



# Cash-in/cash-out agent networks:

# Reaching the last mile in financial inclusion

Global landscape of economic incentives to catalyze rural CICO/ DFS expansion

AUGUST 2019

BILL & MELINDA  
GATES *foundation*

# Overview of materials available on this microsite



Overview & key highlights from the research

Role of CICO for financial inclusion



Sizing the CICO access challenge



Exploring potential interventions



Illustrative country deep-dives



# Contents of this document

This document lays out the key insights gathered from a **global landscaping study** focused on **incentive levers to catalyze the rural expansion of CICO services** for the purpose of financial inclusion

**55+ detailed case studies** and **30+ expert interviews** were conducted across sectors and markets as part of this study

The first section of this document highlights the **key 'global' insights** from the research, while the second section introduces an **approach and tools to apply these insights to local country contexts**

The **companion document "Incentives Case Study Compendium"** provides additional details on the case studies developed as part of this analysis

For more details on the approach and tools for country application, please contact our team at [cico\\_economics@bcg.com](mailto:cico_economics@bcg.com)

# Key insights from this document

A global 'landscaping' of supply-side economic incentives identified 12 potential levers to catalyze expansion of CICO services for the purpose of financial inclusion. These levers fall into three main categories:

- **Inclusion guidelines** (e.g., Coverage targets, inclusion mandates) - to "push" or prompt providers' expansion into rural areas
- **Direct profitability improvements** (e.g., Favorable contracts, income guarantees, price guidelines, discounted inputs) - to increase revenues or cut costs and improve the economics of providers and/or agents at least in the near-term
- **Demand generation** (e.g., Creation of new use cases for DFS, end-user consumption subsidies) - to create a "pull" for providers and agents CICO/ DFS services; and ensure viable demand and revenues even after the incentives has been removed

Study also surfaced key insights on incentive design and implementation; for example: successful rural expansion initiatives requires a combination and sequencing of incentive levers to develop both demand and supply sides of the CICO/ DFS equation

- While developed markets have traditionally led with "push" levers followed by "pull" ones, developing markets will need to tailor their incentive portfolio to the local country context and may also experiment with introducing interventions more simultaneously

Beyond economic incentives, broader and longer-term government interventions (e.g., regulations, cross-industry partnerships, innovation, large-scale infrastructure investments) will likely need to be explored and activated as well

Looking ahead, 3 key steps will help translate these global insights into practical CICO pathways for developing markets:

1. **Define context-specific priorities/ ambitions for CICO expansion/ improvement** to advance country's financial inclusion agenda
2. **Identify the most pressing root causes** inhibiting CICO expansion/ improvement in-country that need to be addressed in priority; and **select potential incentive levers** to overcome these (based on a proposed 'decision tree' tool)
3. **Gather context-specific design considerations** from past successes/ failures to design new in-country interventions, in partnership with in-country stakeholders

# Objectives of this research of this research

Inventory, assess and prioritize supply-side **'incentive levers'**

with highest potential to **increase economic prospects** of providers and agents

in order to accelerate expansion of CICO networks in **'rural frontiers'**

and drive **financial inclusion**



# Achieving rural CICO coverage may require broad range of interventions from government & inclusion stakeholders

Potential for near-term implementation & impact

Longer-term implementation & impact

## Incentives to make CICO economics more attractive

- Focusing providers' attention on the rural expansion imperative
- Improving short-term economics for providers/ agents to catalyze expansion
- Creating conditions for providers to invest/ innovate & improve long-term viability

*Focus of document*

## Innovation to develop new CICO & post-CICO models

- Solving operating model challenges in the frontier (e.g., new liquidity mgmt./ agent network mgmt. models)
- Developing new products/ services/ distribution channels for rural consumers, including new use cases that keep money digital (without resorting to CICO)

## New partnerships to support CICO/ DFS value chains

- Establishing pre-/ non-competitive spaces for financial players to co-develop shared agent networks and other CICO/ DFS infrastructure
- Brokering new partnership models with players across industries to conduct rural consumer research & develop new go-to-market approaches

## Data to improve CICO/ DFS network efficiency and effectiveness

- Collecting, analyzing and using data to:
- Improve CICO access, utilization & sustainability
  - Size number of new agents needed & optimize allocation for coverage & viability
  - Estimate potential support/ investment required for viability
  - Improve agent network mgmt. & reduce operating costs (e.g., liquidity mgmt.)

## Regulations to unlock/ enable CICO/ DFS expansion

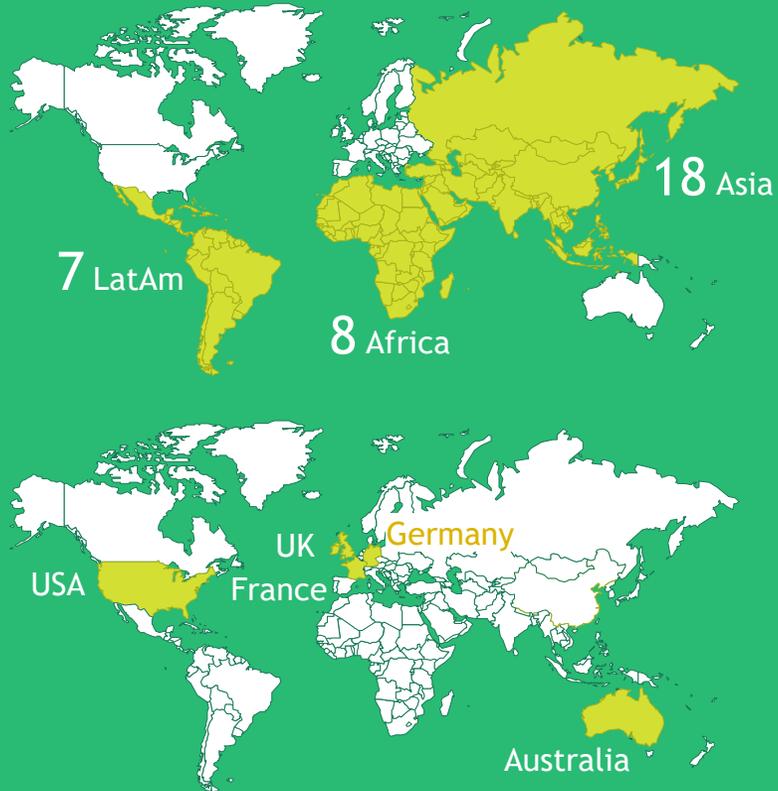
- Revising/ passing new regulations related to:
- Consumer/ agent KYC requirements
  - Mobile money interoperability
  - Transaction fees
  - Provider/ agent eligibility criteria (incl. "dedication" & "exclusivity" criteria)
  - Products/ services guidelines
  - Third-party Agent Network Managers guidelines
  - Taxes

## Large-scale investments in 'infrastructure'

- Extending physical/ technology/ banking infrastructure (e.g., mobile connectivity, electricity, roads, bank branches)
- Supporting financial platforms (national ID systems, central payments switches, mobile money interoperability)
- Investing in human capital/ workforce training (e.g., basic/ digital/ financial literacy)

# Global incentives landscape study reviewed 55+ case studies in detail and 30+ expert interviews across regions and sectors

## 55+ initiatives reviewed across regions/ industries



19 initiatives related to CICO in developing markets

14 initiatives related to the rural expansion of other industries (e.g., utilities, telco) in developing markets

24 initiatives across 5 markets related to the expansion of financial services to low-income/ remote populations in developed markets

## 30+ experts across regions and organizations



BCG



Financial Services



Consumer Goods



Public Sector



Tele-comms.

Global health

Source: See companion Compendium document for additional detail on specific case studies

# Key insights from global incentive landscaping study



**12 distinct incentive levers were identified globally as having potential to catalyze rural expansion of agent networks**



**Out of these, 6 levers were assessed to have particularly high potential, especially when used in combination, to catalyze near-term CICO network expansion while improving long-term viability prospects in frontiers**

- Mandates or coverage targets to "push" providers to expand their networks in rural areas
- Preferred financing/ loans, income guarantees/ fee subsidies to boost near-term attractiveness of expansion
- Price guidelines, consumer behavior shaping nudges, and creation of new use cases to ensure long-term healthy market conditions with prices that cover costs to serve and sufficient demand



**To date, efforts in developing markets seem to have mainly focused on: mandates or coverage targets, preferred financing or income guarantees and the creation of new use cases (esp. via the digitization of G2P payments)**

- And while they have had promising results on increasing presence of providers/ agents in rural areas, impact on long-term financial viability of these providers/ agents is yet to be determined



**Rural expansion efforts in developed markets or more 'mature' industries (e.g., utilities, telecommunications) point to two additional levers, which could have potential for CICO especially:**

- Price guidelines, e.g., tiered pricing has enabled expansion of water & electricity services in rural Gabon
- Consumer behavior shaping nudges, e.g., matched savings have encouraged consumers' usage of DFS in U.S.



