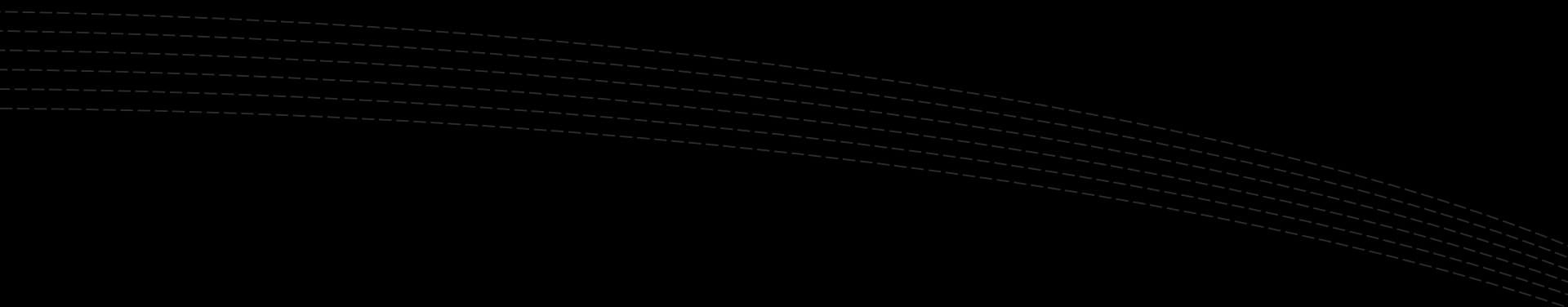




# Digital Solutions to Deliver Social Protection

- **Jenny C. Aker**
- **The Fletcher School  
Tufts University**
- **June 2020**

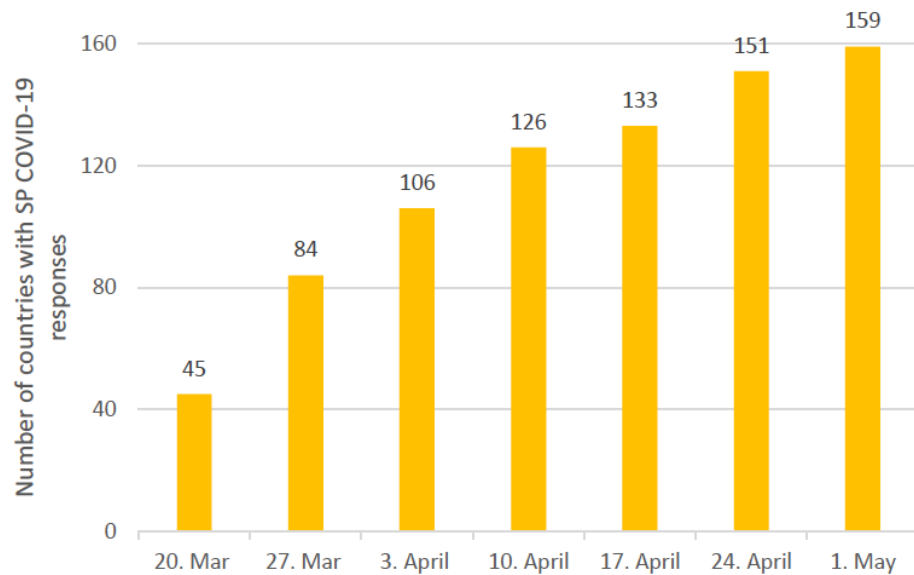
Source: Concern Worldwide



**THE CHALLENGE**

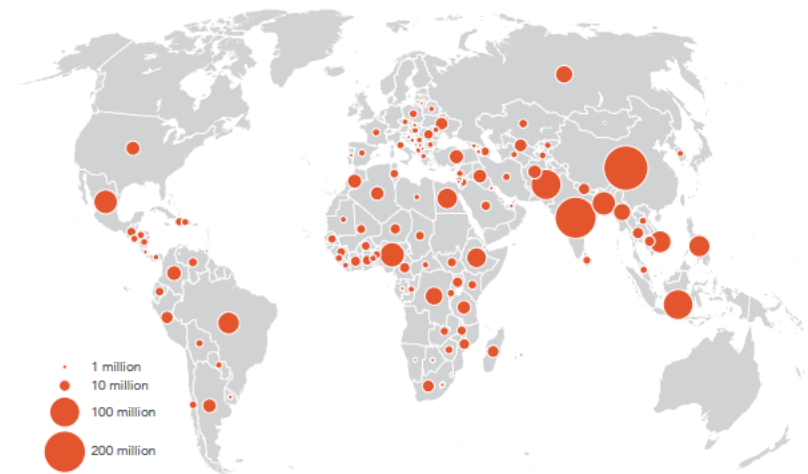
# 159 countries have 700 social protection measures

200 of these are cash-based, although 1.7 billion remain unbanked



MAP 2.1

Globally, 1.7 billion adults lack an account  
Adults without an account, 2017



Source: Global Findex database.

Note: Data are not displayed for economies where the share of adults without an account is 5 percent or less.

# 100 million adults receive payments in cash

Payments in cash incur significant logistical and security challenges



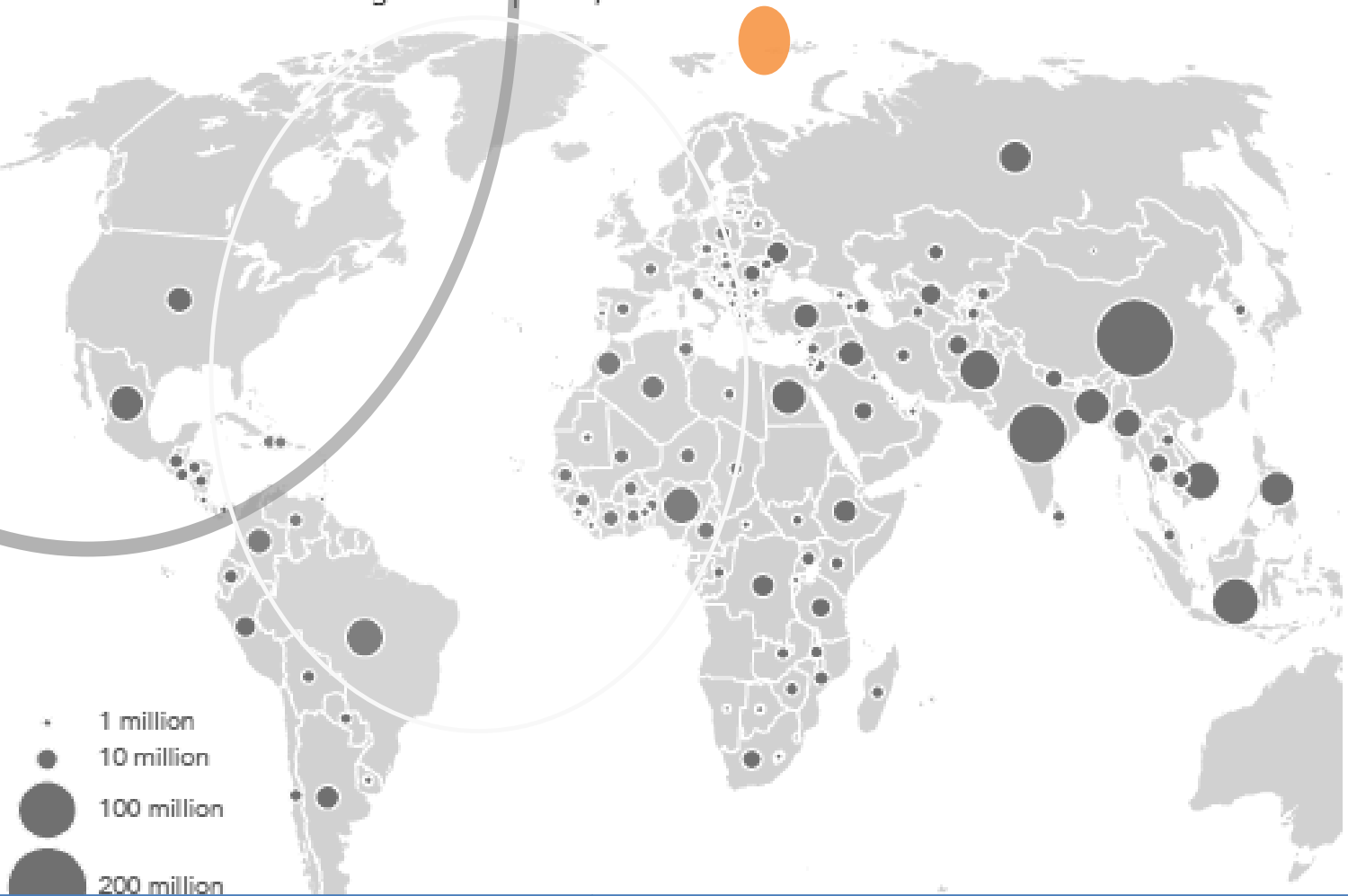
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# 2/3 of unbanked adults have a mobile phone

