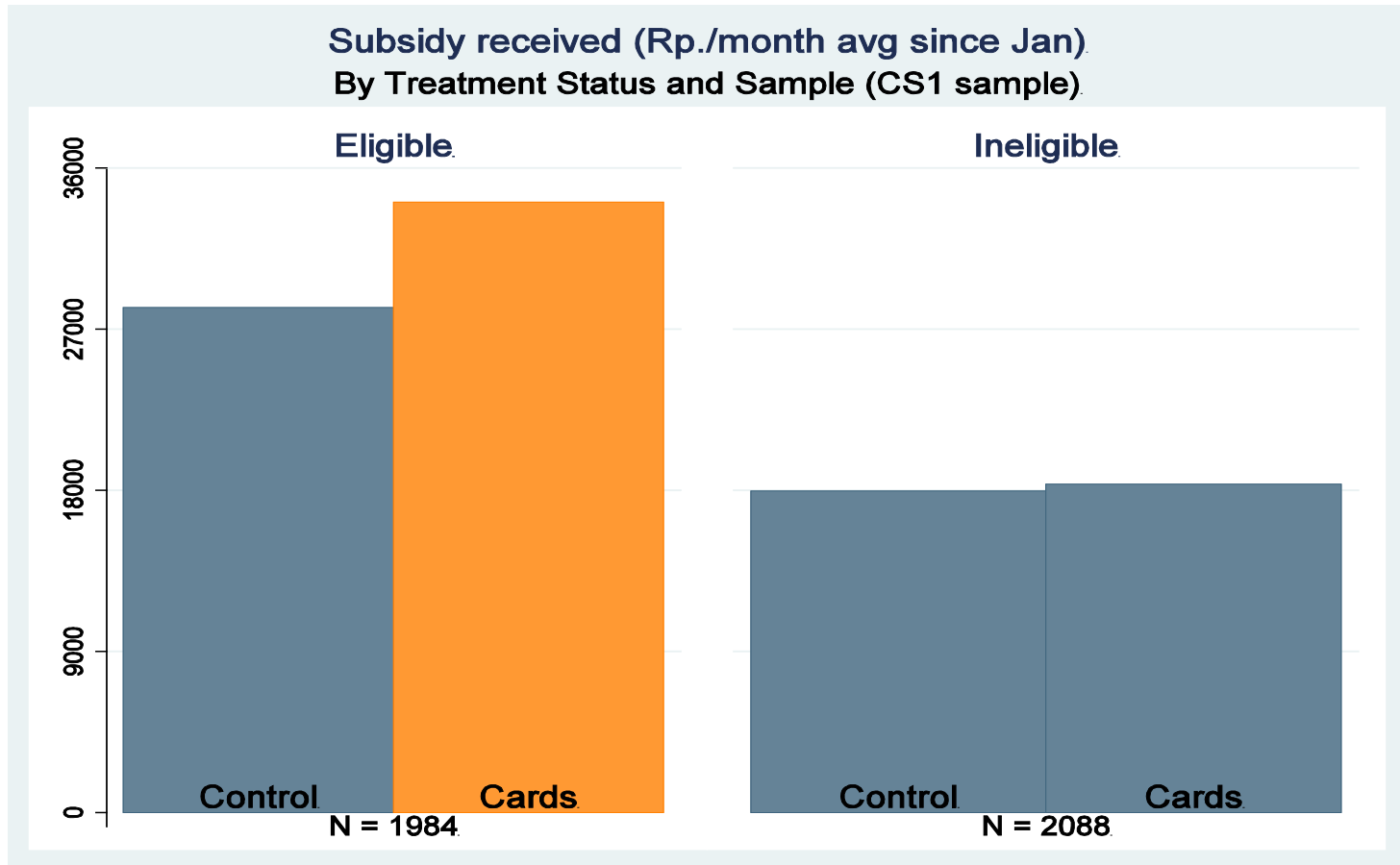
- Eligible households in treatment villages purchase 0.9 kg (19%) more rice than those in control group

