Prerequisites to digitising the agricultural last mile

ADDRESSING THE CONNECTIVITY, LIQUIDITY AND DUE DILIGENCE CHALLENGES

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Author: Daniele Tricarico, Insights Director, Mobile for Development, GSMA

INTRODUCTION

The digitisation of agricultural value chains is an emerging opportunity in developing countries. Holistic enterprise solutions targeting the agricultural vertical might include a combination of digital payments for the procurement of crops from smallholder farmers, digital farmer records, information and track and trace services. These digital tools enable agribusinesses to improve control and monitoring of operations, transparency of transactions and the establishment of effective communication channels, both internally as well as with smallholder suppliers.

Farmers integrated in formal value chains benefit from value chain digitisation through improved transparency and visibility into the agricultural last mile, reduced risk of fraud and easier access to certification requirements and therefore to markets. Crucially, the transition from cash to mobile money payments for the procurement of crops can support the creation of an economic identity for farmers via digital records from the sale of agricultural produce, which in conjunction with other data points open up to full financial inclusion (access to credit, insurance and saving accounts).

The active participation of mobile operators is required to unlock the opportunity to digitise agricultural value chains, primarily to enable coverage and connectivity in rural areas but also to support functioning and liquid mobile money networks. Besides mobile operators, the industry at large - mobile money providers, AgTech companies and regulators - must work together to create enabling environments for the uptake of mobile money services in rural regions.

This report explores the challenges and the range of initiatives that can be implemented to address the foundational issues (prerequisites) to digitise agricultural value chains. The report is aimed at mobile operators, whom we argue are well positioned to develop holistic enterprise solutions for the agricultural vertical, to third party tech providers, donors and financial regulators.

KEY QUESTIONS ADDRESSED IN THIS REPORT

THE OPPORTUNITY: UNDERSTANDING LAST MILE DIGITISATION

1. **What digital tools are available to address the needs of farmers and agribusinesses in agricultural value chains?**
2. **What is the commercial opportunity for service providers in digitising agricultural value chains?**

CONNECTIVITY: EXPANDING COVERAGE TO RURAL AREAS

3. **How can mobile operators support network expansion into rural areas and ensure adequate coverage for digitisation initiatives?**

LIQUIDITY: SUPPORTING LIQUID, FUNCTIONING MOBILE MONEY NETWORKS

4. **How can mobile money providers ensure agent networks are reliable and sufficiently liquid to support last mile payments?**

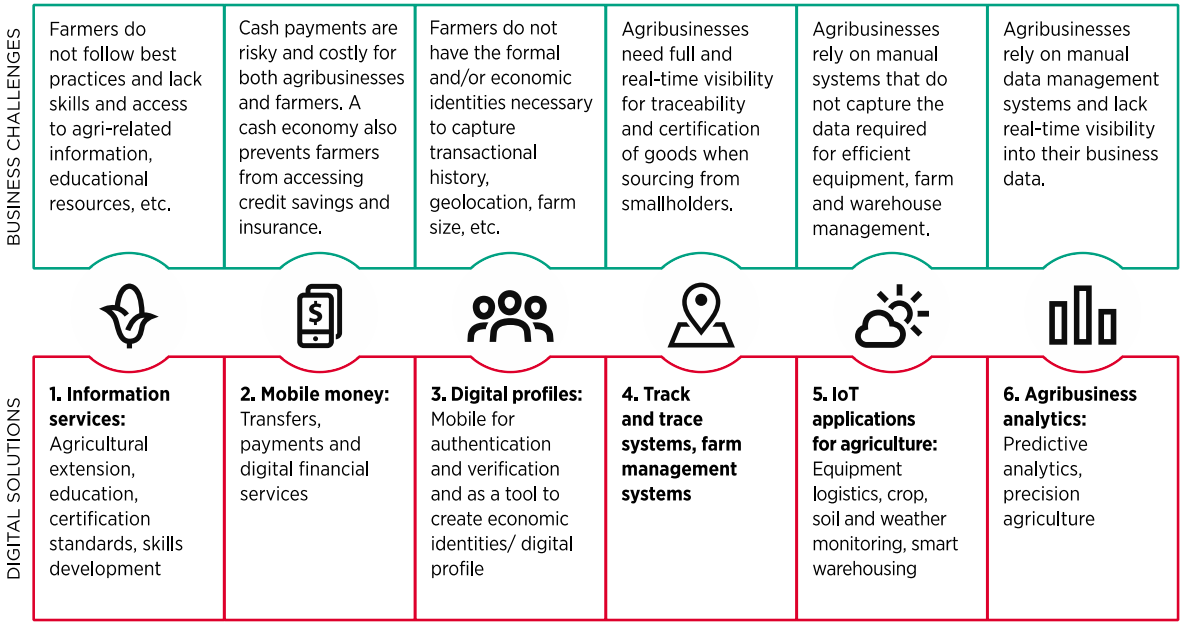
DUE DILIGENCE: IMPLEMENTING FLEXIBLE YET RIGOROUS PRACTICES

5. **What due diligence principles and best practices should be applied to promote uptake of last mile payments?**