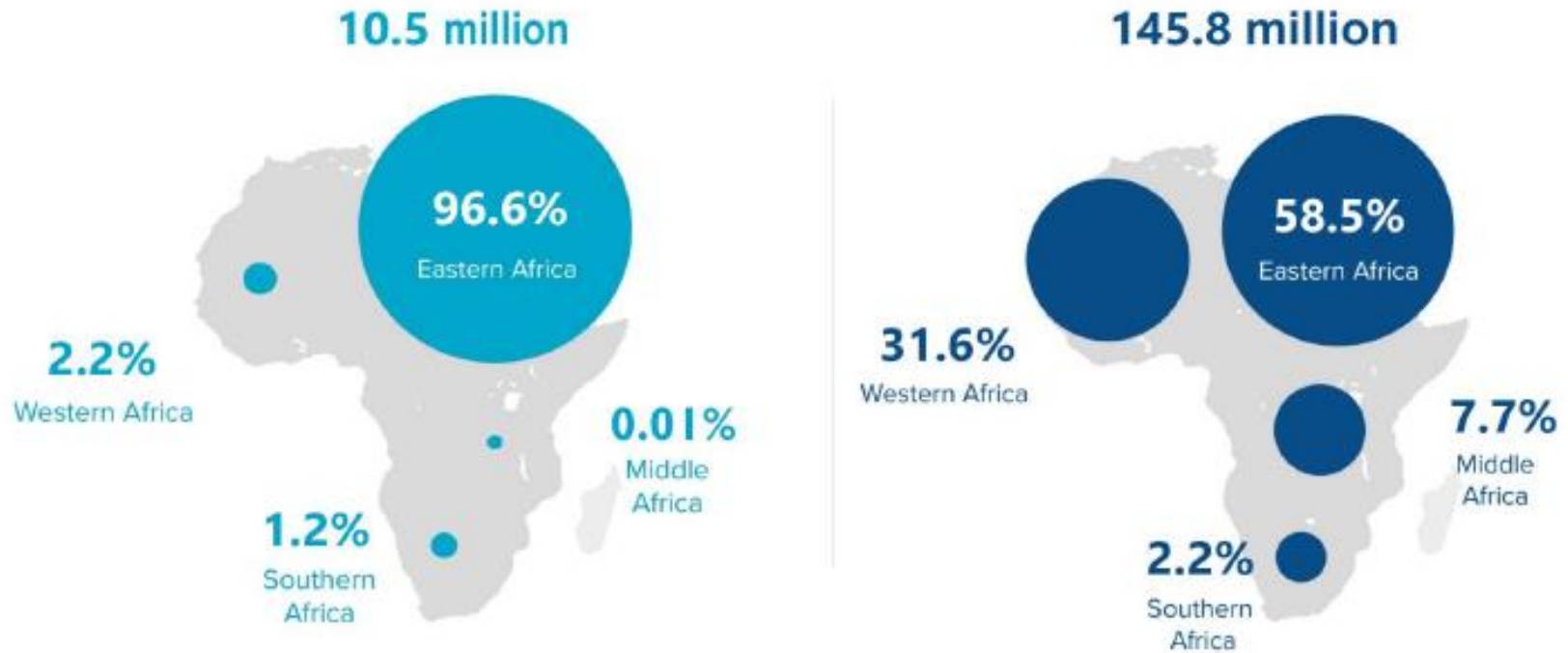
Two-thirds of unbanked adults have a mobile phone  
Adults without an account owning a mobile phone, 2017

Source: FINDEX 2017



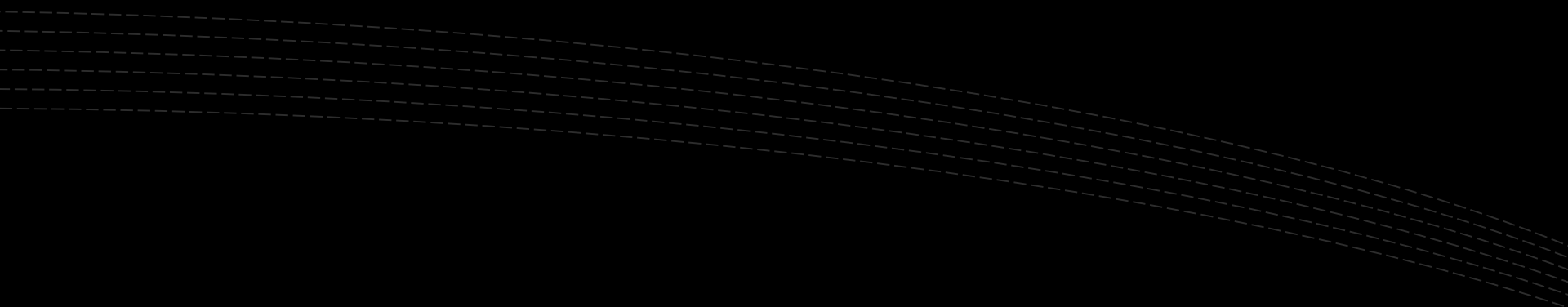
# Mobile money deployments have increased

300 mobile money deployments across 95 countries with 866 million registered users