# Eligible households in treatment villages pay a smaller markup price

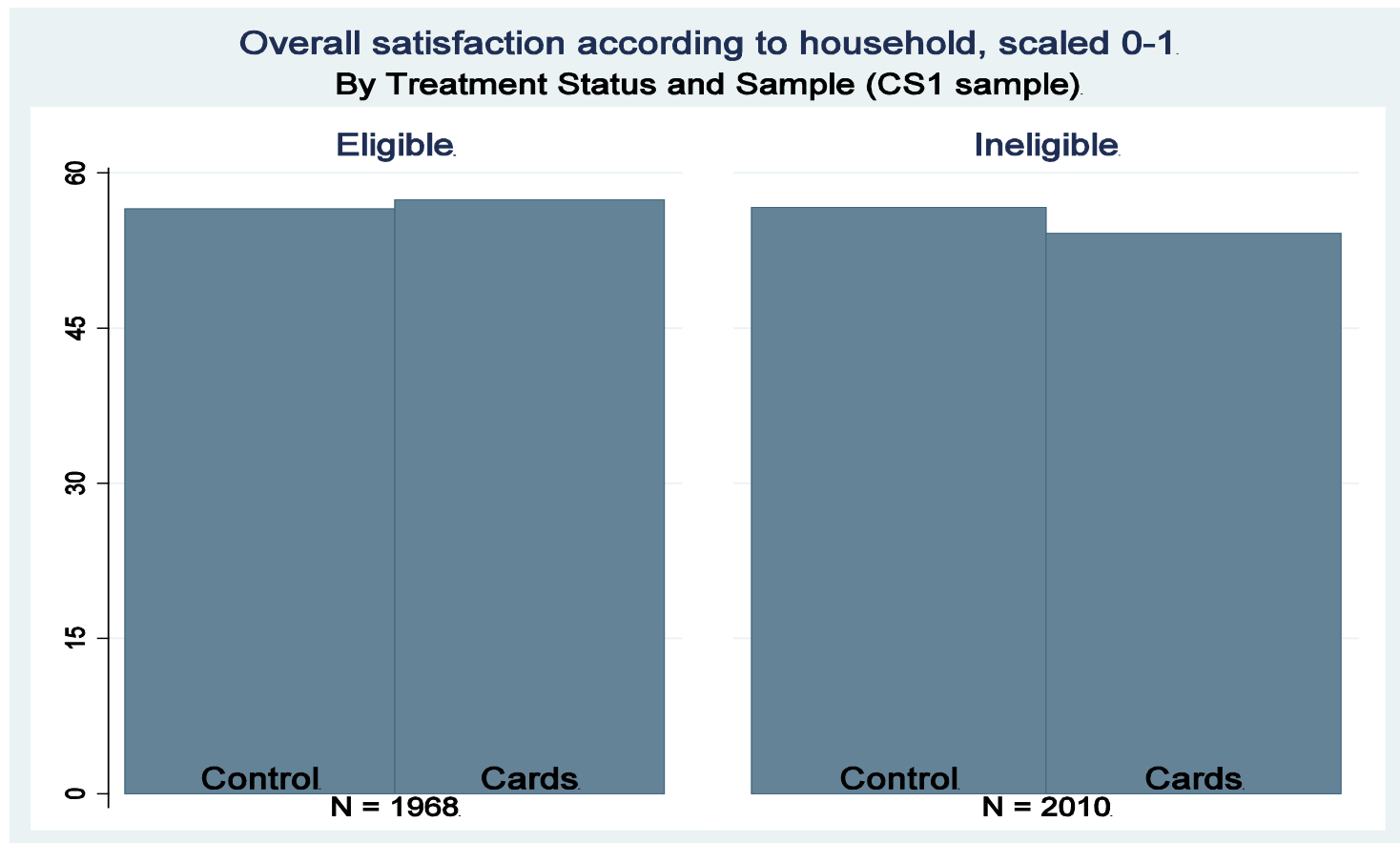


- Eligible households pay Rp. 77/kg (13%) smaller markup price for Raskin than eligible households in control
- In December 2012, cards did not have an effect on price.

Eligible households in treatment villages receive approx. Rp. 6000/HH/month (21%) more in subsidy