THE OPPORTUNITY

Understanding last mile digitisation

DIGITAL TOOLS CAN ADDRESS THE PAIN POINTS OF FARMERS AND AGRIBUSINESSES IN THE LAST MILE

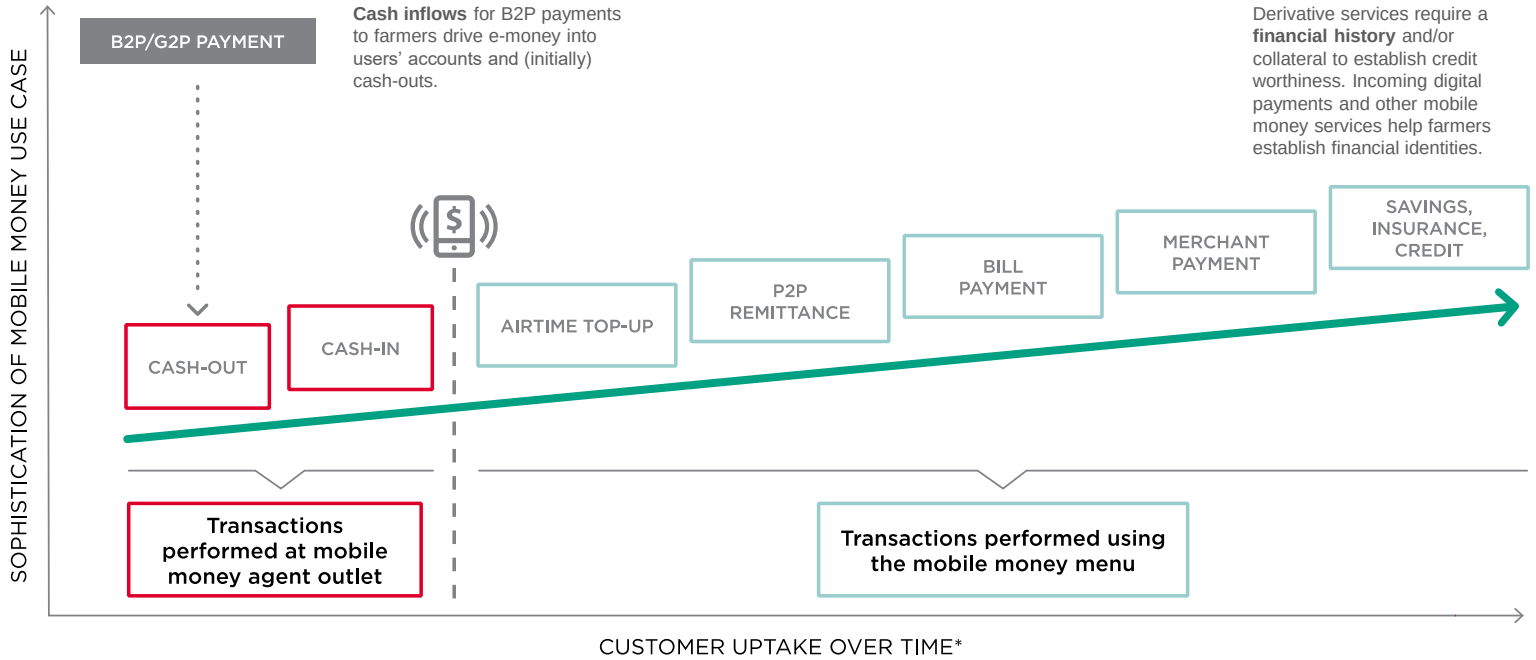


There are a number of inefficiencies in agricultural value chains: theft and fraud, the time and travel required to receive cash payments for crops, and overall lack of visibility for buyers and sellers. However, a range of **digital tools can help to improve business performance for farmers and agribusinesses** and eventually lead to **financial inclusion for farmers.***

*GSMA mAgri (2017) "Opportunities in agricultural value chain digitisation: Learnings from Uganda" https://www.gsma.com/mobilefordevelopment/programme/magri/opportunities-in-agricultural-value-chain-digitisation-learnings-from-uganda

DIGITISING LAST MILE PAYMENTS IS A STARTING POINT IN THE PATHWAY TO FINANCIAL INCLUSION

THE PATHWAY TO FINANCIAL INCLUSION



*Implies that more complex use cases will take more time to become established. Here complexity is defined by the extent to which use cases require the active participation of ecosystem actors. For example, P2P remittances are more complex than airtime top ups because they imply transfers between two active mobile money users. Merchant payments are more complex than bill payments (e.g. utilities, school payments) because they require support of small retailers as well support of corporate and institutional actors.

INITIALLY, FARMERS FIND REMITTANCES AND BILL PAYMENTS TO BE RELEVANT SERVICES

THE OPPORTUNITY

CHALLENGES TO FARMER ADOPTION ⊖ ⊕ RELEVANCE TO FARMERS

AIRTIME TOP-UP

⊕ Along with P2P transfers, airtime top-ups are the most likely use case to drive account usage among new mobile money users. Particularly in remote rural communities with limited access to stores, mobile money top-ups will be in demand.

⊖ Airtime top-ups and P2P continue to be one of the most widely available use cases. However, there are noteworthy regional differences that service providers must take into account when focusing on adoption beyond cash-in/cash-out. For example, in some markets (e.g. South Asia), bill payments can account for a greater share of transaction values.

P2P REMITTANCE

⊕ The flow of urban-to-rural remittances from people sending part of their earnings to families in rural areas (as well as rural-to-urban remittances) can be captured by mobile money, enabling timely and secure transactions.

⊖ This use case requires a hand-holding approach, both to on-boarding users and ensuring they stay active and experience the full benefits of receiving remittances to a mobile money account versus receiving them "over the counter".

BILL PAYMENT

⊕ Mobile money enables rural families to pay for utilities, health services, education fees, and government services. GSMA research shows that school fees are one of the most significant cash outflows for a rural household, with time and theft being major issues for parents paying fees in cash.*

⊖ Many of the bill payment services on which mobile money providers are focusing, such as TV and media, are more applicable to urban customers. There is demand in rural areas for mobile money-enabled utilities, school and health payments, but enabling these use cases, especially school and health payments, requires mobile money providers to on-board a range of local institutional actors (schools, clinics).

MERCHANT PAYMENT

⊕ Farmers may use mobile money to pay for agricultural inputs from agro-dealers. As these payments can be substantial, mobile money mitigates the risk of carrying large amounts of cash.

⊖ Merchant payments are one of the most complex mobile money use cases, especially in rural areas where support is needed from a range of stakeholders (e.g. banks, SMEs, satellite TV and utility providers) as well as from retailers.

SAVINGS

⊕ In cash economies where no formal savings solutions are available, farmers recognise the value of storing electronic cash securely in a mobile money account.** Savings products can be generic or agriculture-specific, such as targeted or locked savings products for agricultural assets/inputs.

⊖ Savings products are typically more complicated to use and understand, and therefore require significant literacy training. Irregular cash inflows and outflows into farmers' wallets may also limit their ability to use locked accounts. Interest-bearing savings products will require enabling regulation from financial regulators.

CREDIT

⊕ Agricultural credit (e.g. for inputs and assets) and non-agricultural credit are both critical for farmers. Rural populations are more likely to access credit through informal means given the lack of bespoke credit products that cater to the needs of rural households.

⊖ A financial history/profile demonstrating credit worthiness is necessary to access credit products. The complexity of credit products will also require a higher level of financial literacy. Research suggests that repayment modules for credit products targeted at rural populations need to be tailored to the agricultural cycle.** Credit products will also require enabling regulation from financial regulators.

INSURANCE

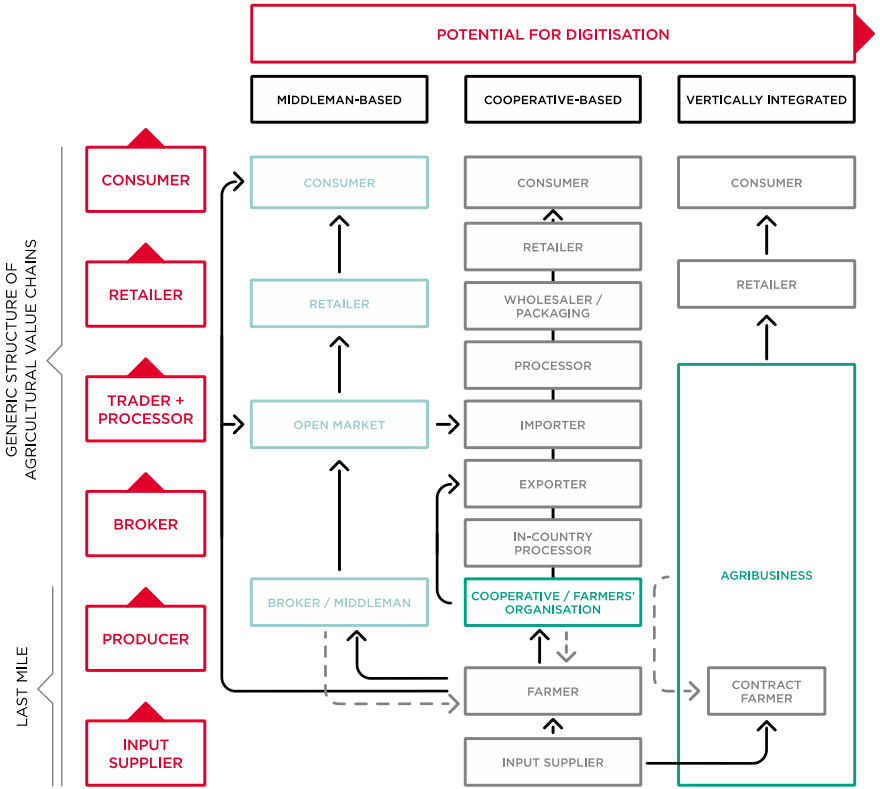
⊕ Mobile money offers an opportunity to digitise premiums and claim repayments for agricultural insurance products, such as weather index insurance and crop insurance, which protect farmers against the risk of crop losses.