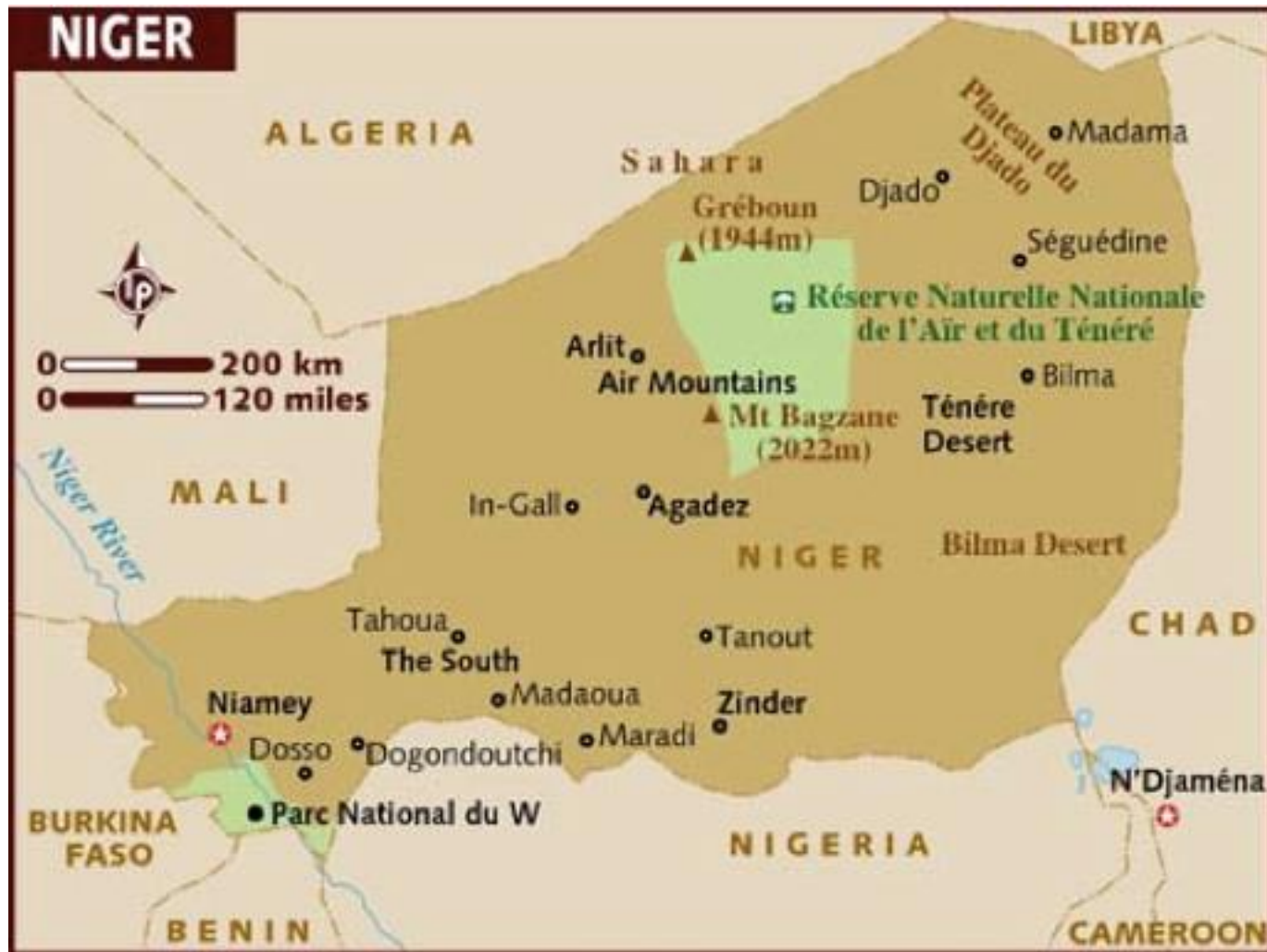
Sub-Saharan African total active accounts 2010 / 2018

Source: GSMA 2018



**THE CONTEXT**

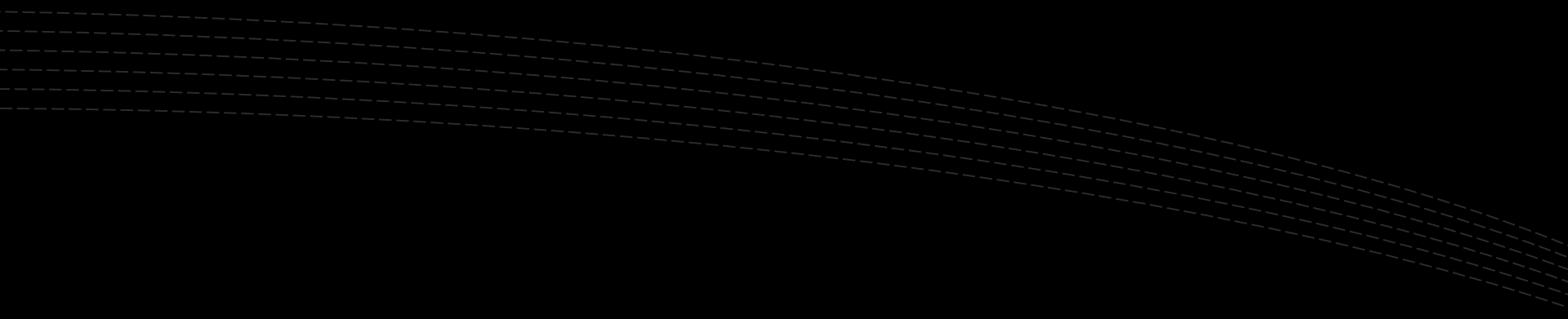
# The Context





# The Context

- **New mobile money transfer program (introduced in January 2010)**
  - **Few agents outside of capital city**
  - **Little consumer familiarity with the program**
  - **Limited adoption**
- **Low mobile phone penetration (30%)**
- **High illiteracy rates (85%)**
  - **Challenges with manipulating mobile phones and remembering PIN codes**
- **Limited operational capacity of mobile phone service provider in the mobile money sphere**
  - **Needed to link Concern's program recipient lists with Zain Zap interface**

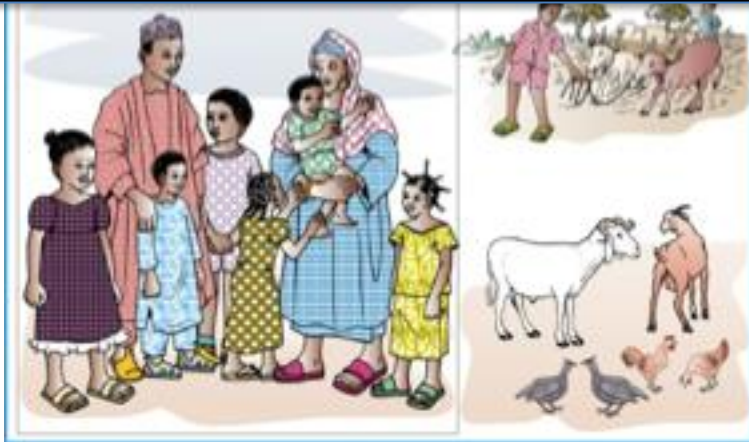


**THE INNOVATION**

# The Innovation

- **Implemented by Concern Worldwide in 116 villages in response to 2009/2010 food crisis**
- **Monthly (unconditional) cash transfer of \$USD45 for 5 months (\$USD 225 total)**
  - **2/3 of annual per capita GDP**
  - **Provided during hungry season (May through September)**
- **Targeting**
  - **Households in each village were classified into vulnerability categories (A, B, C and D)**
  - **Categories C and D selected (61% of village population)**
  - **Women received the cash transfer**

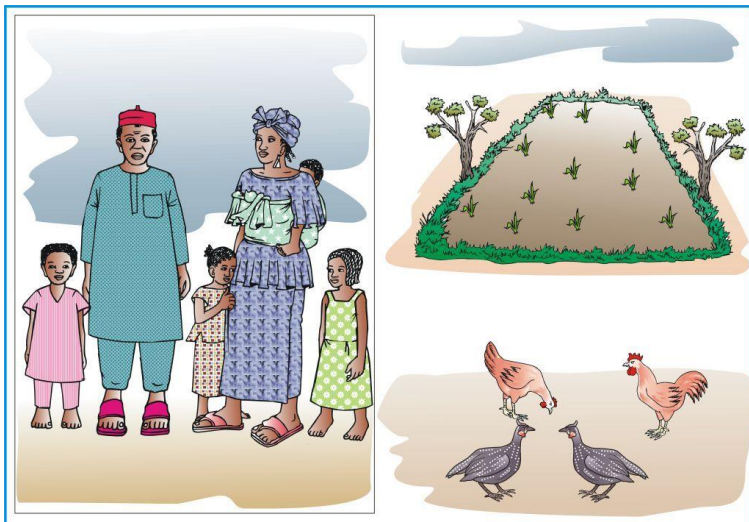
# The Innovation



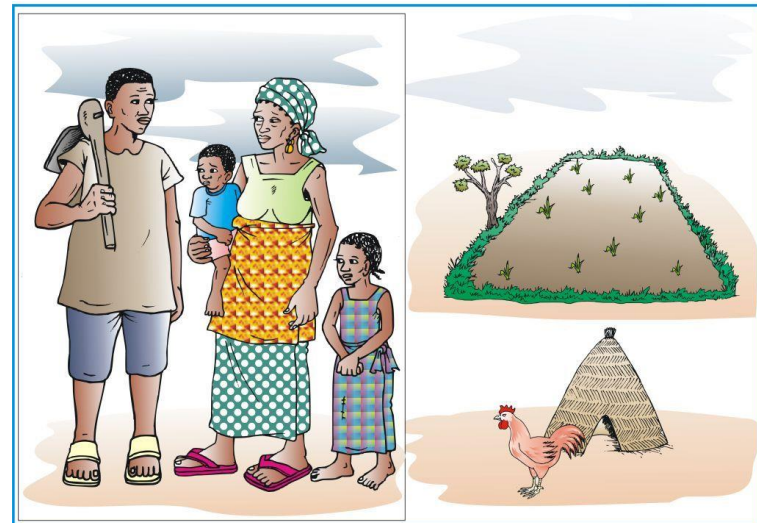
A



B



C



D

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A series of four parallel, dashed white lines that curve downwards from left to right, positioned in the upper half of the slide.