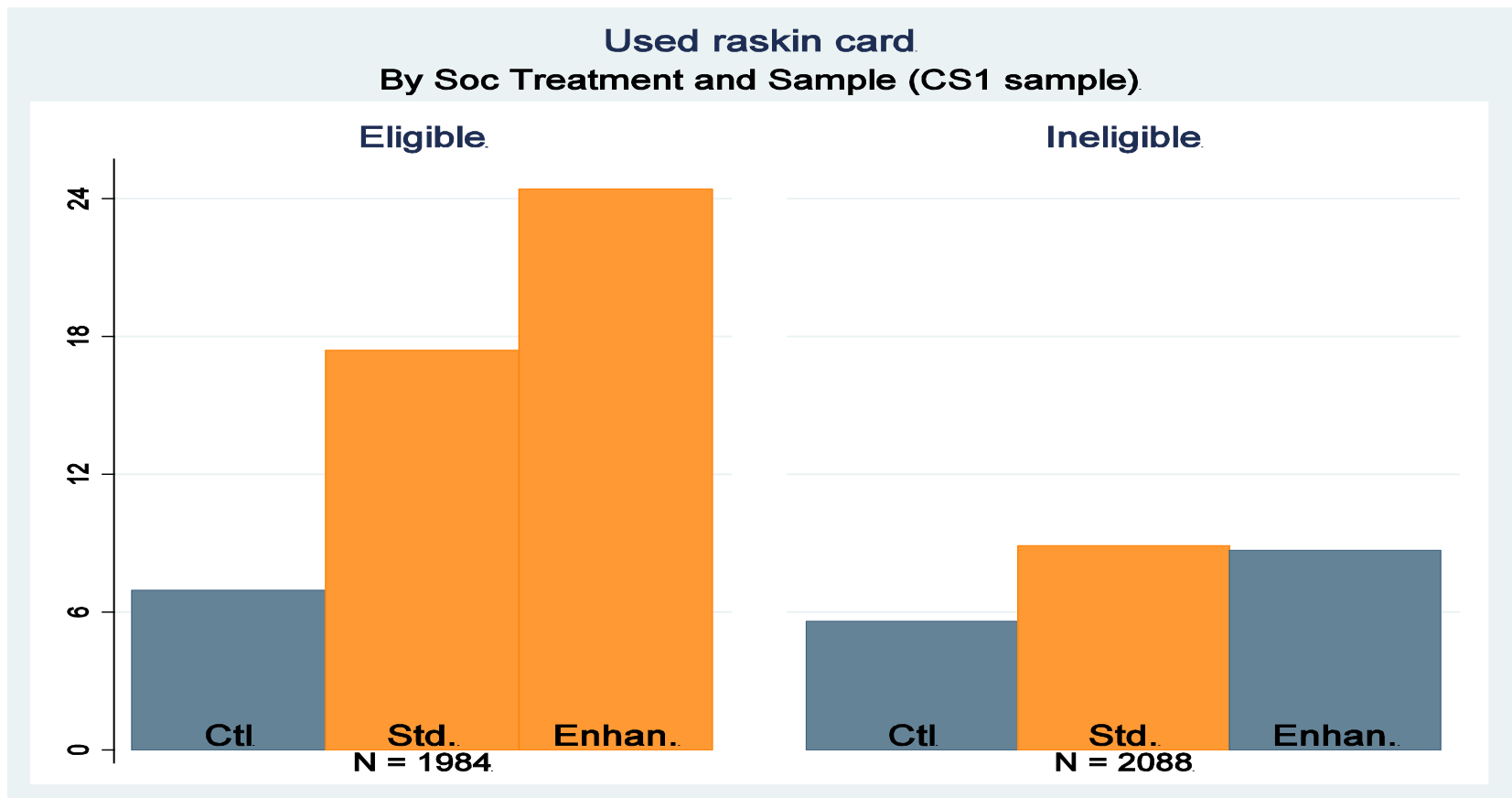


# No difference in household satisfaction between treatment and control



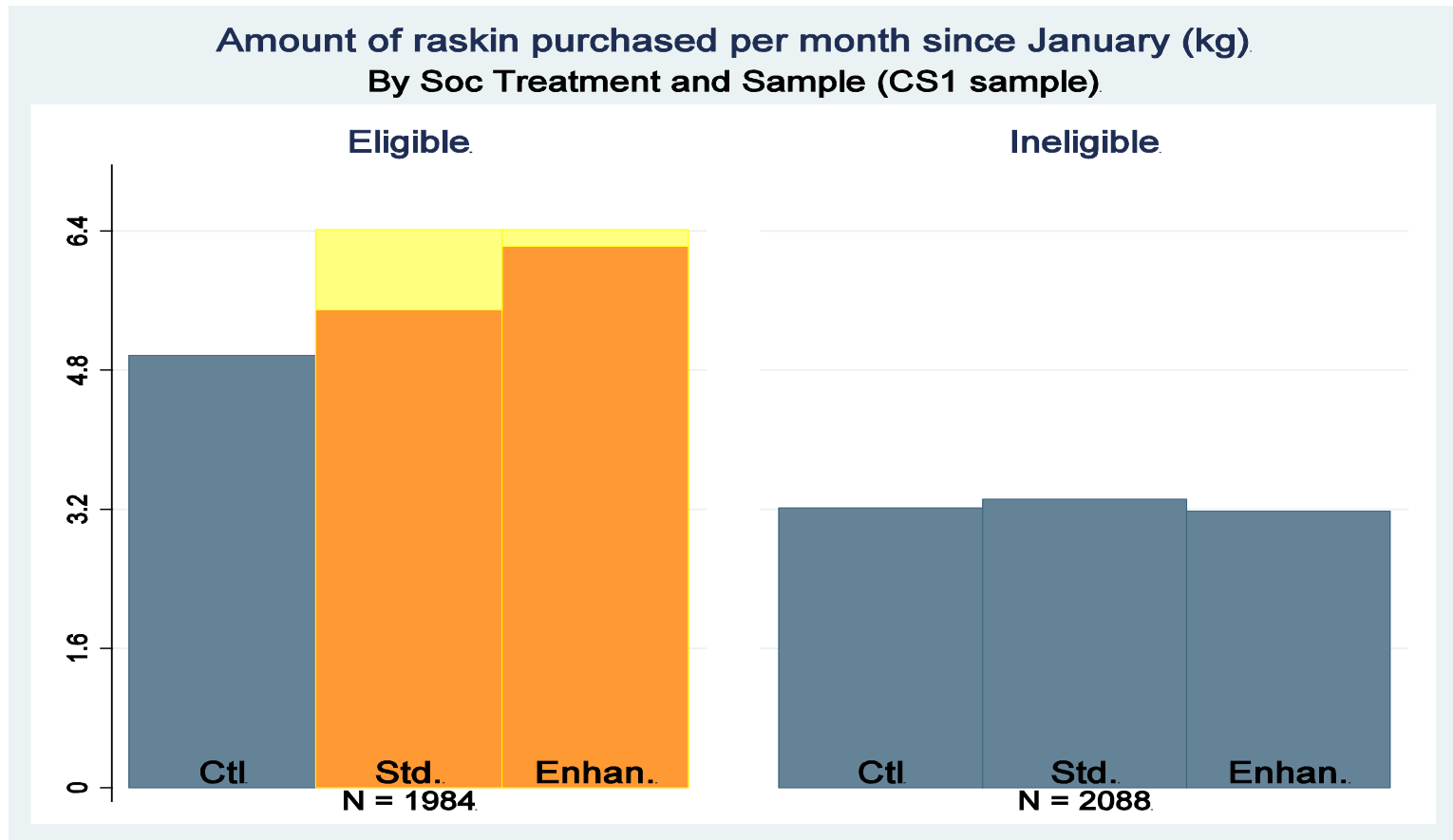
# Effects on Enhanced Socialization

# More eligible