**Beyond the selection of individual levers, key to successful rural expansion will be to take a 'portfolio' approach to develop both the demand and supply sides of the CICO/ DFS equation**

- While developed markets have traditionally led with "push" levers followed by "pull" ones, developing markets will need to tailor portfolio to their context and could experiment with more simultaneous interventions



**While main focus of global study is on direct economic incentives, broader and longer-term government interventions (e.g., regulations, cross-industry partnerships, innovation, large-scale infrastructure investments) will need to be explored as well**



# 12 distinct incentive levers were identified globally as having potential to catalyze rural expansion of agent networks

Inclusion guidelines	Direct provider/ agent profitability improvements	Demand generation
<ul style="list-style-type: none"> <li>1 Mandates/ service obligations/ new urban opening restrictions to force service in frontier areas</li> <li>2 Coverage/ service level targets to encourage service in frontier areas</li> </ul>	<ul style="list-style-type: none"> <li>3 Preferred financing/ loans to fund initial operations setup of providers/ agents</li> <li>4 Research &amp; innovation grants to help providers adapt DFS offerings/ operating models to rural customer needs</li> <li>5 Favorable government contracts with terms that ensure provider/ agent viability or ability to cross-subsidize in rural areas</li> <li>6 Income guarantees/ fee subsidies to ensure viability in early days</li> <li>7 Price guidelines to ensure fees cover cost to serve</li> <li>8 Tax rebates or credits to incentivize collaboration or innovation or ensure positive bottom-line in early days</li> <li>9 Discounted inputs/ operational support for providers or agents to reduce costs</li> </ul>	<ul style="list-style-type: none"> <li>10 Direct subsidies to end-consumers (e.g., discounted/ waived transaction fees) to encourage DFS adoption</li> <li>11 Creation of new use cases to kick-start and guarantee minimum DFS/ CICO demand by rural consumers</li> <li>12 Consumer behavior shaping nudges (e.g., incentives/ rewards) to encourage usage for long-term</li> </ul>



# Detail: 12 distinct incentive levers identified globally

Category	Incentive levers	Description
Inclusion guidelines	1 Mandates/ service obligations/ new urban opening restrictions	Requirement for providers to serve rural customers, regardless of underlying economics (internal cross-subsidization); typically executed via a financial inclusion policy mandate or via terms of provider licensing agreement
	2 Coverage/ service level targets	Direct regulation of provider network expansion, incl. minimum coverage requirements in rural areas, restriction of licenses for new provider branches/ agents opening in saturated urban areas
Direct provider/ agent profitability improvements	3 Preferred financing/ loans	Grants, no/low-interest loans, loan guarantees to help cover high upfront investments and/ or expansion costs, and reduce investment risk for providers, aggregators, and/ or agents
	4 Research & innovation grants	Grants to fund (fully or partially) research and innovation efforts (by providers individually or by industry consortium as pre-competitive research) in order to conduct market and user research and adapt existing CICO/ DFS products, services and/or operating models to rural customer needs
	5 Favorable government contracts	Government licensing agreement/ contract - created in collaboration with providers - with commercial terms that enable providers to recoup investments and earn a viable profit (fee structures aligned to cost to serve, potentially a right to operate in certain geographies exclusively/ without competition for a certain amount of time)
	6 Income guarantees/ fee subsidies	Payment of 'income fee' by government to providers to add revenue (on top of payment from consumers) to ensure costs are covered and minimum profitability requirement is met
	7 Price guidelines	Favorable DFS pricing guidelines to enable providers to cover costs or earn profit (e.g., revised caps, deregulation)
	8 Tax rebates or credits	Reduced tax burden (e.g., registration, capex, income tax) to lower upfront investments or increase operating profits
	9 Discounted inputs/ operational support	Provision of inputs at discounted prices or coverage of main operational cost drivers for providers, aggregators, agents (e.g., low-cost generators, dedicated public transportation leveraged for cash delivery to remote areas)
Demand generation	10 Direct subsidies to end-consumers	Payment of fixed or variable amount to end-consumers (typically based on income level) to ensure affordability of access to and sustained consumption of service (e.g., discounted DFS transactions, personal credit to use DFS)
	11 Creation of new use cases	Policies/ programs that increase customer adoption and utilization of DFS services, driving increase in total DFS transaction volumes (e.g. G2P digitization programs)
	12 Consumer behavior shaping nudges	Behavioral nudges/ incentives to increase adoption and sustained use of DFS by end-consumers (e.g., showing benefits, reassuring on costs and risks)



# Levers were assessed based on 4 dimensions to identify those with higher potential for rural expansion of CICO agent networks



## Direct impact (effectiveness)

Potential to expand CICO networks - at least during time incentive is in effect

- I.e.,
- Increase the number, reach and viability of FSPs and agents in frontier areas
  - Boosting the demand for DFS



## Indirect impact (externalities)

Potential to develop the market for the long-term

- I.e., Develop
- Demand (number of users & usage)
  - Industry structure (number & quality of FSPs)
  - Operational environment in frontier areas



## Financial efficiency & sustainability

Potential for scheme to

- Generate revenues (or profits) for FSPs and agents that outweigh costs of scheme
- To be financially sustainable over time - as needed - for funders (and esp. government)



## Feasibility

Potential for scheme to

- Be technically/ operationally feasible (i.e., min. infrastructure and HR capital are in place)
- Be institutionally/ politically feasible (i.e., overall support from most key stakeholders incl. consumers)



# 6 levers assessed as most promising, especially if combined, to catalyze near-term CICO expansion while improving long-term viability prospects in frontiers

	Levers	Purpose	Examples
“Push”	<b>1</b> Mandates/ service obligations <b>2</b> Coverage/ service level targets	Drive quick expansion of providers/agents in frontiers	<b>India</b> Banks to open 25% of new branches in underserved areas each year <b>Malaysia</b> New agent points only allowed in “unserved areas” (with <2000 people and no CICO access)
	<b>3</b> Preferred financing/loans	To incentivize and de-risk providers/agents initial set-up and operational model experimentation	<b>Nigeria</b> Preferred loans of up to \$1.5M to help MMOs expand operations <b>Australia</b> CDFI Pilot Fund providing \$10M+ to test CDFI model in country
“Pull”	<b>6</b> Income guarantees/ fee subsidies	To ensure economic viability in early days for agents and providers	<b>Colombia</b> Decreasing income guarantee planned over three years to enable agents <b>DRC</b> \$100 monthly stipend provided to agents in first three months to aid set-up
	<b>7</b> Price guidelines	To ensure fees cover cost to serve, fostering a healthy market for longer-term provider/agent viability <sup>1</sup>	<b>UK</b> Rise of interest rate ceiling credit unions can charge (1%-3%) <b>Kenya</b> Tiered transaction fees to secure margins and ensure delivery in frontiers
	<b>11</b> Creation of new use cases	To jump-start and build consumer demand for DFS	<b>Pakistan</b> Digitization of \$900M of BISP social benefits to 5.4M women in 2016 <b>Bangladesh</b> Digitization of children education benefits to 10M women in 2017
	<b>12</b> Consumer behavior shaping nudges	To support DFS adoption and usage for long-term (via awareness/ education campaigns and active behavior shaping)	<b>USA</b> IDA accounts building savings habit of 115K consumers over time <b>UK</b> MAS: Financial advice platform providing guidance to 10.5M in 2017

1. Potentially adding “compensating” consumer subsidies for low-income segments to protect from rate hikes



# Detail: 'Mature' contexts (developed markets, other sectors) have successfully employed all 6 levers to expand services into frontiers