# **IMPLEMENTATION AND EVALUATION**

# The Questions

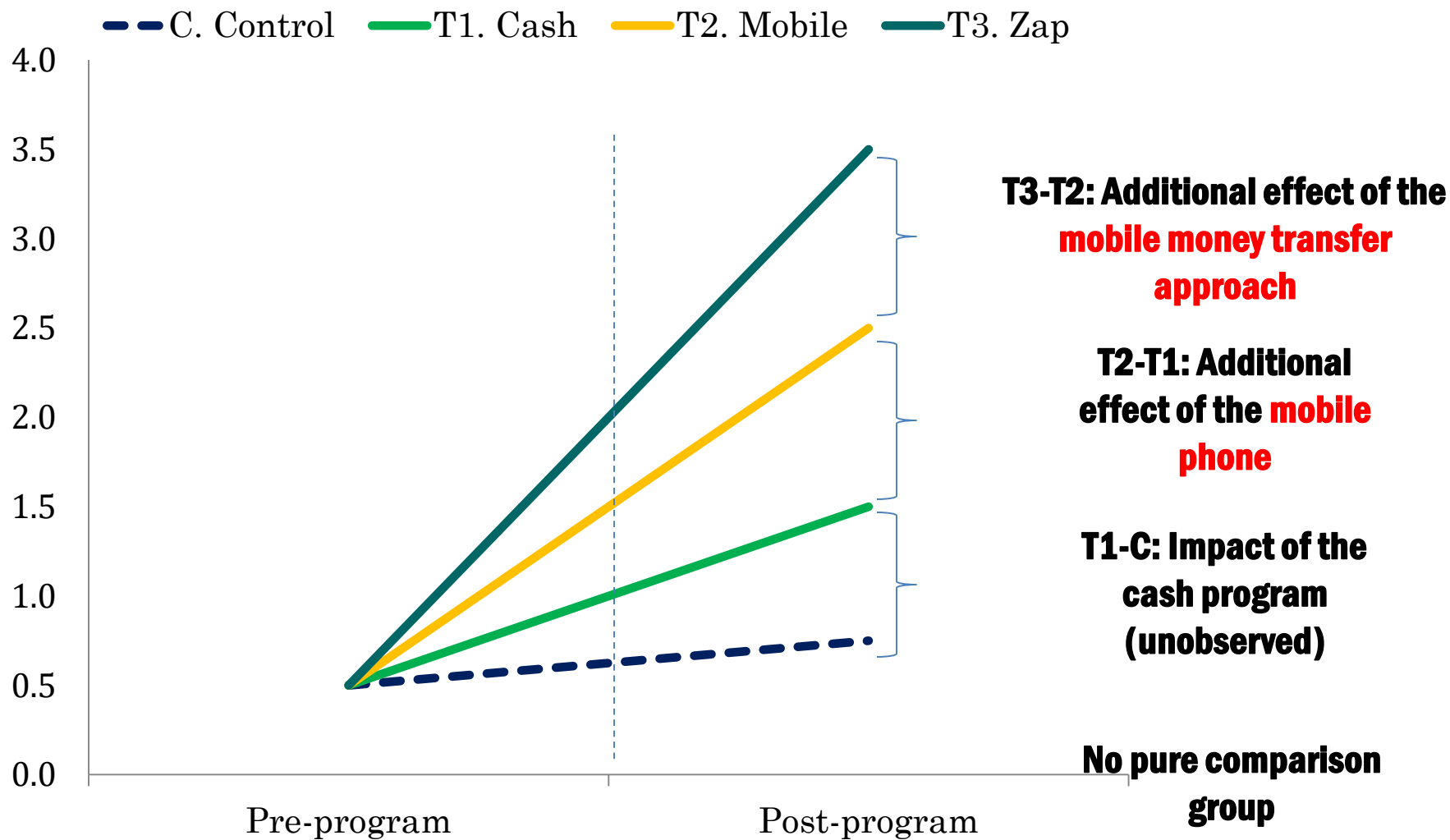
- **How does the cash delivery mechanism affect the costs of implementing unconditional cash transfers (including leakage)?**
- **Does the cash delivery mechanism affect household behavior and well-being?**
- **If so, why?**
  
- **Exploit randomized assignment of villages to different cash delivery mechanisms**
- **Collect quantitative and qualitative data on costs, behavior, prices and mechanisms**

# The Research

- **96 villages were randomly assigned to one of three interventions:**
- **T1. Cash: Manual cash transfer each month in the recipient's village or in a nearby village**
- **T2. Mobile: Manual cash transfer plus Zap-enabled mobile phone**
- **T3. Zap: Zap-enabled mobile phone plus the cash transfer via mobile money transfer**
- **No pure comparison group**
- **No difference in timing of transfers**
- **Value of the phone about \$USD 5**