⊖ Awareness and trust of insurance products is still very low in rural areas. Insurance products are typically more complicated to use and understand, and therefore require significant literacy training.

* GSMA Mobile Money (2015) "Paying school fees with mobile money in Côte d'Ivoire". Available at https://www.gsma.com/mobilefordevelopment/programme/mobile-money/paying-school-fees-with-mobile-money-in-cote-divoire/

** GSMA mAgri (2017) "Opportunities in agricultural value chain digitisation: Learnings from Uganda" https://www.gsma.com/mobilefordevelopment/programme/magri/opportunities-in-agricultural-value-chain-digitisation-learnings-from-uganda

THE POTENTIAL TO DIGITISE THE AGRICULTURAL LAST MILE IS GREATER IN FORMAL VALUE CHAINS

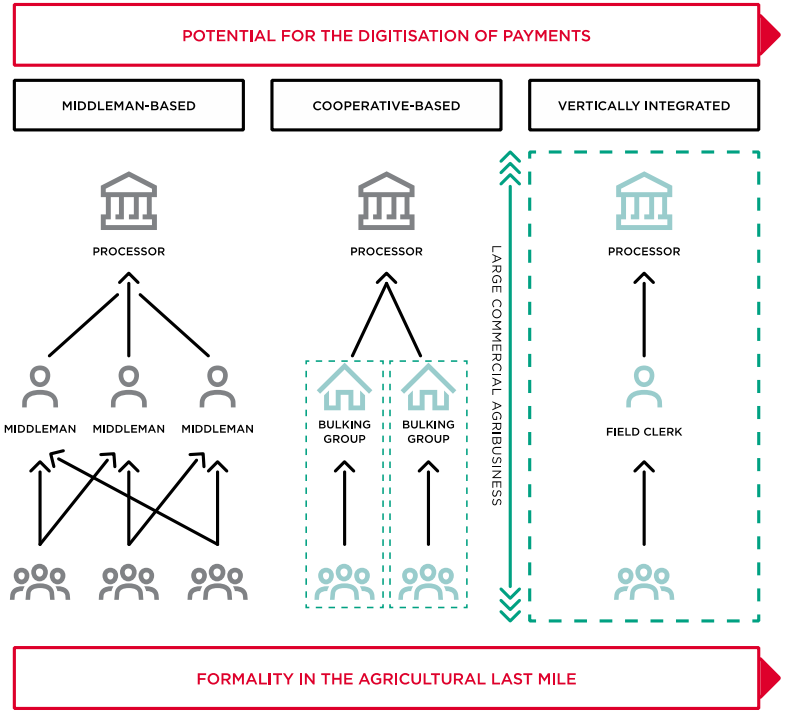


In agriculture, the **last mile** is the web of relationships and transactions between crop buyers and farmers who produce and sell their crops. In the last mile, global markets connect with rural economies before the processes of transformation and value addition take place.

While most farmers have informal relationships with buyers, entry points for digitising the agricultural last mile are more likely to be where farmers have formal relationships with buyers because the incentives to increase transparency, quality and predictability of supply, are stronger. Thirty to forty per cent of smallholders are commercial farmers* with some kind of formal relationship with a buyer.

* ASFG and CGAP (2015) "Inflection Point: Unlocking growth in the era of farmer finance" https://www.raflearning.org/post/inflection-point-unlocking-growth-era-farmer-finance

FORMAL LAST MILE PROCUREMENT MODELS OFFER THE BEST OPPORTUNITIES TO DIGITISE PAYMENTS

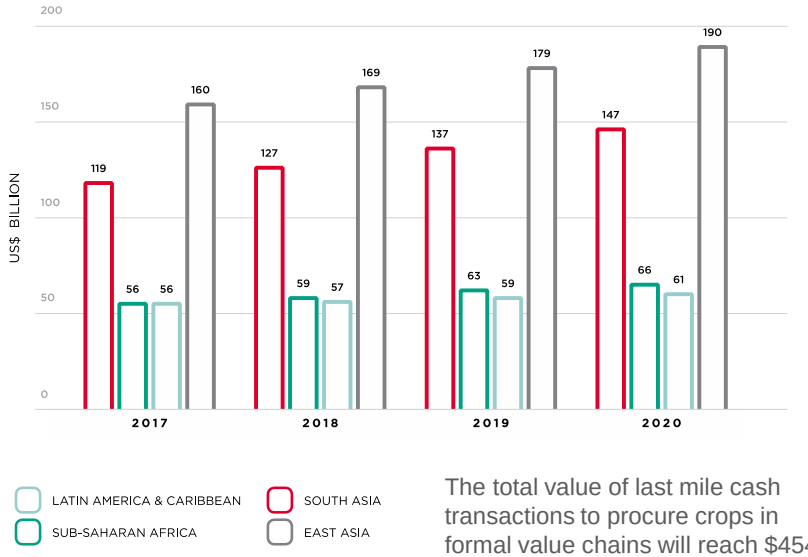


The fragmentation of loose, informal value chains that rely on middlemen makes it challenging to digitise procurement payments to farmers. However, more formal value chains have fewer touch points between crop buyers and sellers and a higher degree of crop aggregation in bulking groups (in a cooperative-based model) and at the field clerk level (in vertically integrated agribusinesses, such as multinationals).

While early initiatives are likely to focus on commercial (formal) farmers, as the rural mobile money ecosystem develops there will be greater scope to extend digital financial services to informal farmers.