Levers	Financial services in developed markets	Other industries in developing markets
1 Mandates	 Since inception of status, 'Regional Savings Banks' have spread to 400+ banks operating <b>15,000+</b> branches nation-wide, and responsible for <b>70% of SME financing</b> across Germany	 Contractual coverage targets & favorable contracts enabled 4 providers to partner, and <b>profitably</b> expand telco services to <b>+5.6M</b> rural consumers in 4 years and 4G to <b>+3,000 cities</b> (3x initial target)
2 Coverage targets	<i>Germany</i>	<i>Brazil</i>
3 Preferred financing/loans	 Since 1988, ADIE has lent <b>€ 25M</b> to marginalized entrepreneurs. To date, <b>86K</b> businesses created; <b>€ 45M</b> generated and <b>€ 17M</b> social costs averted	 Government grants covering <b>~30%</b> of initial investments enabled private water pipe providers to develop rural water schemes profitably, giving <b>98k+</b> people access to safe water
6 Income guarantees/ fee subsidies	<i>France</i>	<i>Bangl.</i>
	• N/A	
7 Price guidelines	 Regulatory revisions allowed credit unions (CUs) to charge higher rate on risky loans (1% to 3%) increasing their viability & expansion; <b>+200% increase in volume of personal loans via CUs between 2004 &amp; 2009</b>	 Government <b>subsidizes enrollment of poor households</b> in voluntary healthcare social assistance program that covers <b>~99%</b> of all rural residents. Pooled funds for the program help cover healthcare costs and provider costs to serve
11 Creation of new use cases	<i>UK</i>	<i>China</i>
	 Starting in 2008, DirectExpress cards were distributed to Americans to receive their benefits digitally despite not having a bank account - <b>3M using the card by 2012</b>	N/A - no examples of 'creation of new use cases' in most utilities sectors given 'basic' nature of goods (water, electricity, power, etc.)
12 Consumer behavior shaping nudges	<i>USA</i>	
	 Money Advisory Service was relaunched in 2010, and in 2017 provided financial guidance to <b>10.5M people</b> ; helped <b>487K people resolve debt issues/ negotiate with creditors</b> (equivalent to <b>£43.1M</b> in debt advice); etc.	 <b>Educated</b> public on new biogas technology/ advantages & provided flat-rate <b>subsidy</b> to consumers covering <b>~30%</b> of new plant construction; <b>158K+ plants built for ~800K individuals in rural areas</b>
	<i>UK</i>	<i>Vietnam</i>

Sources: Desk research, expert interviews, BCG analysis. See Appendix for details on list of case studies



# To date, efforts in developing markets seem to have mainly focused on 4 of these top levers to expand CICO networks

1 2

## Mandates or coverage targets

Mandates (or sometimes coverage targets as part of FSPs' licensing agreements) have shown promising results in driving quick expansion of rural agents/ outlets

 *Malaysia* New agent points only allowed in "unserved areas" (geographies with <2000 people and no access to CICO)

 *Mexico* Government set coverage targets for expansion of digitized Oportunidades social assistance payments through Bansefi bank

3

## Preferred financing/ loans

Favorable financing (e.g., preferred loans) schemes are being tested to help FSPs set-up operations in rural areas - results yet to be measured

 *Nigeria* Central Bank created \$56M fund to help Mobile Money Operators/ Super Agents expand into rural with preferred loans

 *China* Central gov't allocated \$300M to 200 rural counties to develop logistics & warehouses to expand e-commerce

6

## Income guarantees/ fee subsidies

Income guarantees are being used to enable rural expansion and cover costs to serve of providers & agents - coverage results are promising, but long term viability unproven yet

 *Colombia* Government auctioned contracts to providers, offering income guarantees to meet rural coverage targets

 *India* Central Bank provides guaranteed minimum salary for agents to encourage coverage of less viable regions

14

## Creation of new use cases

G2P payments digitization are emerging as popular option to generate demand for DFS in urban & rural areas - initial results seem promising

 *Kenya* Government digitizing benefits disbursements with several providers and providing tiered subsidies to reflect cost to serve

 *Pakistan* Similar G2P setup in Pakistan with Benazir Income Support Program in partnership w/ Telenor (MNO)



# Despite promising results on increasing presence of CICO in frontier areas, impact on long-term financial viability yet to be determined

While interventions have shown promising results on expanding rural footprint...

... Impact on improving FSP/ agent profitability yet to be determined



Malaysia

New branch opening restrictions increased the **share of sub-districts with access to FS by more than 2X in 6 years** (from 46% to **97%** between 2011-2017)

However, agent banking is still not a **profitable line of business for BSN** (responsible for more than 80% of agent transactions in Malaysia)



Colombia

Coverage targets & income guarantees for G2P distribution gave rise to new agents in **187 municipalities** in ~3 years that program lasted (in line with initial target), bringing total share of municipalities in country with FS access to **99%**

However, **number of agents performing zero transactions per month significantly increased after the subsidy ended** (~20% of agents that opened with program making zero transactions per month 1 year after end of program)



Kenya

National Safety Net Program's digitization, involving tiered transaction fees, was led to successful disbursements of benefits to **1M beneficiaries across zones A (urban), B (peri-urban/ dense rural) and C (rural), a year after launch; and increased number of agents in zone C**

However, **coverage targets for zone C** ("all beneficiaries within 20 km of an agent") **not achieved yet** - transaction volumes might be too low and transaction fees not high enough to ensure agent viability in the more remote areas



# Two additional levers, observed in more 'mature' contexts, could have potential for CICO expansion and viability in developing markets

## Levers

## Learnings from other markets/ industries

7

### Price guidelines

**Differentiated or market-based pricing** enables providers to boost profits in dense urban areas, in order to cross-subsidize operations and become viable in rural areas. Might require:

- Hands-on collaboration between government & private providers to determine the "right price(s)"
- New/ revised regulations (if prices fixed/ capped by government)
- Technical support to providers to evolve pricing models (if provider practices uniform pricing)
- 'Compensating subsidies or social tariffs' to protect low-income consumers



Gabon

Government established 2-tiered electricity tariffs to enable SEEG (private utilities provider) to boost profits in large cities and fund investments into low-profit rural electricity & water centers

12

### Consumer behavior shaping nudges

**Explicit DFS product features** have potential to both to shape the behavior and potentially educate consumers to build long-term demand/ continued usage of DFS. Might require:

- Transparent, explicit goals and rewards (e.g., rewards for savings, no rewards for withdrawals)
- Education and/or marketing campaigns to generate awareness and interest of consumers
- Agent touchpoint with consumer to explain/ accompany adoption and motivate usage



USA

Government partnered with financial institutions and nonprofits to develop 'Individual Development Accounts' (IDAs) to help low-income individuals save for specific goals (e.g., homeownership, business ownership). Savings habit of account owners were built through matched savings incentive



# Beyond the selection of individual levers, key to successful rural expansion will be to take a 'portfolio' approach

Expansion of financial services to underserved populations in **developed markets** have typically followed following sequence with "push" levers closely followed by "pull" ones



**Mandates** (US, GE, FR) or **preferred financing** (UK, AU, CH) to create the initial impetus for providers to expand



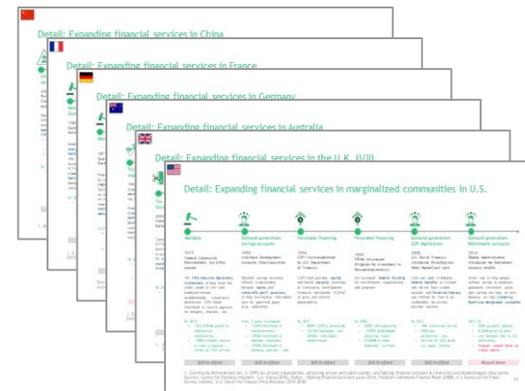
**Creation of new use cases** (e.g., basic bank accounts, savings, microcredit) almost simultaneously - or even before Favorable Financing - to unlock latent demand



**Consumer behavior shaping** and education - to scale and ensure usage of new products/ services put on the market by government/ providers



And, emerging more recently, **cross-industry partnerships** interventions/ attempts to share knowledge and establish new partnership models and solutions to Inclusion



Note: Sequence seen overall in developed markets - many of which already had key infrastructures in place (e.g., connectivity, electricity)

Opportunity for developing markets to tailor to their unique context and needs; and learn from developed markets to combine "push-pull" levers and accelerate expansion



# Beyond direct economic incentives, broader and longer-term interventions will need to be explored as well

Potential for near-term implementation & impact

Longer-term implementation & impact

Incentives to make CICO economics more attractive

- Focusing providers' attention on the rural expansion imperative
- Improving short-term economics for providers/ agents to catalyze expansion
- Creating conditions for providers to invest/ innovate & improve long-term viability

Innovation to develop new CICO & post-CICO models

- Solving operating model challenges in the frontier (e.g., new liquidity mgmt./ agent network mgmt. models)
- Developing new products/ services/ distribution channels for rural consumers, including new use cases that keep money digital (without resorting to CICO)

New partnerships to support CICO/ DFS value chains

- Establishing pre-/ non-competitive spaces for financial players to co-develop shared agent networks and other CICO/ DFS infrastructure
- Brokering new partnership models with players across industries to conduct rural consumer research & develop new go-to-market approaches

Data to improve CICO/ DFS network efficiency and effectiveness

- Collecting, analyzing and using data to:
- Improve CICO access, utilization & sustainability
  - Size number of new agents needed & optimize allocation for coverage & viability
  - Estimate potential support/ investment required for viability
  - Improve agent network mgmt. & reduce operating costs (e.g., liquidity mgmt.)