# The Research



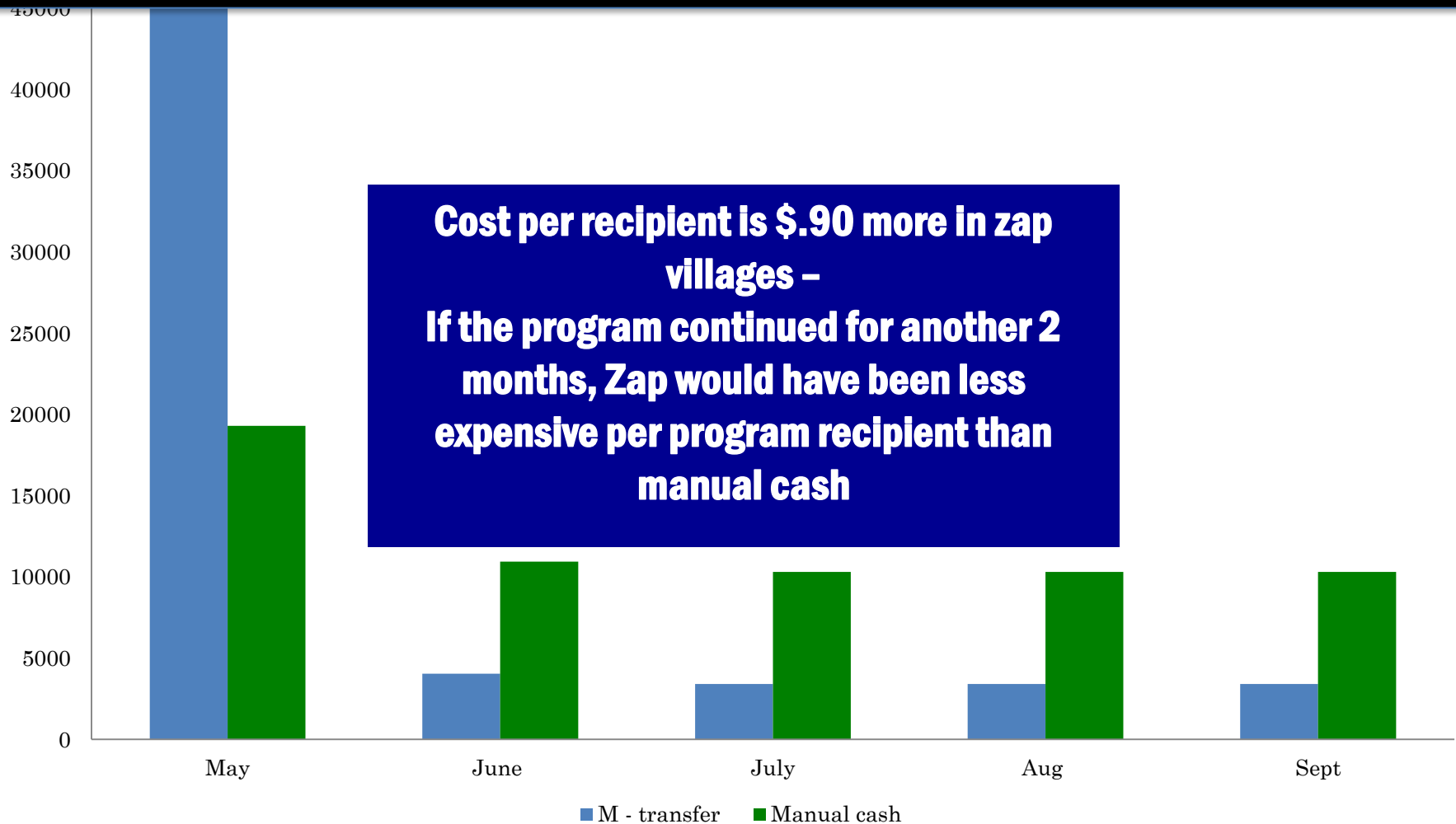
# The Research

- **Reduced costs of obtaining transfer can increase time spent on productive activities and change the location and timing of purchases**
- **Reduced transaction costs associated with informal private transfers help households to better cope with shocks (Jack and Suri 2012, Blumenstock, Eagle and Fafchamps 2011)**
- **Reduced communication costs increase access to information and lead to more optimal decision-making (Jensen 2007, Aker 2010)**
- **Increased privacy of the cash transfer leaves more income available for the household and affects investment strategies (Jakielia and Ozier 2012)**
- **Increased intra-household bargaining: Targeting women can improve women's control over resources and investment in public goods (Doepke and Tertilt 2011, Lundberg et al 1997, Duflo and Udry 2004, Robinson 2012 Schaner 2012)**

# The Findings

- **Costs**
- **Well-Being (Food Security and Nutritional Status)**
- **Mechanisms**