households use Raskin cards under enhanced socialization



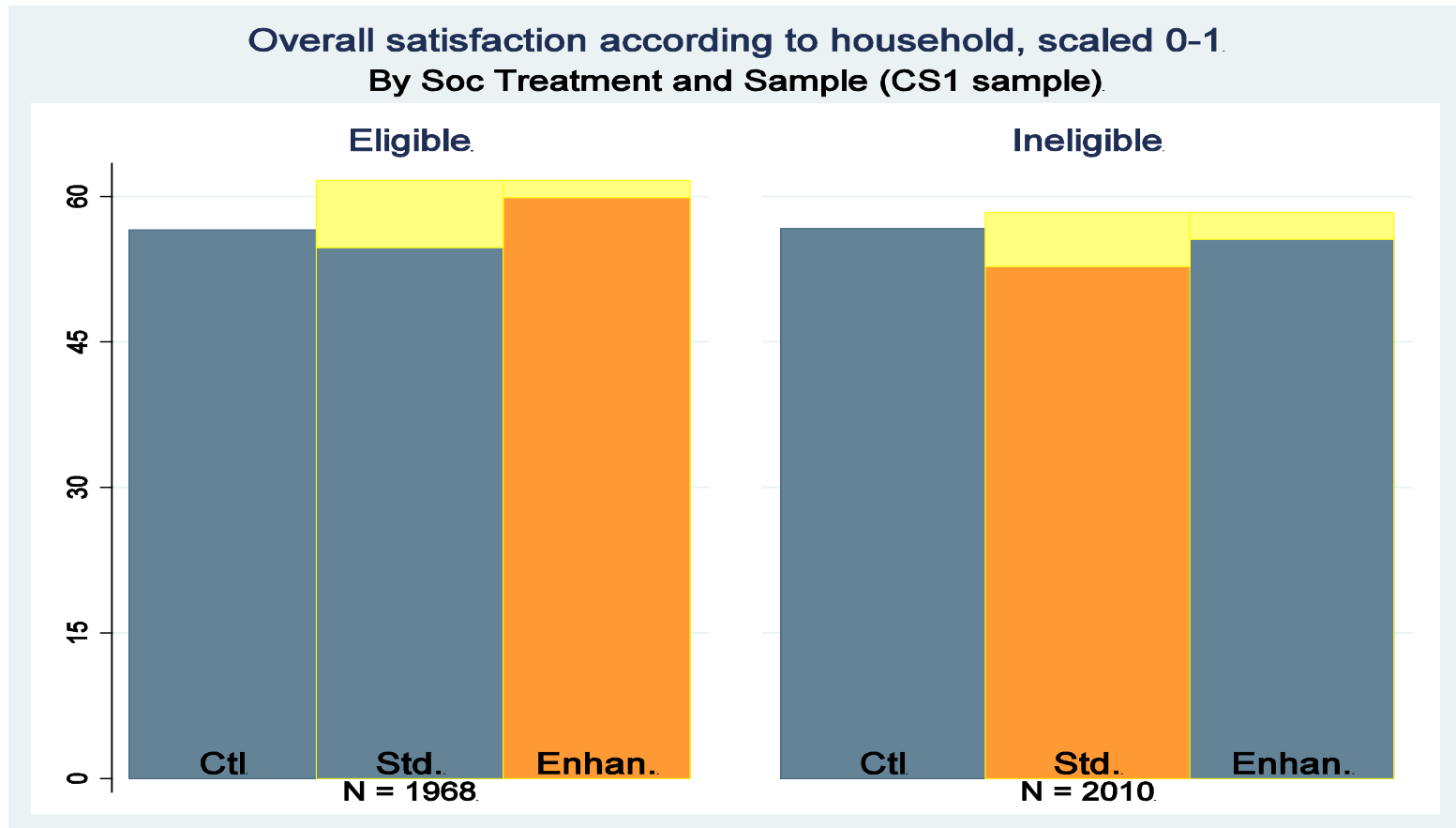
- However, result is not statistically significant

Increases the amount of Raskin purchased by eligible