Regulations to unlock/ enable CICO/ DFS expansion

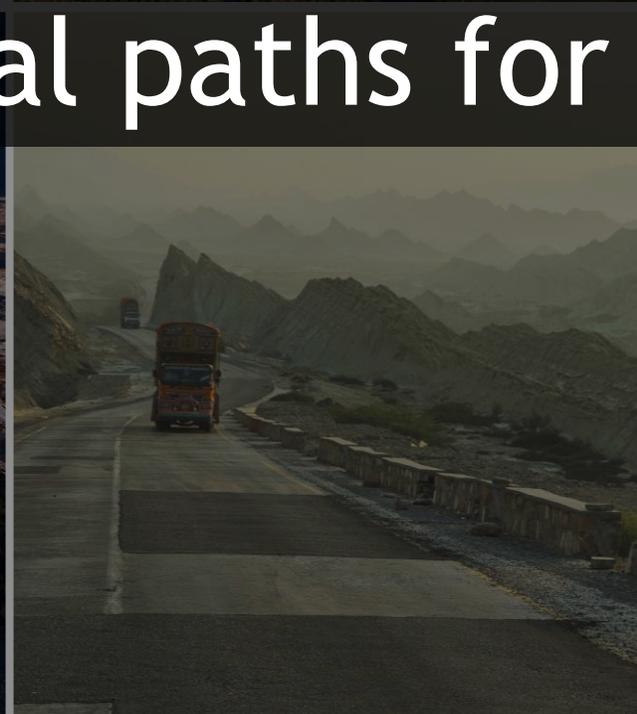
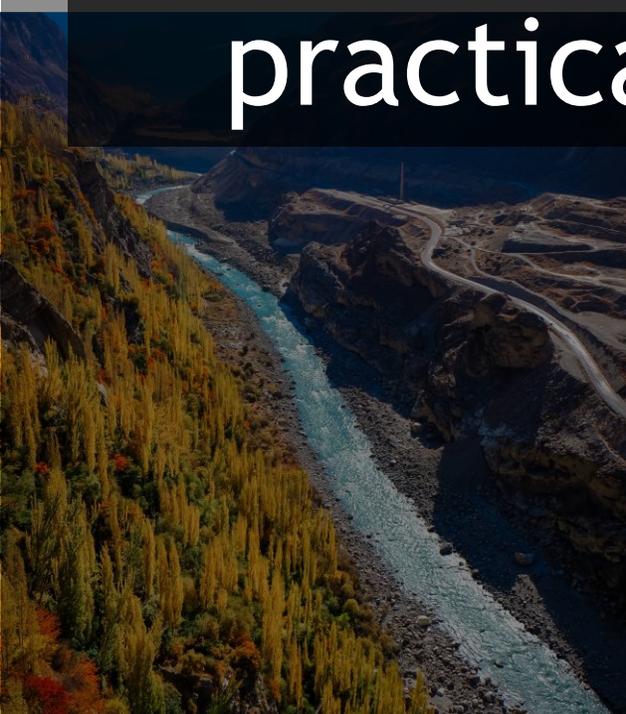
- Revising/ passing new regulations related to:
- Consumer/ agent KYC requirements
  - Mobile money interoperability
  - Transaction fees
  - Provider/ agent eligibility criteria (incl. "dedication" & "exclusivity" criteria)
  - Products/ services guidelines
  - Third-party Agent Network Managers guidelines
  - Taxes

Large-scale investments in 'infrastructure'

- Extending physical/ technology/ banking infrastructure (e.g., mobile connectivity, electricity, roads, bank branches)
- Supporting financial platforms (national ID systems, central payments switches, mobile money interoperability)
- Investing in human capital/ workforce training (e.g., basic/ digital/ financial literacy)



How to translate these global insights into practical paths for emerging markets?



# 3 steps to develop hypotheses on incentives/ economic interventions to expand/ improve CICO in given country

1

Understanding role of CICO in financial inclusion & size of CICO coverage gap in country



2

Identifying root causes of CICO gap/ limitations in country & potential relevant incentives

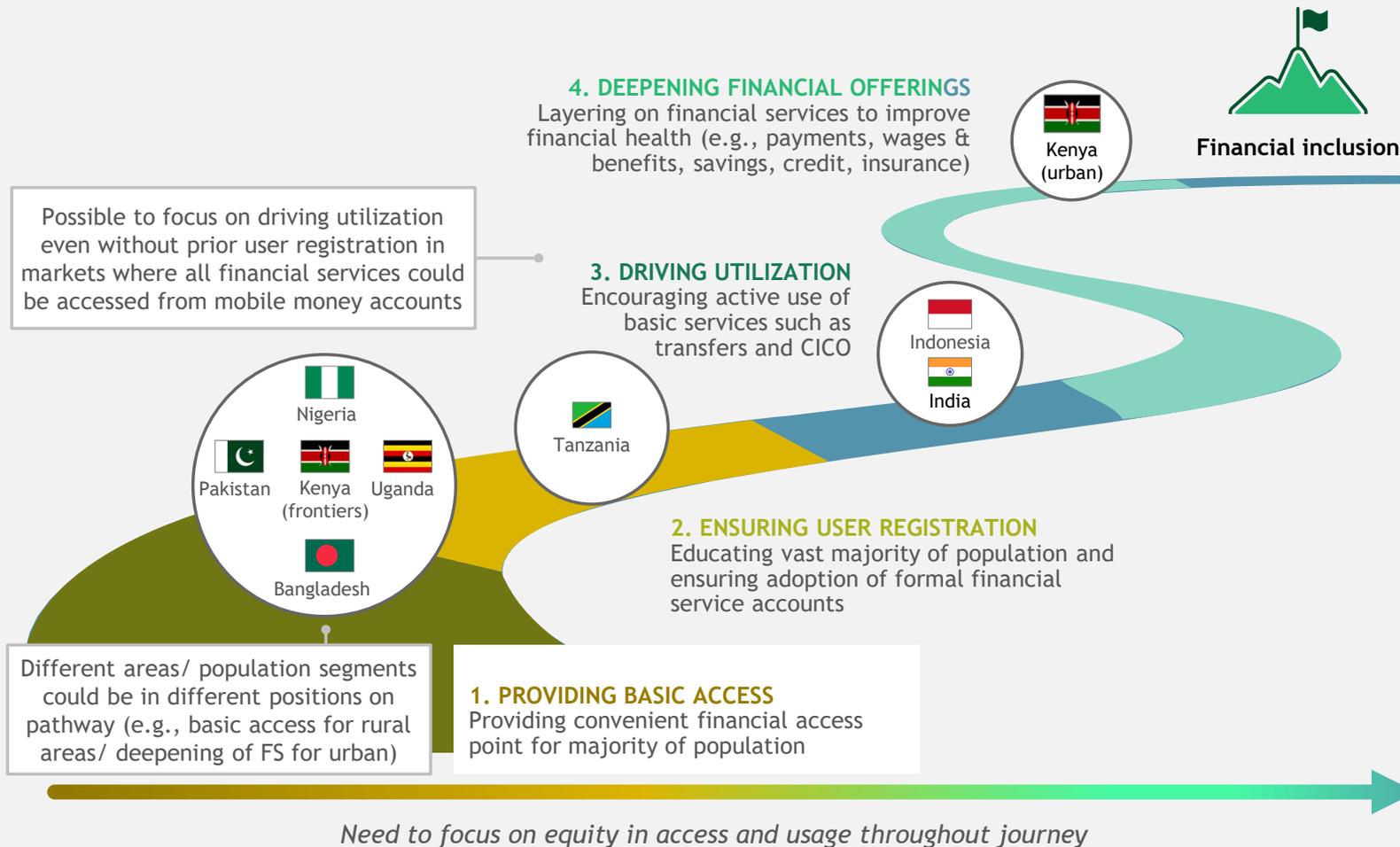


3

Learning from key principles/ best practices to design incentives for country context



# Priorities for CICO expansion/ improvement will need to be defined based on country's financial inclusion agenda



Between 2011 and 2014, number of unbanked adults decreased by 20% to 2 billion

Majority of countries have adopted national financial inclusion strategies and improved regulatory frameworks