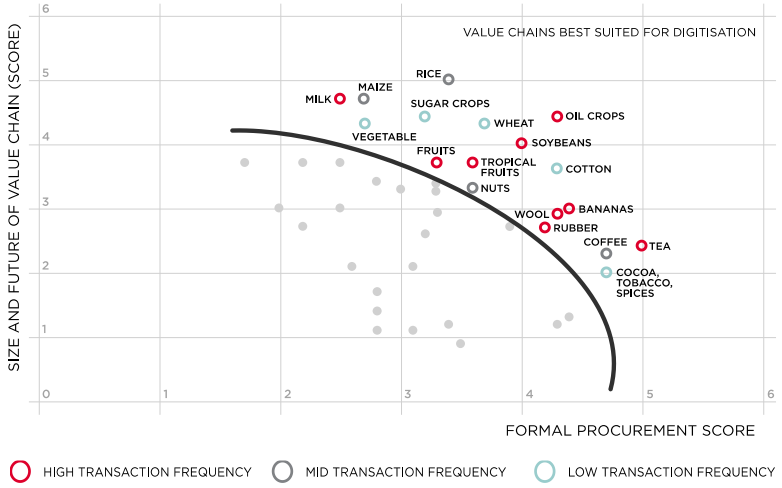
LAST MILE CASH TRANSACTIONS FOR FORMAL PROCUREMENT WILL GROW TO $454 BILLION BY 2020

VALUE OF LAST MILE TRANSACTIONS FOR FORMAL PROCUREMENT AVAILABLE FOR DIGITISATION BY 2020*



The total value of last mile cash transactions to procure crops in formal value chains will reach $454 billion by 2020.

FORMAL SECTOR PROCUREMENT: TOP 20 AGRICULTURAL VALUE CHAINS WITH GREATEST POTENTIAL FOR DIGITISATION

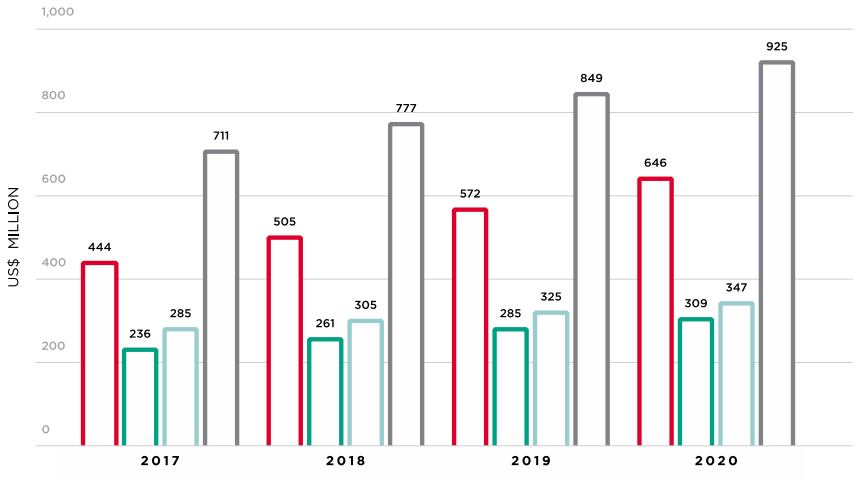


Key factors to consider when assessing whether a value chain is suitable for digitisation: the value of formal procurement, the growth potential of the value chain, and transaction frequency (value chains with more frequent payments are in principle better suited for digitisation).*

* GSMA Intelligence and GSMA mAgri (2016) "Market size and opportunity in digitising payments in agricultural value chains.

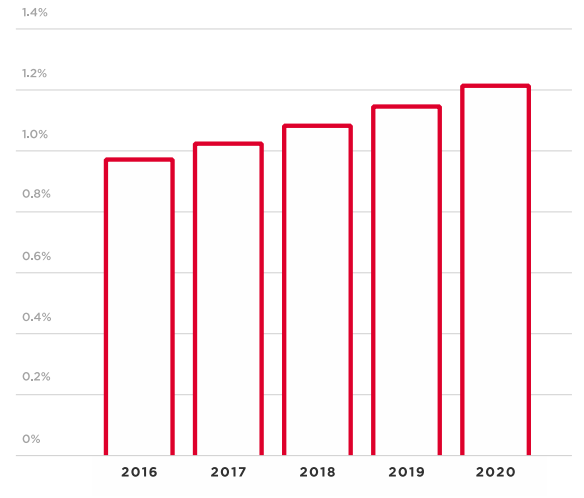
MOBILE MONEY PROVIDERS COULD EXTRACT UP TO $2.2 BILLION FROM AGRICULTURAL B2P PAYMENTS BY 2020

POTENTIAL DIRECT REVENUE OPPORTUNITY FOR BUSINESS-TO-PERSON (B2P) PAYMENTS IN AGRICULTURAL VALUE CHAINS



The direct revenue opportunity for mobile money providers in developing countries — derived from the transaction fee charged to senders (typically 1%) — will amount to $2.2 billion in 2020, representing 1.2% of total recurring revenues for mobile operators.

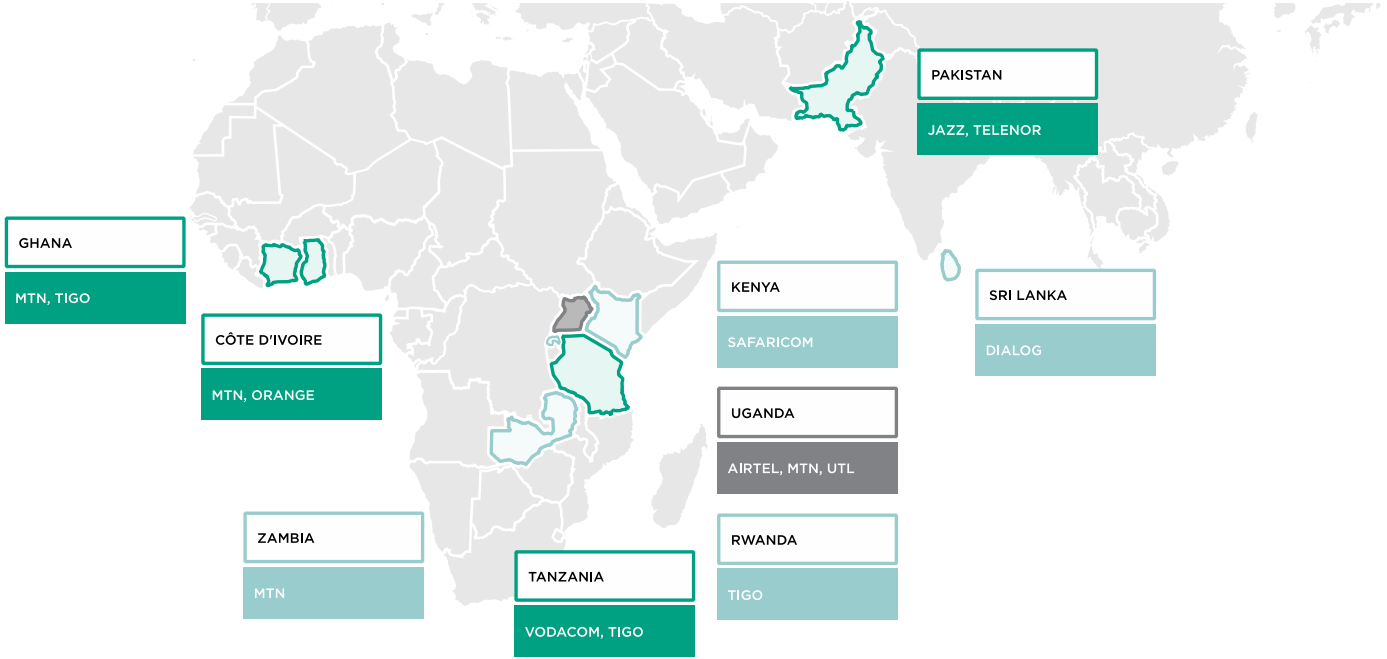
POTENTIAL DIRECT REVENUE OPPORTUNITY AS A SHARE OF RECURRING REVENUES FOR MOBILE OPERATORS