# The Findings: Costs

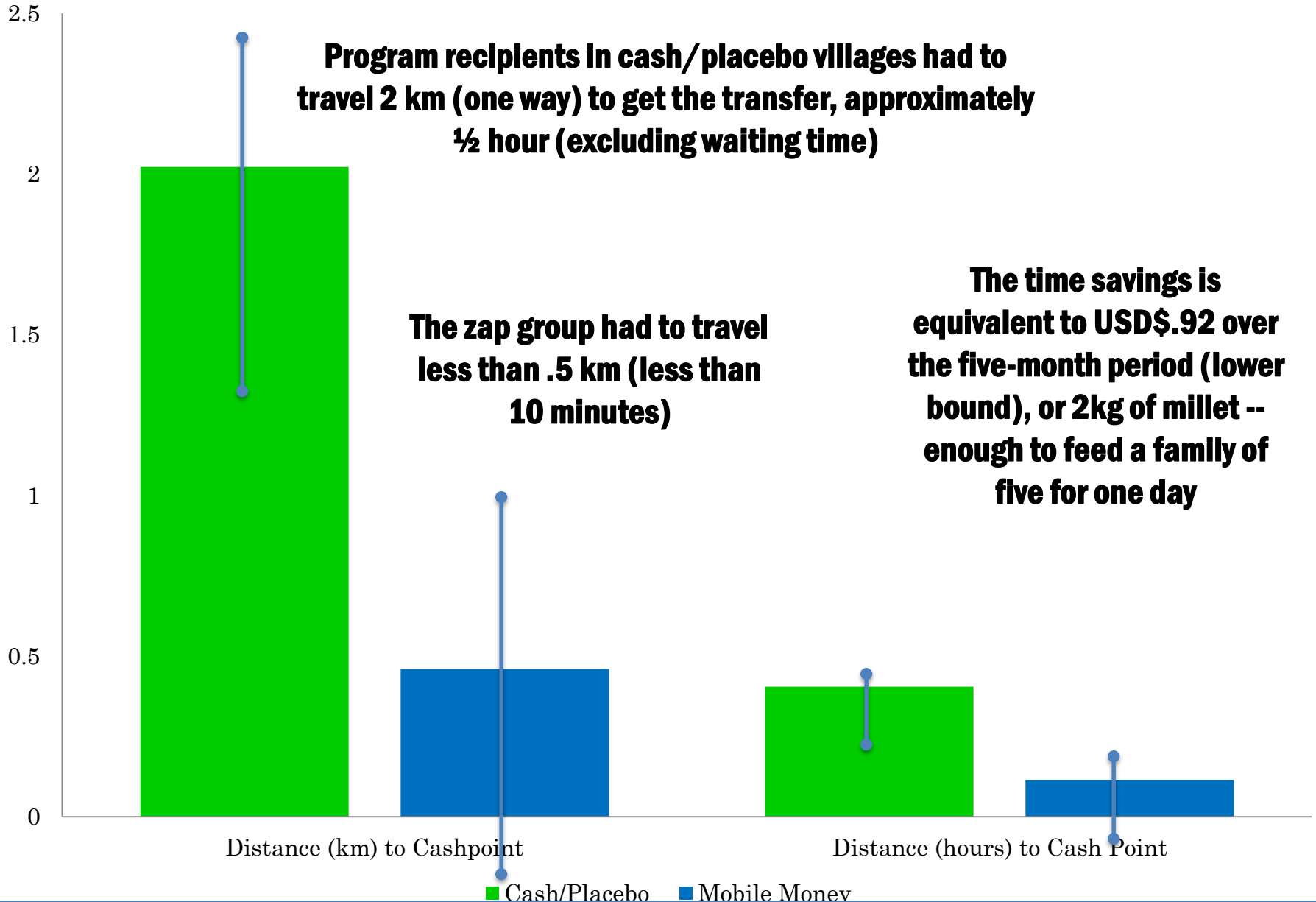


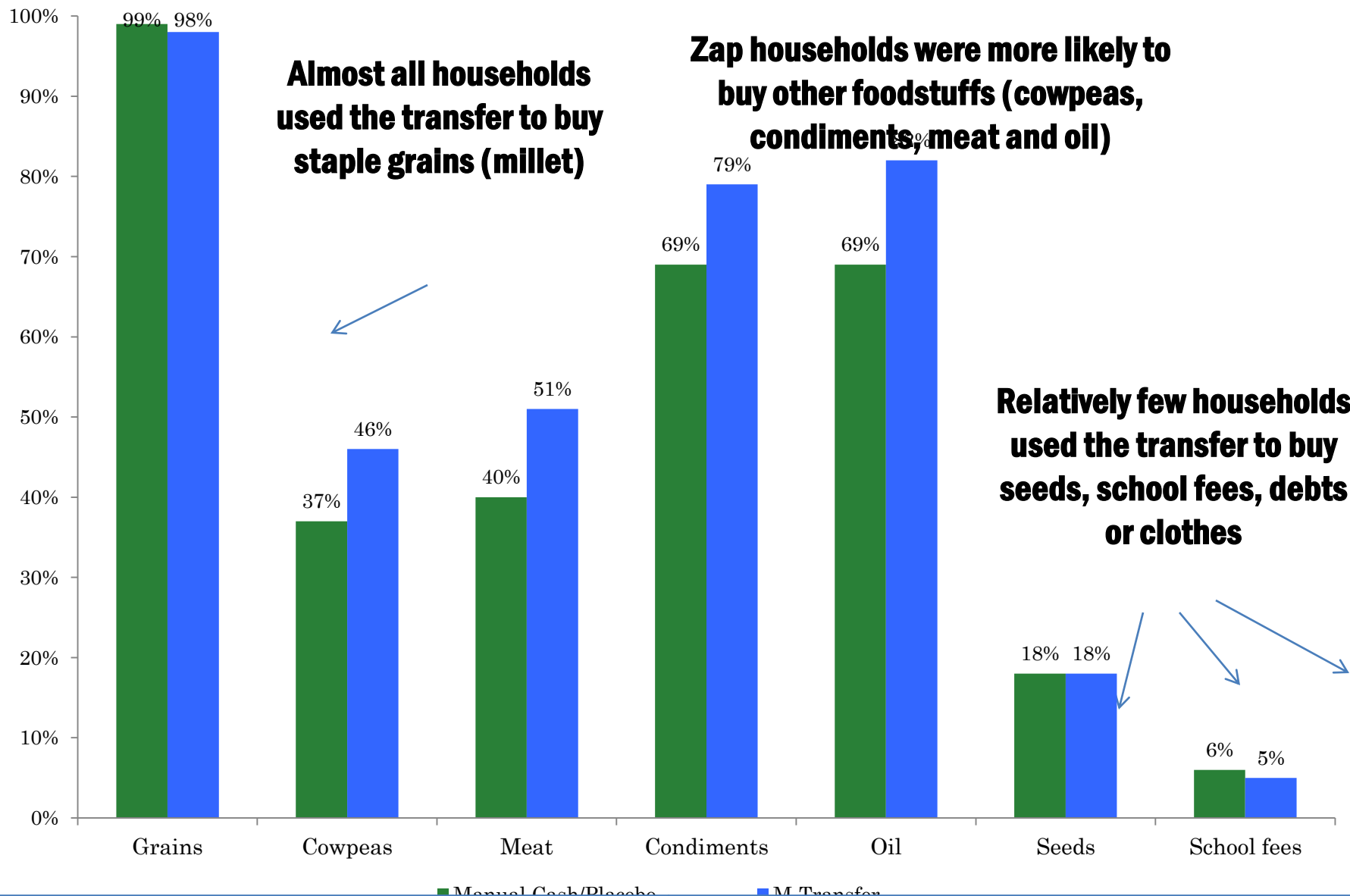
# Cost (\$USD) to Program Recipient of Obtaining the Cash Transfer

**Program recipients in cash/placebo villages had to travel 2 km (one way) to get the transfer, approximately ½ hour (excluding waiting time)**

**The zap group had to travel less than .5 km (less than 10 minutes)**

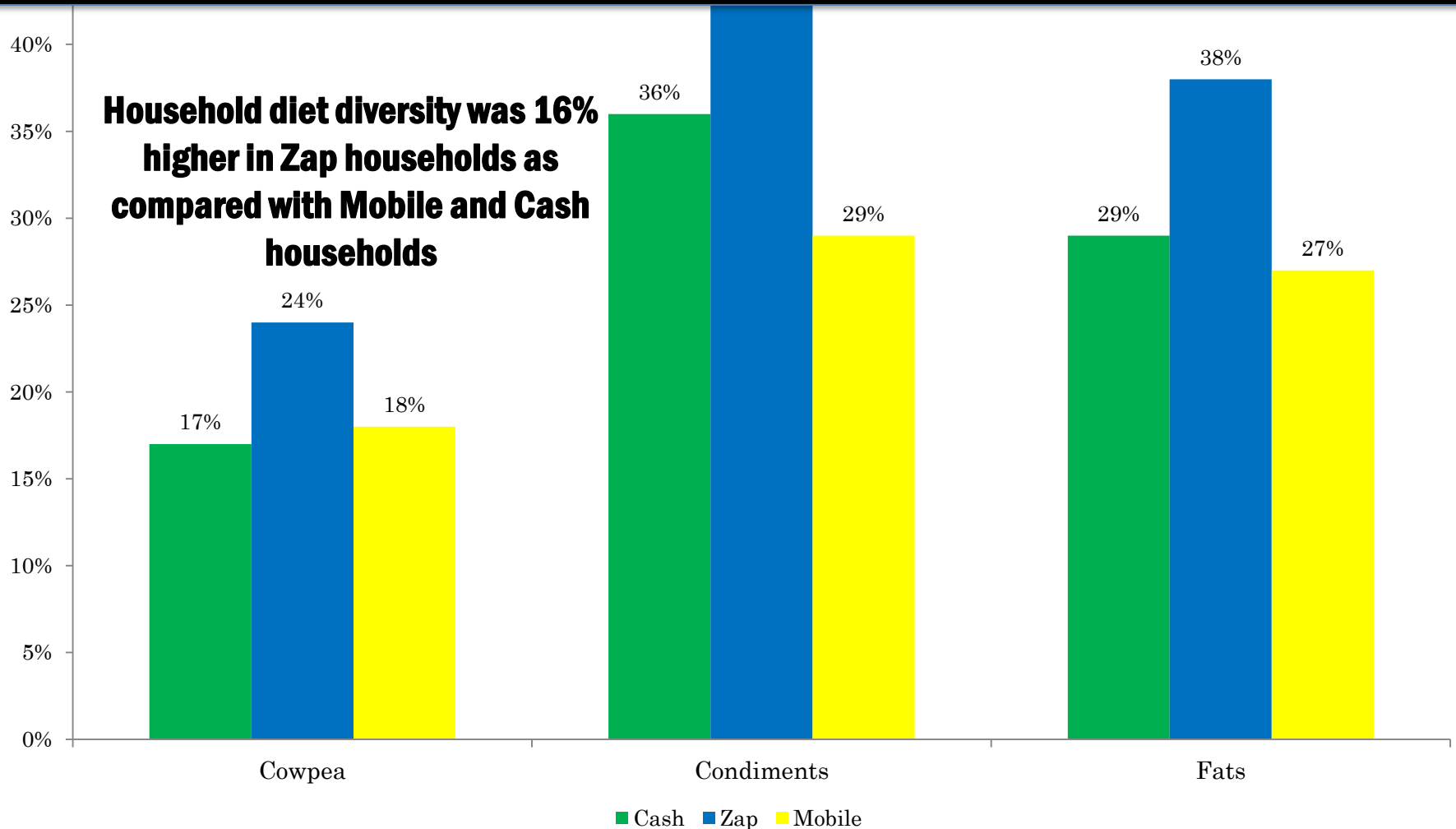
**The time savings is equivalent to USD\$.92 over the five-month period (lower bound), or 2kg of millet -- enough to feed a family of five for one day**





Manual Cash/Blocche M-Transfer

# The Findings



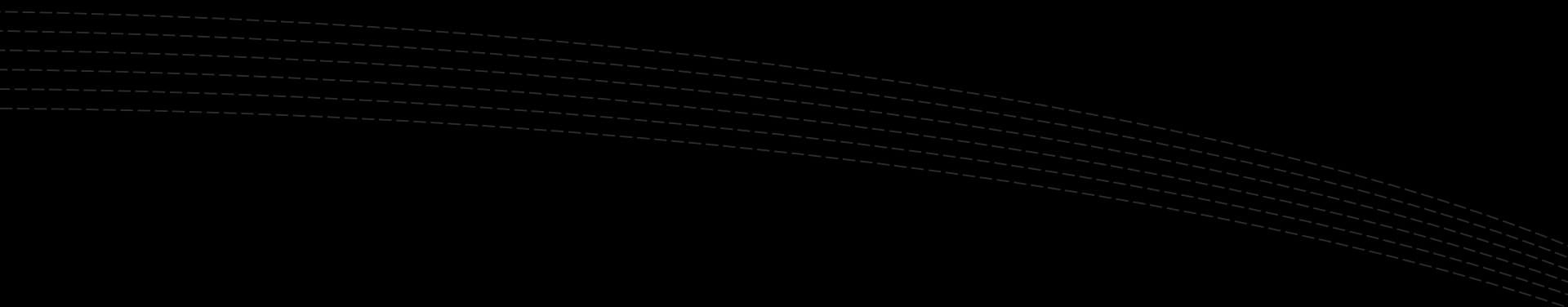
# The Findings

- **Children in Zap households ate .30 more meals per day as compared with the Cash and Mobile households**
- **Relatively higher weight-for-height z-scores in Zap households, but not a statistically significant effect**