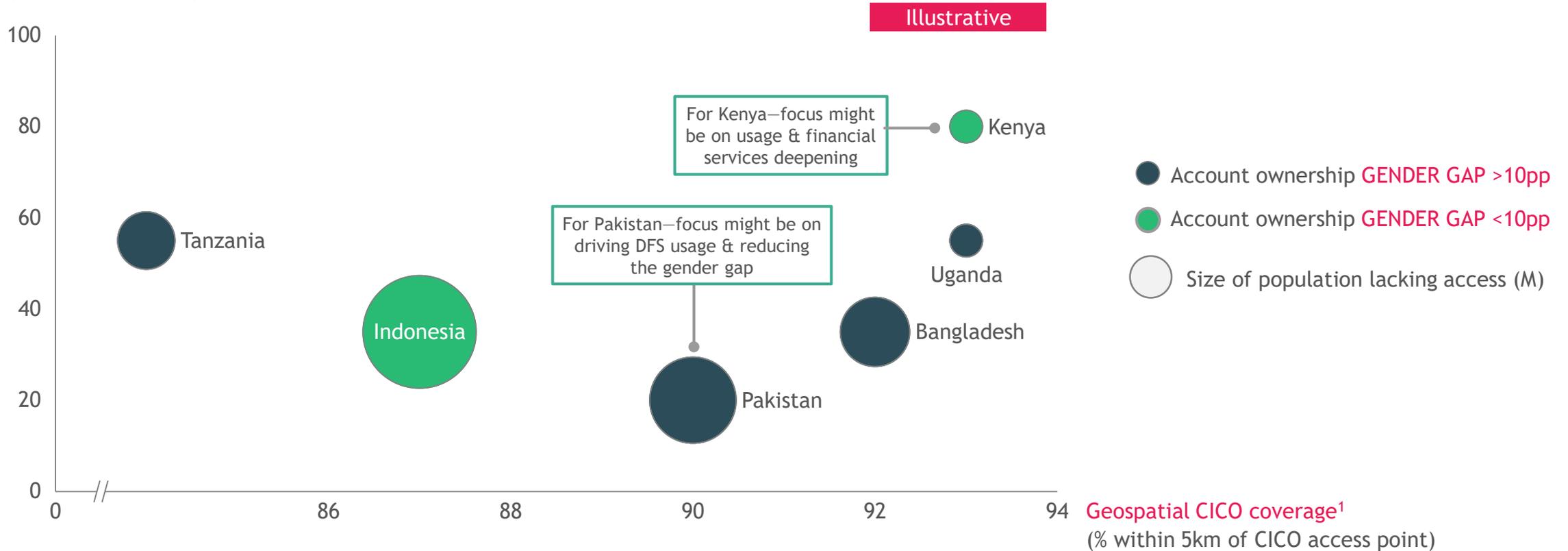
However, much progress remains to be done to achieve universal financial access by 2020 (as set by World Bank)

Priorities need to be defined at country level, and sometimes will even vary within country across areas/ population segments

# Detail: Priorities for CICO expansion/ improvement will need to be defined based on country's financial inclusion status and priorities (I/II)

## DFS penetration

(% active DFS users)



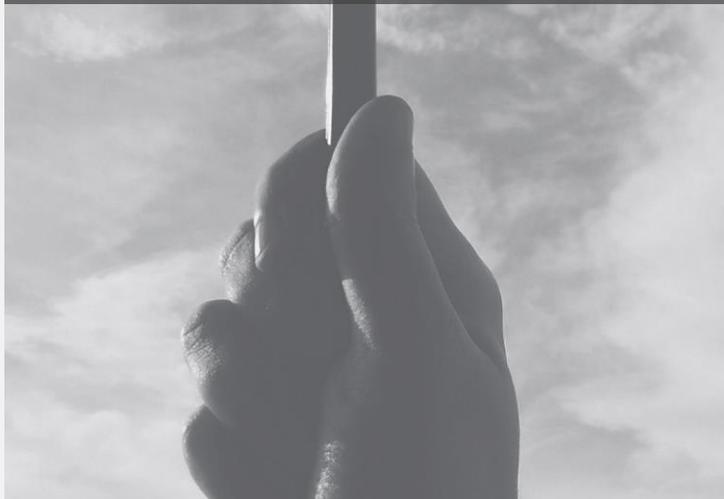
Note: CICO coverage statistic reflects BCG Geospatial analysis of population access to bank, ATM, or agent. DFS penetration estimate informed by Findex and Finclusion statistics (% made or received digital payment in the last year, % sent or received domestic remittances using an account, % active bank user, registered mobile money user or OTC user).

Source: BCG geospatial analysis; 2017 Finclusion country reports (Finclusion, 2017); Global Findex report 2017 (World Bank, 2017)

# 3 steps to develop hypotheses on incentives/ economic interventions to expand/ improve CICO in given country

1

Understanding role of CICO in financial inclusion & size of CICO coverage gap in country



2

Identifying root causes of CICO gap/ limitations in country & potential relevant incentives



3

Learning from key principles/ best practices to design incentives for country context



# Context-specific challenges/ root causes inhibiting CICO expansion and improvement will need to be analyzed



## Economics for providers & agents

Investment capacity, revenue streams, transaction volume, fee structure, setup/operating costs - at both provider- and agent-levels



## Regulatory environment

Characteristics of regulatory or policy frameworks - enabling vs. inhibiting achievement of viable business/ operating models



## Operational complexity

Availability and adoption of technologies/ business processes to ensure efficient and scalable operations



## Industry dynamics

Capability/ capacity of individual providers to achieve rural scale; level of industry collaboration to achieve value chain efficiencies



## Infrastructure

Availability/ reliability of 'physical' infrastructure, banking ecosystem, technology platforms, human capital

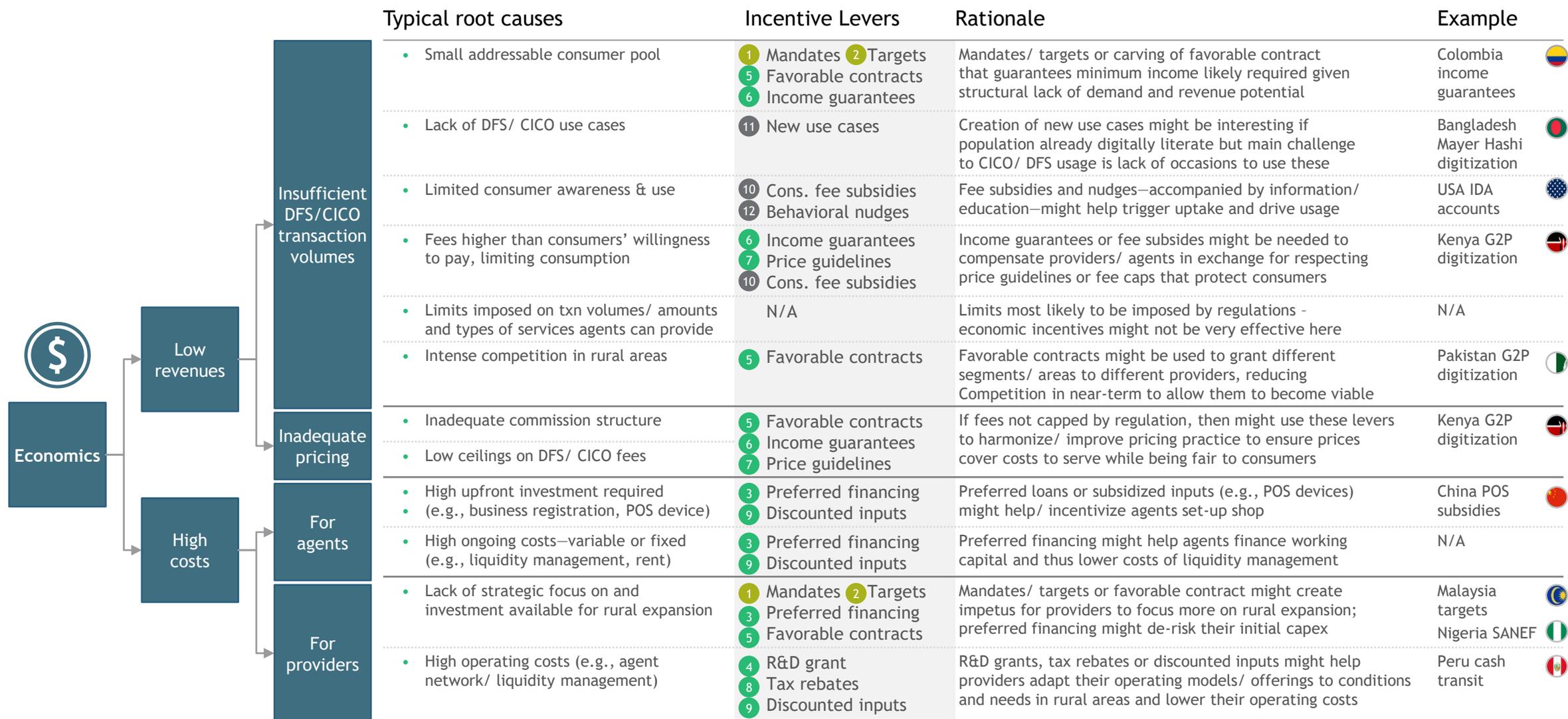
# Detail: Typical challenges/ root causes inhibiting rural CICO expansion