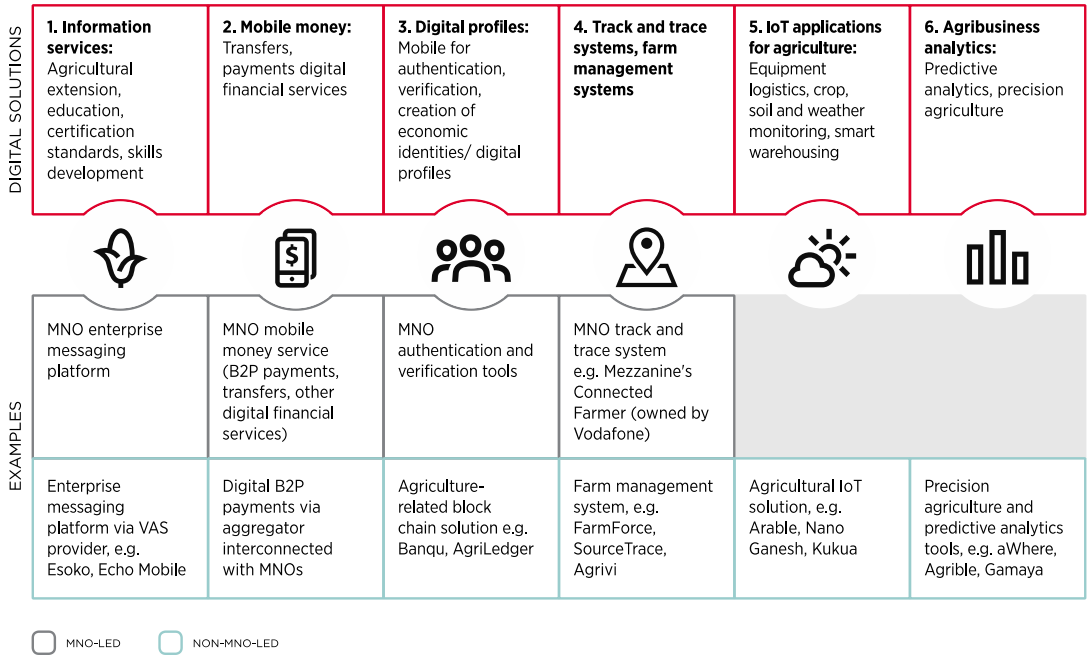
The revenue opportunity represents the market ceiling — the actual revenue that could be generated if mobile money providers benefit from an enabling environment (i.e. regulation with suitable transaction limits for agricultural B2P payments) and actively pursue the digitisation opportunity.

MOBILE OPERATORS ARE INCREASINGLY ENGAGING IN DIGITISING AGRICULTURAL LAST MILE PAYMENTS

MOBILE OPERATOR-LED B2P PAYMENTS IN AGRICULTURE, SUB-SAHARAN AFRICA AND SOUTH ASIA



DIGITAL PAYMENTS ARE ONLY ONE COMPONENT OF THE VALUE PROPOSITION AGRIBUSINESSES DEMAND



Agribusinesses are demanding comprehensive business process management services, which extend through their entire supply chain down to field staff and farmers. In addition to mobile money providers supporting digital financial services, a plethora of providers of last mile sourcing tools have also emerged.

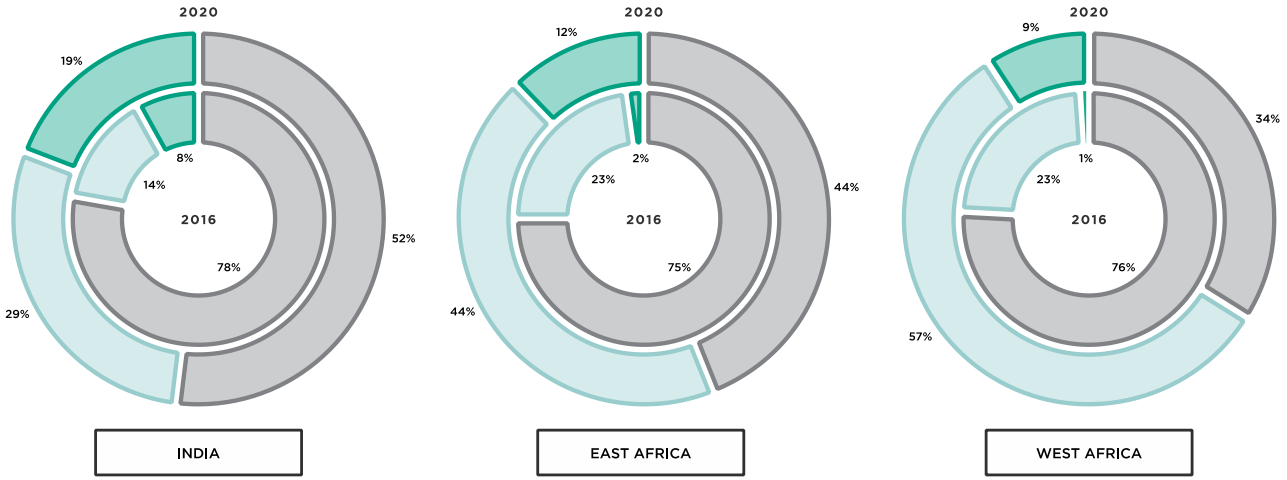
In developing markets, solution providers are primarily supporting systems (e.g. bulk messaging) that enable efficient communication between agribusinesses and farmers, as well as so-called track and trace solutions that allow visibility into last mile operations and support certification and traceability requirements.

CONNECTIVITY

Expanding coverage to rural areas

SIGNIFICANT GAPS IN RURAL COVERAGE REMAIN IN EVERY DEVELOPING REGION

SUBSCRIBER PENETRATION BY TECHNOLOGY**



Unlocking the opportunity to digitise agricultural value chains will require both 2G (SMS, STK, USSD, and IVR) and 3G networks (software-based enterprise solutions, rich media services). However, 10 percent of the global population lack 2G access, almost entirely in rural areas, and 30 percent lack 3G access.*

*GSMA Intelligence (2015) "Rural coverage: Strategies for sustainability". Available at: https://www.gsmaintelligence.com/research/?file=53525bcdac7cd801eccef740e001fd92&download