households by an additional 0.7 kg compared to standard socialization





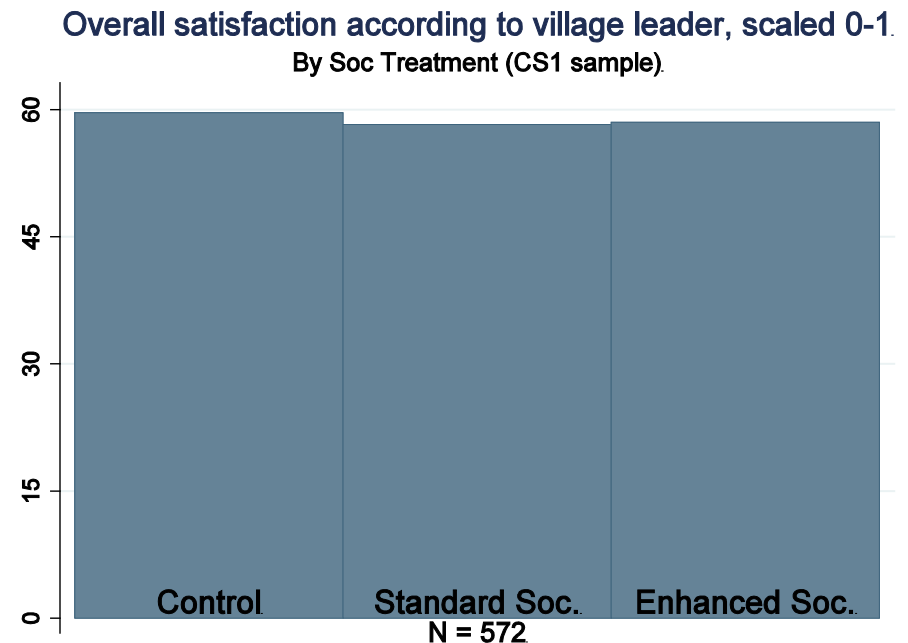
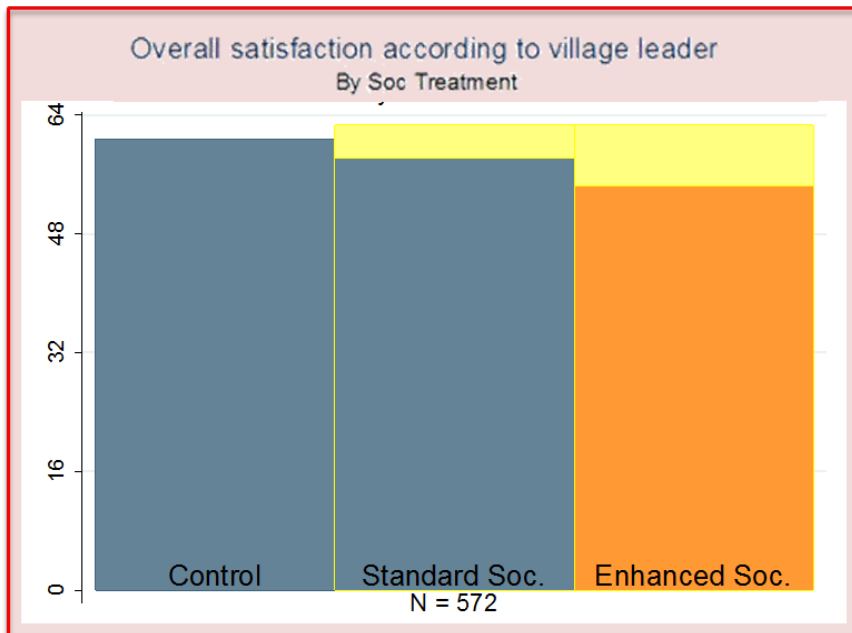
# Households still report higher satisfaction