## Main challenge areas

## Typical root causes

 Economics	Revenues	Volume	<ul style="list-style-type: none"> <li>• Small/ insufficient addressable consumer pool in catchment area to provide DFS/ CICO services to</li> <li>• Lack of DFS/ CICO use cases limiting number of products/ services that can be provided to any given consumer</li> <li>• Limited consumer awareness and use inhibiting uptake and increase in transaction volume</li> <li>• Fees charged superior to consumers' willingness to pay limiting use of DFS/ CICO services</li> <li>• Limits imposed on transaction volumes/ amounts and types of services agents can provide (e.g., by regulations)</li> <li>• Intense competition in rural areas diluting total potential volume across many providers and reducing viability for all</li> </ul>
		Price	<ul style="list-style-type: none"> <li>• Inadequate commission structure negatively impacting either agents or providers' viability in rural areas</li> <li>• Low ceilings on DFS/ CICO fees (either due to regulations, industry practices or demand) not covering costs to serve</li> </ul>
	Costs	Agents	<ul style="list-style-type: none"> <li>• High upfront investment required (e.g., business registration, EDC device)</li> <li>• High ongoing costs - especially liquidity management costs (working capital requirement &amp; opportunity cost); lack of affordable financing options. Rent and other fixed costs could also be high for dedicated DFS agents</li> </ul>
		Providers	<ul style="list-style-type: none"> <li>• Lack of strategic focus on rural expansion; competing priorities in urban areas (e.g., limited investment resources), and bias towards short-term ROI (i.e., limited interest in cross-subsidizing long-term rural market development)</li> <li>• High operating costs (e.g., agent network management/monitoring, overhead, liquidity management)</li> </ul>
 Regulatory environment	<ul style="list-style-type: none"> <li>• Inhibiting/ constraining regulatory or policy frameworks - e.g., (i) <b>Stringent KYC requirements</b> undifferentiated by customer or account amount/ risk; (ii) <b>Provider guidelines:</b> restrictions on services non-bank providers can offer; (iii) <b>Agent guidelines:</b> restrictions on eligibility criteria including requirements to be dedicated, exclusive and authorized scope of activity; (iv) <b>Caps, fees and charge regulations;</b> (vi) <b>taxes</b></li> </ul>		
 Operational complexity	<ul style="list-style-type: none"> <li>• Legacy business decisions or limited technological/ business capabilities to innovate and optimize DFS technology, liquidity management and agent management processes for rural expansion</li> </ul>		
 Industry dynamics	<ul style="list-style-type: none"> <li>• High provider landscape fragmentation preventing any one provider from realizing economies of scale in rural areas</li> <li>• Lack of industry collaboration preventing development of shared agents networks</li> </ul>		
 Infrastructure	<ul style="list-style-type: none"> <li>• Lack of enabling 'physical' infrastructure: power grid, telco coverage, cash-in-transit infrastructure for liquidity management, appropriate workforce (number and training), etc.</li> <li>• Insufficient banking ecosystem: national unique ID system, interoperable payments technology, etc.</li> </ul>		

# 'Decision tree' tool could then be used to help shortlist potential incentive levers to address identified root causes in country (I/II)



Sources: 2018-2019 agent field research in 5 countries; Incentives Landscaping & Assessment study 2019; Expert interviews; BCG analysis

# 'Decision tree' tool could then be used to help shortlist potential incentive levers to address identified root causes in country (II/II)

	Typical root causes	Incentive Levers	Rationale	Example
 <b>Regulatory environment</b>	<ul style="list-style-type: none"> <li>Inhibiting/ constraining regulatory or policy frameworks - e.g., stringent KYC requirements; restrictions on services non-bank providers can offer; restrictions on agent licensing; fee caps; DFS taxes</li> </ul>	<p>N/A</p> <p><i>Regulations</i></p>	<p>Incentives unlikely to help overcome root causes if these are regulatory in nature. In specific cases, incentives might help smooth conditions for providers/ agents in near term (e.g., income guarantees could help overcome legally-set transaction fee caps), but regulatory intervention likely most appropriate</p>	<p>N/A</p>
 <b>Operational complexity</b>	<ul style="list-style-type: none"> <li>Legacy business decisions</li> <li>Or limited technological/ business capabilities to innovate and optimize DFS technology, liquidity management and agent management processes</li> </ul>	<p>3 Preferred financing</p> <p>4 R&amp;D grant</p> <p><i>Innovation</i></p>	<p>While large-scale/ long-term innovation interventions and funding might be required, in short-term, preferred financing and R&amp;D grants could help providers fund and de-risk initial investments to adapt their operating models and products/ services to the conditions and needs in rural areas</p>	<p>Nigeria SANEF </p> <p>China rural Taobao </p>
 <b>Industry dynamics</b>	<ul style="list-style-type: none"> <li>High provider landscape fragmentation preventing any one provider from realizing economies of scale in rural areas</li> <li>Lack of industry collaboration preventing development of shared agents networks</li> </ul>	<p>1 Mandates 2 Targets</p> <p>5 Favorable contracts</p> <p><i>Cross-industry partnerships</i></p>	<p>Mandates/ targets or carving of favorable contract - that either parcels out segments/ areas to different providers (to reduce competition) or orchestrates collaboration - might be required to align efforts towards rural expansion, and overcome counterproductive industry dynamics</p>	<p>Pakistan G2P digitization </p> <p>Brazil telco development </p>
 <b>Infrastructure</b>	<ul style="list-style-type: none"> <li>Lack of enabling 'physical' infrastructure: power grid, telco coverage, cash transit infrastructure for liquidity management, appropriate workforce, etc.</li> <li>Insufficient banking ecosystem: national unique ID system, interoperable payments technology, etc.</li> </ul>	<p>9 Discounted inputs</p> <p><i>Large-scale investments in infrastructure &amp; tech</i></p>	<p>While large-scale/ long-term investments in infrastructure might be required (e.g., connectivity, power supply, banking infrastructure), depending on context, 'discounted inputs' might help in short-term alleviate some of the operating costs for providers to help them become viable (e.g., liquidity mgmt.)</p>	<p>Brazil government liquidity mgmt. support (cash transit) </p>

Incentive levers may not be most adequate to address non-economic root causes; instead broader and longer-term interventions may need to be explored

# Examples: Countries around the world are experimenting with full range of levers to tackle their specific challenges and drive rural expansion of CICO/ DFS



Opening restrictions push new agents to underserved areas in Malaysia

*~50% increase in financial service coverage in 4 years*

1



Income guarantees help meet G2P distribution coverage targets in Colombia

*+187 rural municipalities with new agent banking*

2 6



Preferred loans help operators fund agent network expansion in Nigeria

*\$13.5M lent across 9 ops. to setup 10k agents each*

3



Favorable contracts enable deployment of new digitized G2P payments in Pakistan

*\$900M distributed to 5.4M women in 2016*

5 11



Government partnerships fund efforts to develop DFS for rural women in India

*+1500 rural female agents June 2017 to April 2018*

4 9



Tiered pricing helps providers meet G2P coverage targets in Kenya

*~\$120M disbursed to 1M beneficiaries last cycle*

2 7 11



Subsidies for point-of-sales terminals help merchants cover upfront costs in China

*~4M POS terminals opened in rural areas in 2011-16*

9



Consumer subsidies for biogas plants help generate rural demand in Vietnam

*158k+ domestic biogas digesters built in 13 years*

6



New matched-funds savings accounts (IDA) shape consumer behavior in USA

*\$117M earned income deposited by IDA holders*

11 12



Tax credits incentivize investments in marginalized areas in USA through CDEs<sup>1</sup>

*~750k jobs created or retained since 2003*

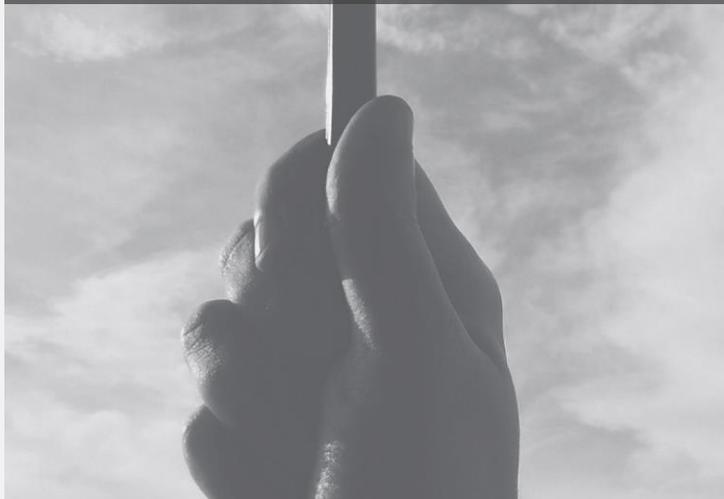
8

1. CDE: Community Development Enterprises. Sources: See details of 65+ global interventions reviewed and case studies in Compendium document (21 interventions related to CICO in developing markets; 16 interventions related to rural expansion of other industries in developing markets - e.g., utilities, telco; 29 interventions related to FS expansion in developed markets)

# 3 steps to develop hypotheses on incentives/ economic interventions to expand/ improve CICO in given country

1

Understanding role of CICO in financial inclusion & size of CICO coverage gap in country



2

Identifying root causes of CICO gap/ limitations in country & potential relevant incentives



3

Learning from key principles/ best practices to design incentives for country context



Beyond selection of potential levers, **specific design of intervention will be key to ensure impact & minimize risks in country**

Indeed, similar levers might be applied differently or create different impacts depending on context

E.g., Coverage targets were more successful in Kenya than Colombia - because bundled with market-based pricing guidelines rather than time-bound, pre-set income guarantees



2007-2010: Colombia granted **favorable contracts** to a main provider (BdO) offering **time-bound, pre-set income guarantees**, in exchange for meeting specific rural **coverage targets**

Intervention **successfully expanded agent network** coverage across the country (+187 rural municipalities and +22 marginal neighborhoods - in line with initial targets) **but had only limited success in driving long-term viability and activity** of these agents (In most remote areas, many agents shut down after guarantees ended)



2018: Kenya introduced '**market-based tiered-pricing model**' for digitized G2P disbursements to enable providers to cover costs to serve and **meet coverage targets** in each region (Zones A, B, C)

In 2019, providers had achieved **coverage/ service level targets in Zones A and B**. \$120M were disbursed to 1M beneficiaries in most recent cycle.