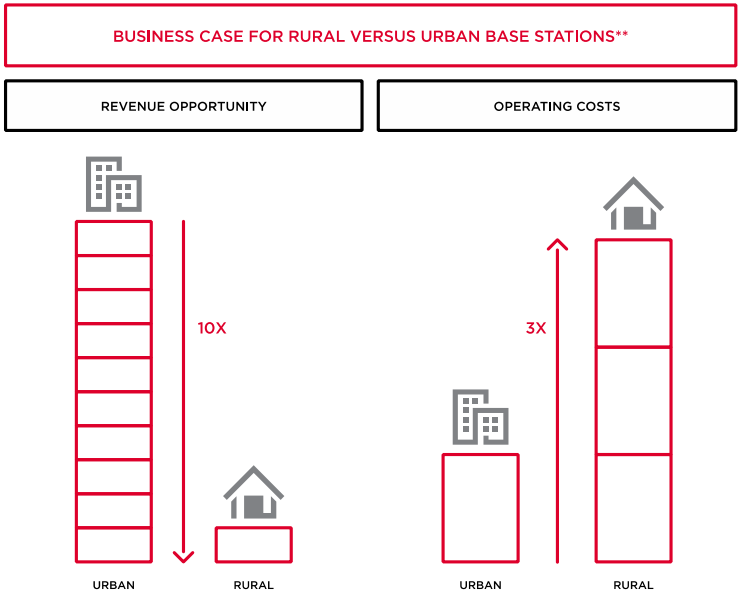
**GSMA Connected Society (2017) "Unlocking rural coverage: Enablers for commercially sustainable mobile network expansion". Available at: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/07/Unlocking-Rural-Coverage-enablers-for-commercially-sustainable-mobile-network-expansion_English.pdf

THE BUSINESS CASE FOR RURAL NETWORK EXPANSION IS CHALLENGING

Closing the coverage gap in remote areas is not a technical challenge but an economic one. The cost of deploying infrastructure can be up to three times higher, while revenue opportunities can be up to 10 times lower due to lower population density (often fewer than 100 people per square kilometre) and income levels (less potential revenue from each customer). This combination has a major influence on the business case for rural network expansion.*

A commercially sustainable rural network requires:

1. **Lowering** the capital expenditures (CapEx) and operating expenditures (OpEx) of cell sites and infrastructure, which will increase the return on investment (RoI) of extending coverage.
2. **Reducing** the risks of investing in mobile infrastructure (i.e. lowering the cost of capital).
3. **Enhancing** demand for mobile services in rural areas, which will unlock new revenue opportunities to make these new investments more profitable and attractive.



*GSMA Connected Society (2017) "Unlocking rural coverage: Enablers for commercially sustainable mobile network expansion". Available at: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/07/Unlocking-Rural-Coverage-enablers-for-commercially-sustainable-mobile-network-expansion_English.pdf

** GSMA (2018) "Enabling rural coverage: Regulatory and policy recommendations to foster mobile broadband coverage in developing countries". Available at: https://www.gsma.com/mobilefordevelopment/programme/connected-society/enabling-rural-coverage-report/

RURAL NETWORK EXPANSION DEPENDS ON INNOVATION IN THE PRIVATE AND PUBLIC SECTORS

STRATEGIES AND POLICIES TO IMPROVE THE BUSINESS CASE FOR RURAL NETWORK EXPANSION

MOBILE OPERATORS

- Network sharing (passive and/or active models)
- Drawing on targeted government support (subsidies, universal service funds)
- Software-based networks
- Aerial (i.e. drones)

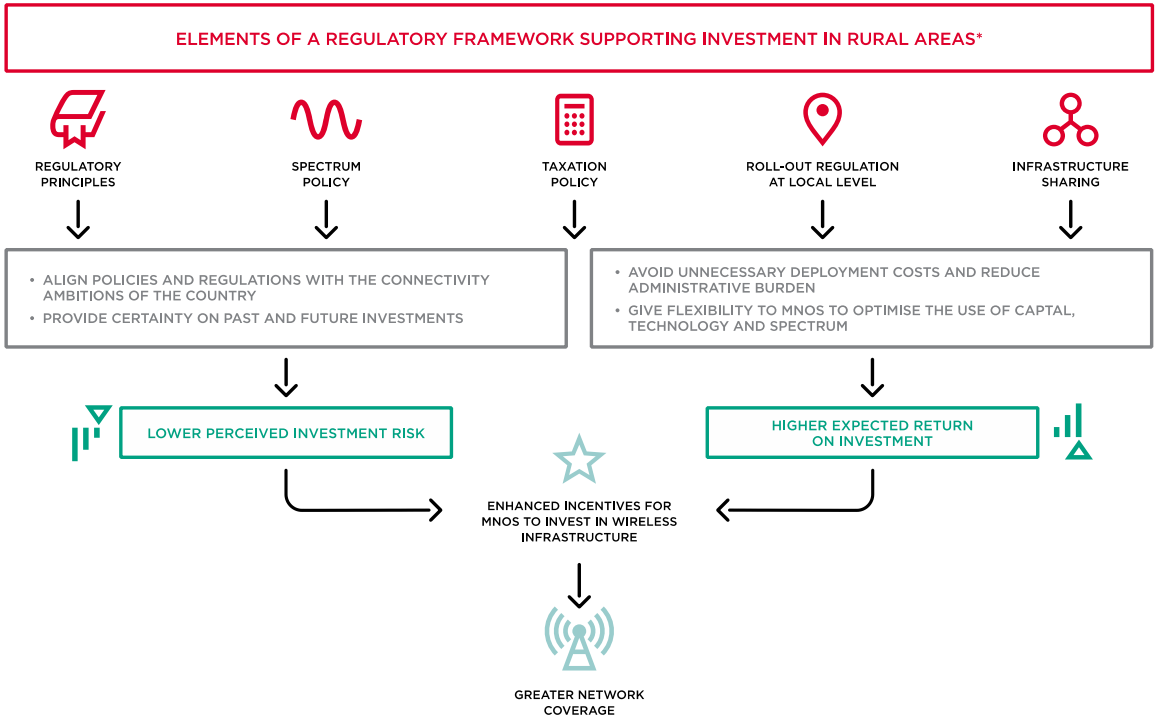
PUBLIC SECTOR

- Ensure cost-effective access to low-frequency spectrum
- Support for spectrum re-farming
- Offer flexible licence conditions for service quality in rural and remote locations
- Provide regulatory support for all forms of infrastructure sharing
- Ensure non-discriminatory access to public infrastructure
- Streamline planning approval processes
- Eliminate sector-specific taxation on operators, vendors and consumers
- Adopt a realistic position on competition policy, especially concerning market structure
- Support multi-sided business models, such as zero rating and sponsored data

CASE STUDY: PROGRESSIVE POLICIES HELP MOBILE OPERATORS EXTEND RURAL NETWORK COVERAGE IN INDIA*

In 2007, there were about 100,000 base stations in India covering 40 percent of the country's land area, leaving an estimated half a billion people without mobile coverage.
The modification of licence agreements by the Telecommunications Regulatory Authority (TRAI) now allows MNOs to share both passive and active network infrastructure. In addition, the regulator approved subsidies for tower deployment in rural areas using funds from the universal service obligation fund (USOF).
Tower sharing stimulated investment and competition in India, with the overall base station count rising to 450,000 at the end of 2014, a 4.5-fold increase from 2007. As a result, 87 percent of the population had 2G network coverage, making mobile services available to previously unreached communities.