# And there is no difference in satisfaction reported by the village leader over the long-run

- DECEMBER 2012

- APRIL 2013



# Findings from Other Treatments

## 1. Price vs. No Price

- Printing price on cards will only reduce the price if combined with enhanced socializations.
- Printing price can also increase the Raskin rice purchase for eligible HH.

## 2. Coupon vs. No Coupon

- Combined with enhanced socialization, coupon can increase the subsidy

## 3. How the Card is Distributed: All Eligible HH vs. 10% Poorest

- Poorest 10% is more likely to receive the card in treatment group, although it's not significantly so.

# Result Development

Treatment	Midline	Endline
<b>Card</b> >> <i>take-up</i> , purchase, and subsidy	(+)	(+)
<b>Card</b> >> HH satisfaction rate	(+) <i>eligible</i>	No effect
<b>Additional Socialization</b> >> purchase, subsidy	(+) <i>eligible</i>	(+) <i>eligible</i>
<b>Additional Socialization</b> >> satisfaction	(+) households (-) leader	(+) households No effect from leader
<b>Card with Raskin Price</b> >> <i>price mark-up</i>	(-)	(-), only with additional socialization
<b>Coupon</b> >> subsidy	(-) <i>ineligible</i>	(+) <i>eligible</i>
<b>Distribution to 10% poorest</b> >> Rice purchase	No effect	(+), due to additional socialization

# Input for Policy

- **The distribution of Raskin card improved the program implementation**
  - Eligible HHs who purchase and the amount of purchase increased
  - Decreased number of incident where there is a price mark-up
  - Net, it is a Rp 6,000 subsidy adjustment for eligible HH, and no change for those who are ineligible
- **Additional socialization increased subsidy and the satisfaction level of beneficiary**
  - Achieved with only 2-3 person-days of external facilitation and 3 posters per dusun.

# Input for Policy (cont.)

- **Adding Raskin price in card increase the effectiveness of the program**
  - When combined with additional socialization, the short term effect remains until medium-term
- **The distribution of card to only 10% poorest HH may become the effective way to improve targeting**
  - In the beginning, 10% poorest HH reported lower level of satisfaction and no significant difference is observed for take-up level
  - However, in the last survey, they reported higher amount of subsidy and higher level of satisfaction rate in the village with additional socialization

# Input for Policy (cont.)

- Using coupon is potentially effective if also combined with additional socialization
- In the medium-term, the card variation effect depends on the additional socialization of the program.
  - This applies to card with coupon price and targeting to 10% poorest HHs.

# Policy Scale-up





# Kartu Perlindungan Sosial (KPS; Social Protection Card)

- TNP2K upgraded Raskin card to be Kartu Perlindungan Sosial (KPS).
- As per June 2013, the KPS has been distributed nationally to 15.5 million households (65.6 million people).
- The card can be used as kartu Bantuan Langsung Sementara Masyarakat (BLSM); kartu Bantuan Siswa Miskin (BSM); and Raskin.



*Tampak depan*

*Tampak belakang*

End