Targets for Zone C ('frontier') yet to be met. Pricing model for that zone **might be further revised based on providers' costs-to-serve estimate and inputs**

# Design principles and best practices emerge from global study



Build intervention as a combination/ sequence of 'push' and 'pull' levers to create impetus for rural expansion in near-term and develop demand for CICO/ DFS for long-term



While may distribute incentive via providers to be efficient and at-scale, need to design intervention for needs and habits of agents/ consumers to ensure adoption and usage



Collaborate closely with providers for design to ensure that interventions are operationally feasible, aligned with strategic priorities, and that incentives cover costs to serve



Foster competition amongst/ and leave room for flexibility on specific implementation details to providers in order to reduce costs and increase efficiency of intervention



Allow for multi-year investments; interventions will typically take longer to be successful (5-10 years more likely) than designed for (3-4 years)



Design interventions to mitigate risks (e.g., market distortion, gaming) to ensure that providers/ agents have built viable business in frontiers by the time intervention is removed



Define and agree with providers on simple, practical, easy-to-track targets and indicators (e.g., that do not require agent level audits) in order to serve as guideposts for design



Allow time/ budget upfront in intervention to co-refine of targets and evaluation framework with providers; Regularly measure, learn and iterate design to ensure impact over time

Will need to examine past/ ongoing efforts in market to understand specific local design considerations as well

# Detail: Design considerations surfaced from global study (I/II)

Consideration	Description
 Build intervention as a combination/ sequence of levers	<ul style="list-style-type: none"> <li>• <b>Combine/ sequence levers to develop both supply and demand.</b> E.g., Might need to accompany incentives for private-sector providers with 'push' mechanisms to create impetus for rural expansion</li> </ul>
 Design with primary & end-beneficiaries in mind	<ul style="list-style-type: none"> <li>• <b>Providers likely to be "primary beneficiaries"</b>, given ability to then reach agents/ consumers at scale; so need to design for their strategic priorities, operating model and economics             <ul style="list-style-type: none"> <li>- E.g., Mandated cross-subsidization might be more effective with state-owned vs. private banks</li> <li>- E.g., MNOs might require co-investments in telco infrastructure to consider rural DFS expansion</li> </ul> </li> <li>• <b>Consumers/ agents likely to be "end-beneficiaries" of interventions</b> - so need to design for their needs/ preferences to ensure adoption, sustained use and desired behavior change</li> </ul>
 Collaborate closely, especially with providers	<ul style="list-style-type: none"> <li>• <b>Engage with providers</b> to get costs to serve information &amp; estimate amount of incentives required</li> <li>• <b>Define clear objectives, roles and obligations (if relevant)</b> for government and providers in intervention e.g., providing funding, technical expertise, innovating, passing enabling regulations</li> </ul>
 Foster competition	<ul style="list-style-type: none"> <li>• <b>Negotiate hands-on with providers and/or select providers via competitive tender</b> (if relevant) e.g., based on ability to drive rural expansion with lower costs/ needs for incentives</li> <li>• <b>Leave flexibility to providers on how to operationalize intervention</b> to do so in most effective and cost-efficient way - will ensure best prices &amp; service level for agents/ customers in long term</li> </ul>
 Allow for multi-year investments	<ul style="list-style-type: none"> <li>• <b>Allow for multi-year interventions</b> to ensure sufficient demand for CICO/ DFS can build and agents can establish viable businesses that survive even after incentive is ramped-down             <ul style="list-style-type: none"> <li>- E.g., for G2P digitization programs, anticipate 2-3% of total disbursements as incentive</li> <li>- E.g., for most programs, anticipate 5-10+ years timelines</li> </ul> </li> <li>• Acknowledge that specific populations/ contexts might never become viable and <b>require interventions in perpetuity</b></li> </ul>

# Detail: Design considerations surfaced from global study (II/II)

Consideration	Description
 <p>Mitigate risks to ensure viability</p>	<ul style="list-style-type: none"> <li>• <b>Preserve natural market/ pricing dynamics and competition amongst providers to ensure continued innovation, service improvements and price decreases for consumers.</b> E.g., if giving temporary exclusivity contracts to boost providers' viability, might allocate different geographies/ areas to different providers to limit risks of monopoly; or bundle fee caps into contract</li> <li>• <b>Ensure agents use the incentive scheme as intended, to build sustainable business models and become viable in rural areas.</b> E.g., if incentivizing agents based on transaction volumes, might need to establish strong monitoring to ensure agents don't split transactions to boost volumes</li> <li>• <b>Build and preserve healthy consumer behaviors (e.g., usage of DFS, willingness to pay for services) to ensure demand viability.</b> E.g., if subsidizing CICO/ DFS transaction fees, still require consumers to share part of the fee to maintain paying habit &amp; make subsidy/ discount transparent</li> <li>• <b>Ensure government/ donor investments required are efficiently used and financially sustainable.</b> E.g., might release funding over time/ or based on specific performance thresholds, to ensure good budget management and leave room for providers to learn and improve over time</li> </ul>
 <p>Set specific objectives &amp; targets</p>	<ul style="list-style-type: none"> <li>• <b>Define and agree with providers on simple, practical targets and indicators</b> (e.g., number of new agent setup; agent viability after 2 years). <b>Opt for easy-to-track indicators</b> (e.g., transaction volumes might be challenging to track in certain markets if require in-person visit/ audit of agents)</li> </ul>
 <p>Regularly measure, learn and iterate</p>	<ul style="list-style-type: none"> <li>• <b>Allow for time/ investment to monitor intervention</b> to derive quick learnings and iterate on design and/or targets as needed</li> </ul>

# Global study illustrates how design considerations can be applied in country (I/II)



Build intervention as a combo/ sequence of levers

 *Water & sanitation development, Bangladesh*

**Supply:** Government trained & supported local entrepreneurs in latrine building; and their helped commercial development to build viable businesses

**Demand:** Government subsidized latrine costs for poor households to generate demand and provided education on hygiene to foster demand

55,000 household latrines built; ~200 builders trained and supported



Design with primary & end-beneficiaries in mind

 *BISP G2P digitization, Pakistan*

**Access:** Simplified account opening & eliminated fees for beneficiaries

**Hands-on support:** Set up one-stop tents w/in 5kms to register, and assist customers over time

**Technology:** Continuously upgraded to increase convenience & safety

~\$900M distributed to 5.4M women in 2016; 94% of women with e-payments



Collaborate closely, especially with providers

 *Utilities rural expansion contract, Gabon*

**Contract provision:** Allowed for 2.5 year initial period during which government and private providers (SEEG) were able to jointly refine and finalize methodology and approach to track performance; as well as refine coverage targets based on initial implementation results

Coverage targets and timeline were adjusted based on initial implementation; and ultimately met in almost all regions



Foster competition

 *NSNP G2P digitization, Kenya*

**Provider selection:** Selected 4 providers based on lowest costs to serve and subsidies required from government

**Operations:** Contracted these providers and left operating model design/ implementation entirely up to them; government didn't guarantee any specific revenue or demand minimum

~\$120M disbursed to 1M beneficiaries in last disbursement cycle

# Global study illustrates how design considerations can be applied in country (II/II)



Allow for multi-year investments



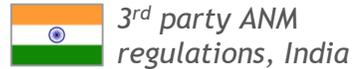
*CDFI Fund, USA*

**Combined mandate & long-term funding commitment:** Defined new organization structure (CDFIs in 1960s) and provisioned funding (via CDFI Fund) over time to pursue mission of helping meet credit and FS needs of low-income neighborhoods and businesses. Need for support in perpetuity for these populations segments was recognized