# The Findings

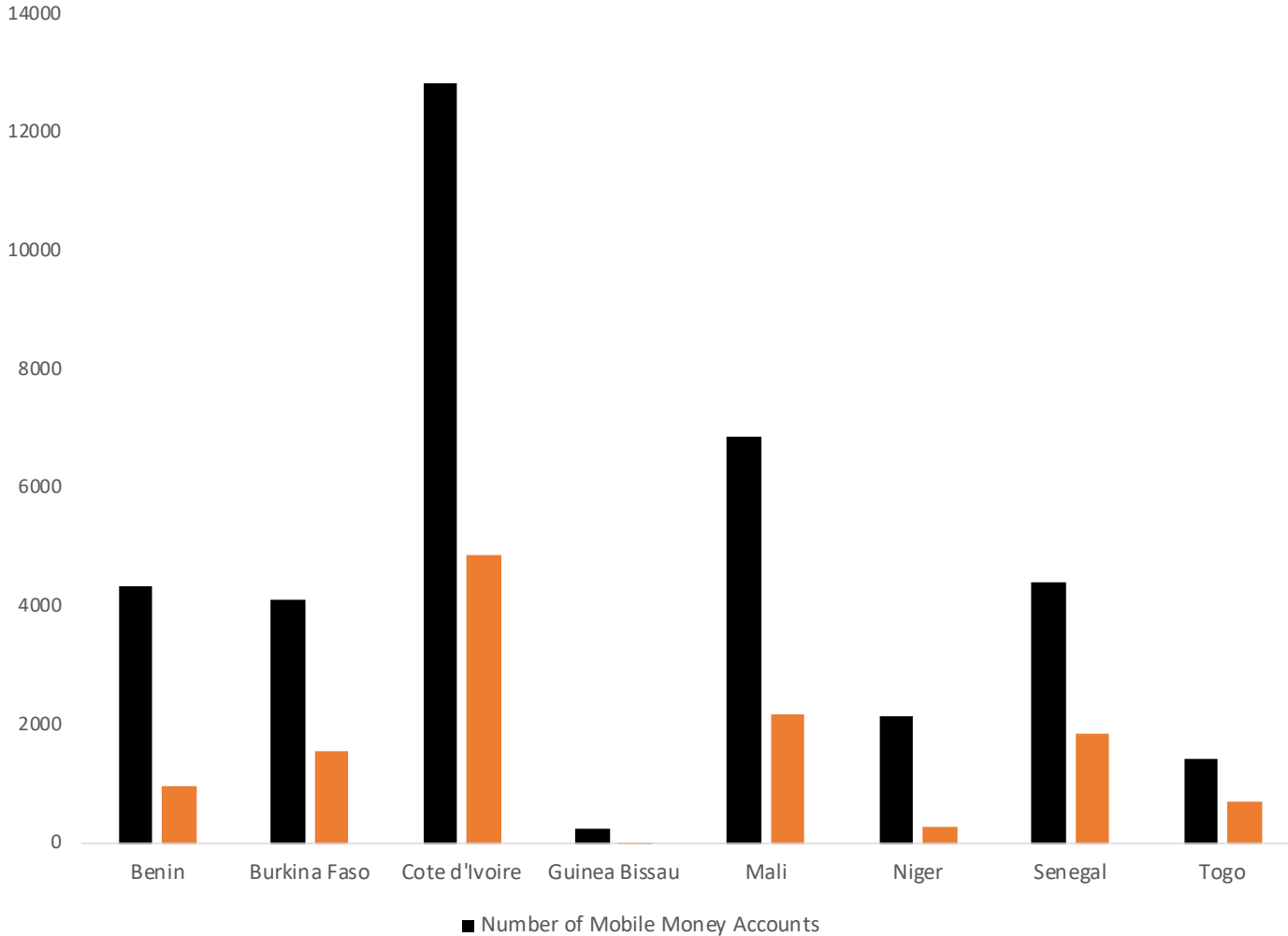
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# THE ADAPTATION

# Mobile Money Adoption is Heterogeneous

The number of active users is far below total subscribers, and ranges from 1-20% in West Africa



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# Mobile Money Agent Density is a Challenge

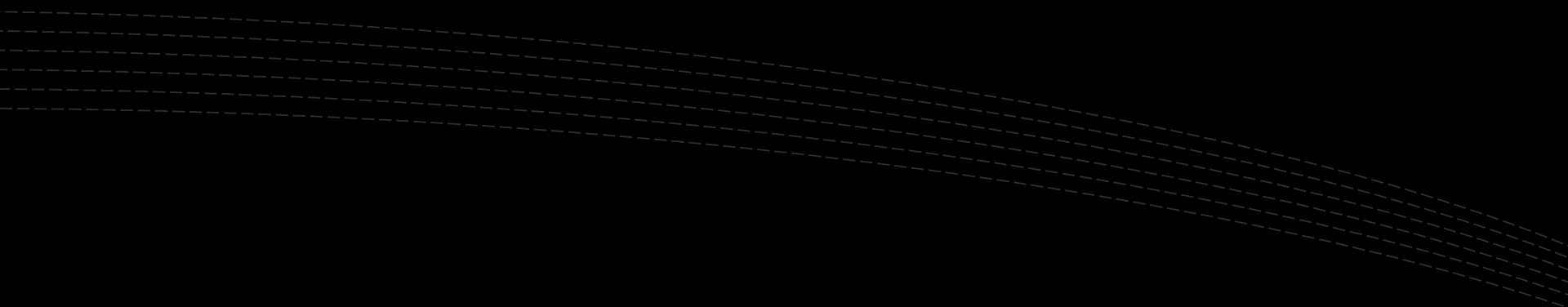
There are 228 agents per 100,000 people in Sub-Saharan Africa, with large differences by country

Mobile money agents have  
7x more reach than ATMs and  
20x more reach than bank  
branches

Per 100,000 adults:

- 11 Banks
- 33 ATMs
- 228 Mobile money agents





**LESSONS LEARNED**

# Lessons Learned

- **Gender**
- **Responsible Research**
- **Failure**

# Conclusions

- **Mobile money decreased costs for implementing agency and program recipients, but large fixed costs**
  - **Potentially cheaper in an environment where mobile money is more well-known and has a larger agent network**
  - **However, issues around sensitization and PIN codes must be addressed**
- **Benefits beyond simple cost reduction**
  - **Increased diversity of purchases, improved diet diversity**
  - **High marginal utility of income – potentially more variation in outcomes under other conditions**
- **Why? Decreased observability of transfer and increases women's control over resources**
  - **Intra-household decision-making is very context specific**
  - **Potential other impacts or channels in the longer term**

# Policy

- **Evidence of impact in Kenya and Rwanda, but a fraction of what we need to know**
- **“If we build it, they will come”**
  - **Need a supply-side (agents, platform) and demand side approach (sensitization, trust, ability to use)**
  - **Is m-money profitable for the service providers in the short-term? Would other financial services be profitable?**
- **Mobile money can potentially promote financial inclusion, but will not necessarily “bank the unbanked”**
  - **Savings, credit, insurance**
- **Payments can potentially “push” take-up (but will people use it?)**