ENABLING REGULATORY FRAMEWORKS WILL SUPPORT INVESTMENT IN RURAL AREAS



GSMA (2018) "Enabling rural coverage: Regulatory and policy recommendations to foster mobile broadband coverage in developing countries". Available at: https://www.gsma.com/mobilefordevelopment/programme/connected-society/enabling-rural-coverage-report/

RURAL NETWORK EXPANSION OFFERS OPPORTUNITIES BEYOND TRADITIONAL REVENUE STREAMS

Mobile operators should prioritise specific regions for network expansion based on an analysis of the entire revenue opportunity — not only voice, messaging and data, but also mobile financial services and the broader suite of enterprise solutions.

The agricultural vertical offers an opportunity for mobile financial services and enterprise services, as demonstrated by the volume of cash available for digitising formal procurement in rural regions (page 11). Digitising payments for large buyers can provide transaction volumes necessary to support rural network expansion.

To sustain this opportunity, mobile operators must identify and prioritise network expansion in rural areas with greater potential to generate new revenue streams from the agricultural sector. To shed light on these growth opportunities, operators must invest in research at a regional or district level.

CASE STUDY: MTN UGANDA MAKES RURAL BASE STATIONS PROFITABLE BY SUPPORTING AN AGRICULTURAL PAYMENTS PILOT*

Prior to launching a pilot to digitise payments for a target market of 12,000 farmers in the coffee value chain, MTN Uganda strengthened its network coverage in the region of Mount Elgon.

To reduce the initial investment risk in a new base station, which farmers needed to receive payments at the point of sale (coffee washing stations), the operator received a $100,000 loan from the Bill & Melinda Gates Foundation. After it was deployed, the base station became profitable within three months of the pilot launch.

*GSMA mAgri, 2017 “Opportunities in agricultural value chain digitisation: Learnings from Uganda” https://www.gsma.com/mobilefordevelopment/programme/magri/opportunities-in-agricultural-value-chain-digitisation-learnings-from-uganda

LIQUIDITY

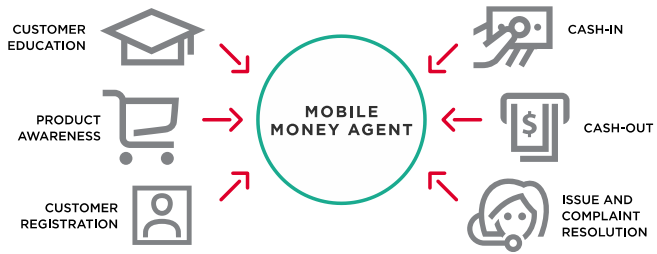
Supporting liquid, functioning mobile money networks

A RELIABLE, LIQUID AGENT NETWORK IS ESSENTIAL TO SUPPORT LAST MILE AGRICULTURAL PAYMENTS

Successful initiatives to digitise last mile payments to farmers will depend on the proximity, availability, reliability and liquidity of mobile money agents in the proposed location.

Mobile money providers have invested heavily in expanding the reach of agent networks. In Kenya in 2017, there were 170,000+ registered mobile money agents, who have helped to increase the penetration of formal financial services (banking and mobile money) in rural households.*

When transactions (e.g. value chain payments) are performed via third parties such as aggregators, it is crucial they have strategic partnerships with mobile money providers that manage the actual sales and distribution channel and are responsible for the provision of liquidity.



CASE STUDY: YO UGANDA BUILDS ITS OWN SUSTAINABLE CASH-OUT AGENT NETWORK**

In Uganda, third parties (aggregators) have tried to directly support the disbursement of payments to farmers. Yo Uganda, for example, recruited 75 agents to perform cash-outs for coffee farmers engaged in a value chain payment digitisation initiative with agribusiness Kyagalanyi. This has been challenging and costly for Yo Uganda, which had no previous knowledge of setting up agent networks. Managing cash liquidity has been the most challenging aspect since farmers chose to cash-out their payment immediately after receiving the funds.

* GSMA (2017) "State of the Industry Report on Mobile Money: Decade Edition 2006-2016". Available at: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2017/03/GSMA_State-of-the-Industry-Report-on-Mobile-Money_2016.pdf ** GSMA (2017) "Opportunities in agricultural value chain digitisation: Lessons from Uganda". Available at: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2018/01/Opportunities-in-agricultural-value-chain-digitisation-Learnings-from-Uganda.pdf

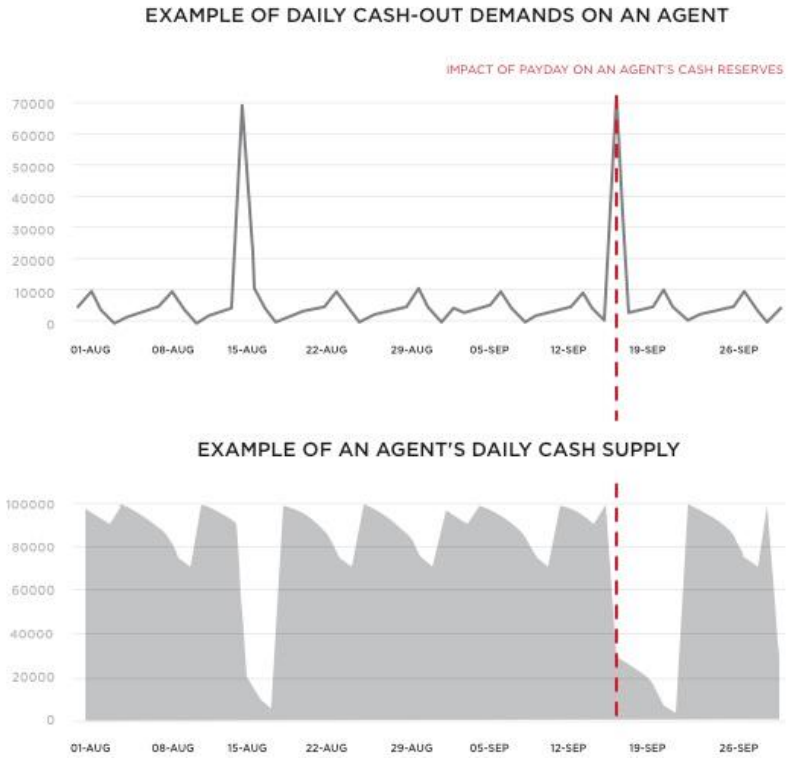
AGENT LIQUIDITY IS CRUCIAL BUT CHALLENGING IN RURAL LOCATIONS

Due to the seasonality of agriculture, farmers in the same value chain in the same region will receive payments at the same time, putting pressure on agents to have large amounts of cash available at certain times.

In the early stages, when the rural mobile money ecosystem is still maturing, spikes in demand for cash exacerbate the liquidity burden for agents, as farmers will want to access some or all of their income in cash at the same time.

Insufficient float or cash will likely cause agents to turn clients away, causing them to lose faith in the agent and potentially the entire mobile money service.

Given the challenges of ensuring liquidity in rural areas, success with rural and agricultural payments requires significant innovation and appetite for investment on the part of mobile money providers.