CDFI Fund in existence for 25 years, supporting expansion of 800+ CDFIs and 12,500 businesses



Mitigate risks to ensure viability



*3<sup>rd</sup> party ANM regulations, India*

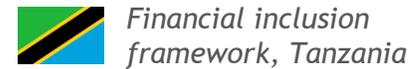
**Regulation:** Allowed variety of third-party entities to serve as ANMs and let banks freely partner with any of these

**Accountability:** Made banks accountable for ensuring quality/ customer protection at the agent level, thereby minimizing risks of "outsourcing" to ANMs

ANMs enabled bank rural expansion; associated agents have highest avg. transaction volume in India



Set specific objectives & targets



*Financial inclusion framework, Tanzania*

**Financial Inclusion Framework:** Defines vision, objectives and specific targets for inclusion, to rally and align public and private efforts, and ensure progress over a five-year period

E.g., 2018-2022 Framework evolves focus from access, against which real progress was achieved, to usage

Uptake of formal FS increased from 58% in 2013 to 65% in 2017 (above 2016 target)



Regularly measure, learn and iterate



*Income guarantees, Colombia*

**Initial contract:** Gave out contracts with income guarantees and coverage targets through competitive auction

**Iteration:** 3 waves of program; waves 2 and 3 evolved targets and increased guarantees in reaction to providers' feedback from first wave

127 rural municipalities gained agent coverage (in line with initial targets)

# Compendium includes detailed examples of incentive levers to catalyze rural expansion of CICO/ DFS & other sectors

19 case studies of rural CICO/ DFS expansion in developing markets

24 initiatives across five developed markets to expand FS/ DFS in remote areas/ marginalized communities

14 case studies of levers used for rural expansion of other sectors in developing markets

This block contains 19 overlapping case study documents. Visible titles include:
 

- Shared Agent Network Expansion Facility in Nigeria
- Mayer Hashi G2P in Bangladesh
- Bank Negara - restrictions on urban openings in Malaysia
- Benazir Income Support Program in Pakistan
- National Safety Net Program in Kenya

 The documents provide detailed information on program objectives, implementation strategies, and outcomes in rural areas.

This block contains 24 overlapping case study documents from five developed markets:
 

- Expanding financial services in France
- Expanding financial services in Germany
- Expanding financial services in Australia
- Expanding financial services in the U.K. (III)
- Expanding financial services in marginalized communities in U.S.

 These documents explore various models and incentives used to bring financial services to underserved populations in developed nations.

This block contains 14 overlapping case study documents focusing on levers for rural expansion in other sectors:
 

- Additional interventions for rural expansion of other sectors in developing markets (IV)
- Additional interventions for rural expansion of other sectors in developing markets (II/V)
- Additional interventions for rural expansion of other sectors in developing markets (III/V)
- Additional interventions for rural expansion of other sectors in developing markets (V/V)

 The documents discuss innovative approaches and policy levers used to expand sectors like water, sanitation, and health services in rural areas.

# Appendix

---

See companion Compendium document for full case studies and sources



# Compendium: 24 initiatives show that developed markets have also experimented with combination of incentive levers to expand FS to remote areas/ communities

Country	Industry	Name of program	Relevant incentive levers												
			Inclusion mandates		Direct profitability improvement						Demand generation				
			Mandates	Coverage targets	Preferred financing	Research & innovation grants	Favorable contracts	Income guarantees	Price guidelines	Tax rebates	Discounted inputs/ opex support	End-user subsidies	New use cases	Consumer behavior shaping	
USA	Financial services	• Community Reinvestment Act	✗												
USA	Financial services	• CDFI Fund			✗										
USA	Financial services	• PRIME Act (Investment in Microentrepreneurs)			✗										
USA	Financial services	• New Markets Tax Credit program							✗						
USA	Financial services	• Individual Development Accounts (IDAs)											✗	✗	
USA	Financial services	• G2P: DirectExpress Debit MasterCard card											✗		
USA	Financial services	• My Retirement Account (myRA)									✗		✗		
UK	Financial services	• Community Investment Tax Relief (CITR)								✗					
UK	Financial services	• Financial Inclusion Fund and Taskforce			✗								✗		
UK	Financial services	• Child Trust Fund + Saving Gateway									✗		✗		
UK	Financial services	• ATM Subsidy Program		✗	✗										
UK	Financial services	• Money Advice Service (MAS)													✗
UK	Financial services	• DWP Growth Fund			✗										
UK	Financial services	• Credit unions regulations/fee caps							✗						
AUSTRALIA	Financial services	• Rural Transaction Centers Program			✗										
AUSTRALIA	Financial services	• CDFI Pilot (funding for experimentation)			✗										
GERMANY	Financial services	• Sparkassen “Regional Savings Banks” status	✗												
GERMANY	Financial services	• Microfinance Institute Program			✗										
GERMANY	Financial services	• Microcredit Fund			✗										
GERMANY	Financial services	• Payments Accounts Act/Basic account mandate	✗										✗		
FRANCE	Financial services	• Association for the Right to Economic Initiative			✗										
FRANCE	Financial services	• CEDIDF cooperative bank			✗										
FRANCE	Financial services	• Special Banking Offer	✗						✗				✗		
FRANCE	Financial services	• Banking law and law on exclusions	✗										✗		

See Appendix for full list of sources    ✗ Used stand-alone    ✗ Used in combination

# Compendium: 14 case studies show that range of incentive levers are also used to drive rural expansion in other industries around the world

	Country	Industry	Name of program	Relevant incentive levers									Demand generation		
				Inclusion mandates		Direct profitability improvement									
				Mandates	Coverage targets	Preferred financing	Research & innovation grants	Favorable contracts	Income guarantees	Price guidelines	Tax rebates	Discounted inputs/ opex support	End-user subsidies	New use cases	Consumer behavior shaping
Other industries	Chile	Water	• Water use subsidies								×		×		
	Brazil	Telecomms.	• Mobile spectrum allocation	×	×			×							
	India	Water	• National Rural Drinking Water Program (NRDWP)			×									
	Myanmar	Telecomms.	• Mobile spectrum allocation					×							
	Bangladesh	Water & Sanitation	• Rural Water Supply and Sanitation Project			×							×		
	Uzbekistan	Housing	• Affordable Rural Housing Program (ARHP)			×									
	China	Healthcare	• New Rural Cooperative Medical Scheme (NCMS)							×					
	China	E-Commerce	• Rural Taobao			×					×				
	Vietnam	Power	• Electricity Law 28/2004			×					×	×			
	Vietnam	Power	• Biogas program										×		×
	Kenya	Power	• Last Mile Connectivity Program (LMCP)			×					×				
	Kenya	Power	• Off-Grid Solar Access Project (KOSAP)		×	×			×				×		
	Gabon	Power	• Paired utilities contract		×				×		×				
	Egypt	Water	• National Rural Sanitation Program (NRSP)			×					×				

See Appendix for full list of sources × Used stand-alone × Used in combination

# Disclaimer

The services and materials provided by Boston Consulting Group (BCG) are subject to BCG's Standard Terms (a copy of which is available upon request) or such other agreement as may have been previously executed by BCG. BCG does not provide legal, accounting, or tax advice. The Client is responsible for obtaining independent advice concerning these matters. This advice may affect the guidance given by BCG. Further, BCG has made no undertaking to update these materials after the date hereof, notwithstanding that such information may become outdated or inaccurate.

The materials contained in this presentation are designed for the sole use by the board of directors or senior management of the Client and solely for the limited purposes described in the presentation. The materials shall not be copied or given to any person or entity other than the Client ("Third Party") without the prior written consent of BCG. These materials serve only as the focus for discussion; they are incomplete without the accompanying oral commentary and may not be relied on as a stand-alone document. Further, Third Parties may not, and it is unreasonable for any Third Party to, rely on these materials for any purpose whatsoever. To the fullest extent permitted by law (and except to the extent otherwise agreed in a signed writing by BCG), BCG shall have no liability whatsoever to any Third Party, and any Third Party hereby waives any rights and claims it may have at any time against BCG with regard to the services, this presentation, or other materials, including the accuracy or completeness thereof. Receipt and review of this document shall be deemed agreement with and consideration for the foregoing.

BCG does not provide fairness opinions or valuations of market transactions, and these materials should not be relied on or construed as such. Further, the financial evaluations, projected market and financial information, and conclusions contained in these materials are based upon standard valuation methodologies, are not definitive forecasts, and are not guaranteed by BCG. BCG has used public and/or confidential data and assumptions provided to BCG by the Client. BCG has not independently verified the data and assumptions used in these analyses. Changes in the underlying data or operating assumptions will clearly impact the analyses and conclusions.



[bcg.com](http://bcg.com)

BILL & MELINDA  
GATES *foundation*