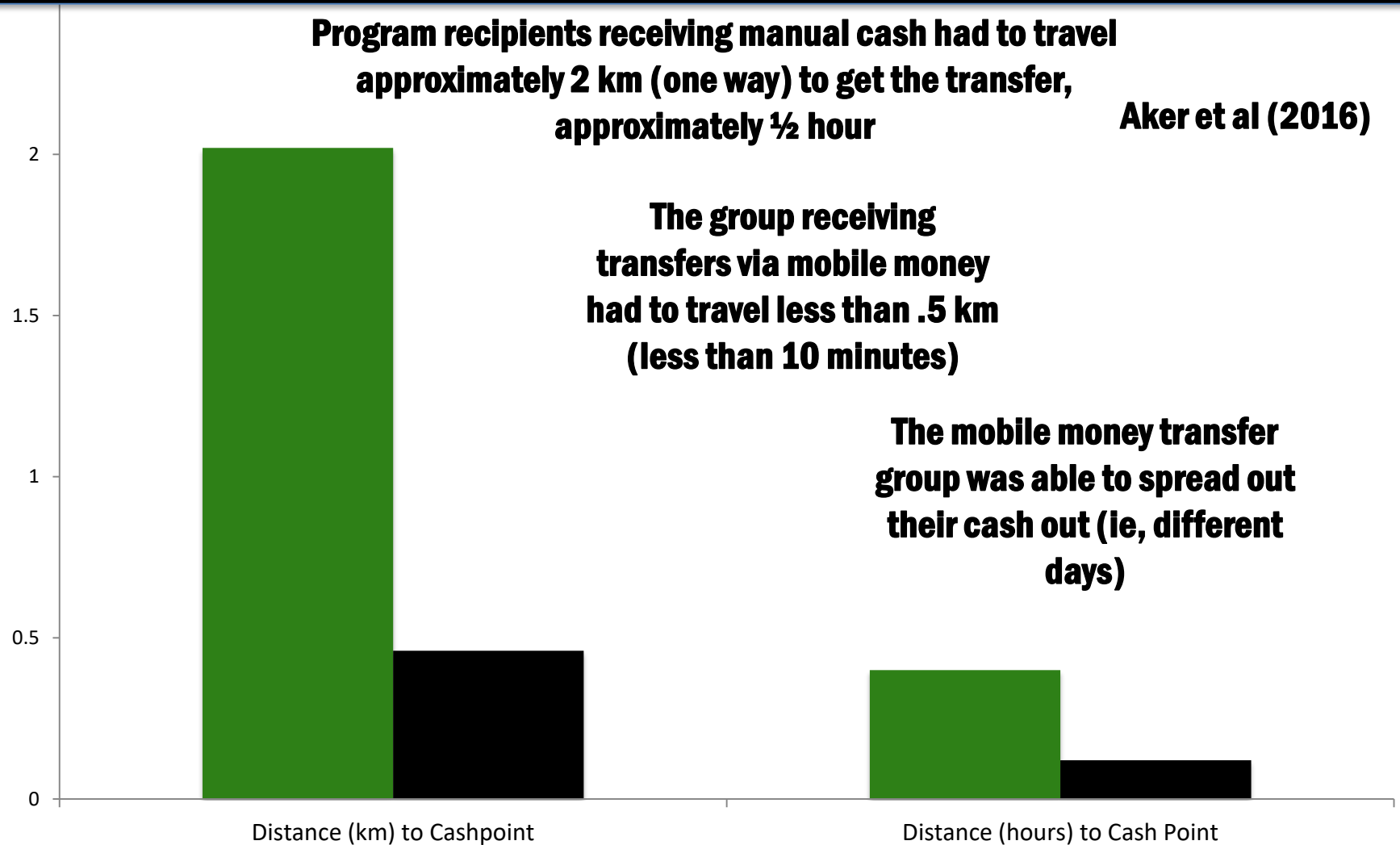




Thank you  
Merci  
Na gode  
Fofu

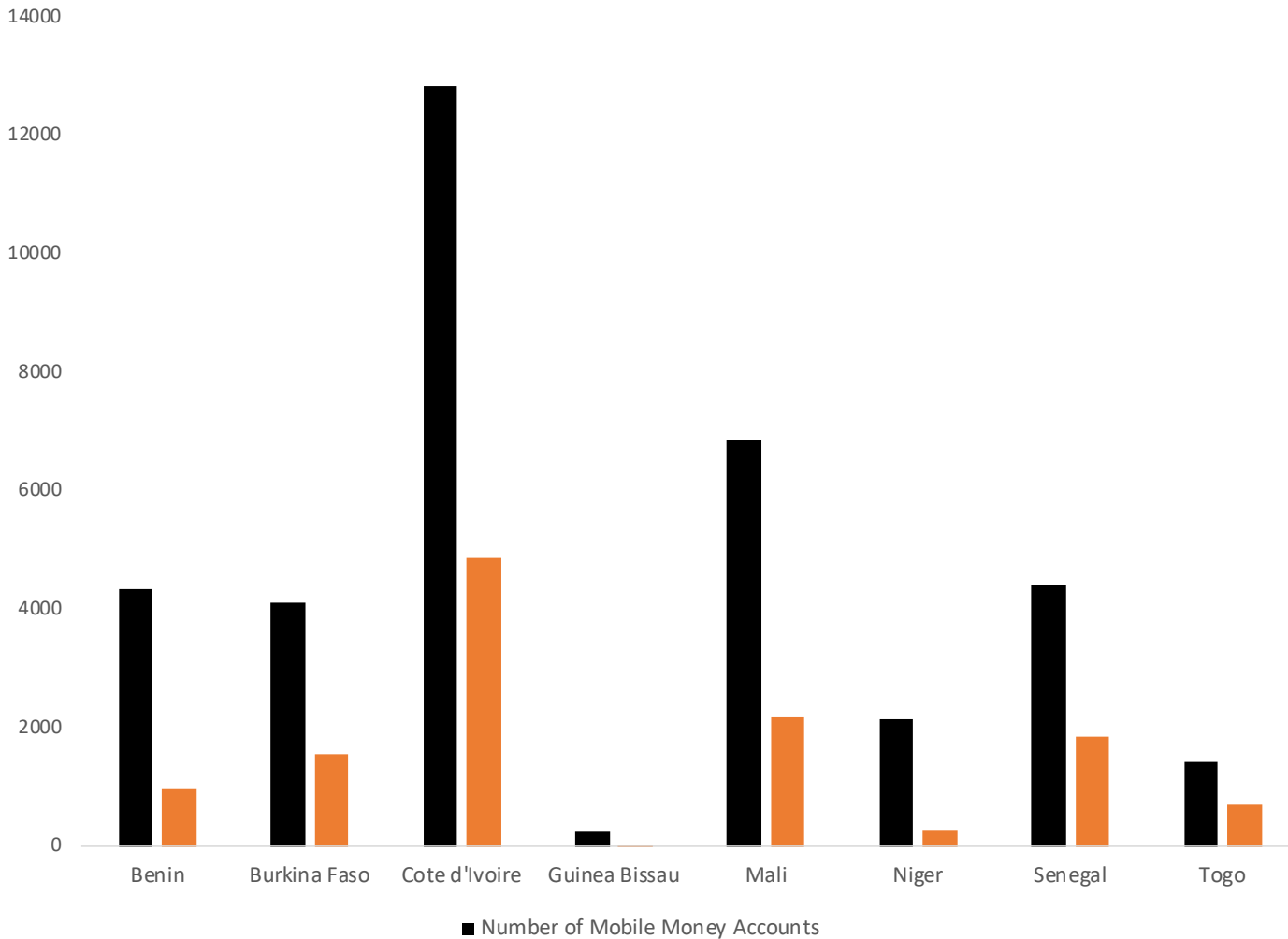
# #4 | Mobile money is less costly than manual cash

Beneficiaries of mobile money cash transfers had to travel shorter distances in Niger



# #1 | Mobile Money Adoption is Heterogeneous

The number of active users is far below total subscribers, and ranges from 1-20% in West Africa



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# #2 | Mobile Money Agent Density is a Challenge

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# **#1 | Adoption, Agents, Timing and Corruption**

## **1. Build or support existing mobile money systems**

- Register more agents or different types of agents**

## **2. Think of creative ways to increase adoption**

- Have a more flexible approach to registration or use a technology that allows a user to send money to a non-mobile money user (called “envoie-code”).**

## **3. Spread out payments to avoid crowding**

## **4. Balance innovation with concerns about corruption and leakage**