INITIALLY, ADEQUATE AGENT INCENTIVES WILL BE NEEDED TO SUPPORT CASH-OUTS TO FARMERS

Agents are paid commissions (tiered or percentage based) for performing transactions (cash-in, cash-out and over-the-counter transactions) as well as registering new customers. In rural areas, the operational challenges of ensuring agents have a) capital, b) physical cash, and c) float are heightened by the presence of or proximity to basic infrastructure, such as banking, electricity, and transport.

To support last mile agricultural payments, mobile money providers will need to consider setting their commercial arrangements (commissions) to incentivise agents and support cash-outs. This will require:

1. Investing in e-money (float);
2. Rebalancing e-money and cash as necessary; and
3. Learning processes to register and educate new users and to serve existing customers.

Given the importance of agent commissions for the mobile money business model (see case study), it is unlikely that mobile money providers will be able to offer more generous commissions.

Key lessons from activating rural mobile agents:

1. Link commissions to quality parameters (e.g. customer loyalty and listening behaviour) to encourage agents to attract high-quality farmers.
2. Ensure agents understand the commission structure and benefits on offer as well as the processes required to register new customers.**
3. Provide “soft” non-financial incentives, such as offering best performers the opportunity to move up the ladder and sell other products, or providing agents with gadgets (e.g. branded clothing, sun umbrellas) to give them a sense of pride and belonging in the service community.

CASE STUDY: THE IMPORTANCE OF AGENT COMMISSIONS TO THE MOBILE MONEY BUSINESS

With agents still the backbone of the mobile money industry, the cost structure of providers continues to be driven by OpEx like agent commissions, marketing, and personnel. In 2016, mobile money providers reported that, on average, 68 per cent of their costs were OpEx.*

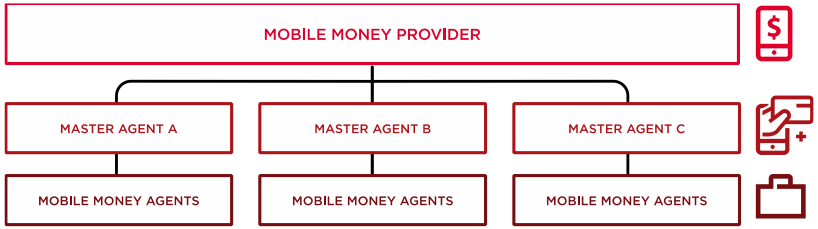
GSMA (2018) “State of the Industry Report on Mobile Money 2017”. Available at: https://www.gsma.com/mobilefordevelopment/sotir/

** In Malawi, agents are reluctant to offer new account registration because it is time consuming and claiming the commission requires significant paperwork that tends to get lost. The commission structure should therefore be clear and trusted by agents, otherwise they will not follow the process.

MASTER AGENTS PLAY A KEY ROLE IN SELECTING, TRAINING AND INCENTIVISING RURAL AGENTS

Master agents have proved essential to rapid distribution network expansion in remote regions, provided the right incentives are in place. They buy float from the mobile money provider and then resell it to agents.

To encourage sales and transactions at the local level, master agents are typically paid a share of the percentage earned on agent commissions (generally an 80/20 split with 20 percent retained by the master agent).*



KEY TASKS OF MASTER AGENTS IN RURAL AREAS**

Agent selection: Should be able to recruit new agents and identify suitable new locations based on their prior knowledge of the region.

Agent on-boarding: Should have an excellent understanding of the documentation required by the mobile money provider when recruiting new agents, and should be able to support new agents in gathering the correct documentation.

Liquidity management: Should be physically mobile, visiting their agents in person to supply them with liquidity (physical cash or e-money).

Monitoring and compliance: Research shows successful master agents have relationships with the majority of their agents before managing them.

Agent training: Should be able to provide assistance on queries about training, branding, and technical issues.

CASE STUDY: MTN ZAMBIA'S EARLY ON-BOARDING OF MASTER AGENTS ENSURES SUPPORT AT THE TIME OF AGRICULTURAL PAYMENTS

At the time of acquiring new agribusiness clients, MTN provides details of the agreement to master agents in target rural areas, including the number of farmers who will be involved and the average value of payments. This way, master agents can see agribusiness recruitment as a business opportunity and commit to liquidity management. Typically, master agents are required to guarantee at least $400 in float per agent at the time agricultural payments are made.

* GSMA (2015) "Spotlight on rural supply: Critical factors to create successful mobile money agents". Available at: https://www.gsma.com/mobilefordevelopment/programme/mobile-money/spotlight-on-rural-supply-critical-factors-to-create-successful-mobile-money-agents ** Information adapted from: http://www.helix-institute.com/blog/demystifying-role-master-agents

EXPANSION INTO RURAL AREAS REQUIRES RETHINKING AGENT PROFILES AND SELECTION CRITERIA

EVIDENCE FROM PRIMARY RESEARCH IN MALI AND CHAD SUGGESTS THE NEED TO RETHINK AGENT PROFILES IN RURAL AREAS.*
INDUSTRY BEST PRACTICE SUGGESTS THAT AGENTS SHOULD BE RECRUITED BASED ON THE FOLLOWING FIVE CHARACTERISTICS:

AGENT SELECTION CRITERIA**	ABILITY TO MAINTAIN CASH AND E-FLOAT BALANCE	STRATEGIC RETAIL LOCATIONS	LITERATE STAFF	TRUSTED BY THE COMMUNITY	POTENTIAL CUSTOMER REACH
KEY CONSIDERATIONS FOR AGENT SELECTION IN RURAL AREAS	• A master agent model becomes a crucial rebalancing mechanism in rural areas where traditional financial infrastructure is lacking. • Agent interoperability may be considered to reduce the liquidity burden in remote locations (this is explored further on page 28).	• Successful rural agents tend to have a broad product portfolio (selling SIMs and scratch cards as well as mobile money). • Successful rural agents tend to be well-established businesses rather than new kiosks. • Agents should have sufficient demand for transactions. Too many agents in one area with too little demand will cause some or all to leave the business.	• Customer awareness building and education are key activities that agents undertake, and require digital and financial literacy, often in multiple languages. • Ensuring agents are sufficiently literate is key to success. In rural areas, barriers to customer usage are likely to be higher due to lower literacy rates and awareness of mobile money.	• Rural customers are more likely to return to the same agent repeatedly. • Rural customers are more likely to visit agents that already have established businesses, rather than brand new kiosks. • Rural agents must be trained to be farmer-friendly because servicing rural populations requires more time and patience.	• Successful rural agents perform transactions on behalf of more than one mobile money provider. This creates a better business case for the agent. • The mobile money provider should identify specific locations where demand for mobile money services will be high enough to create a sustainable business case for agents. • There should be a good ratio of agents to customer demand.

* GSMA (2015) "Spotlight on rural supply: Critical factors to create successful mobile money agents". Available at: https://www.gsma.com/mobilefordevelopment/programme/mobile-money/spotlight-on-rural-supply-critical-factors-to-create-successful-mobile-money-agents ** Information adapted from: http://www.helix-institute.com/blog/demystifying-role-master-agents

EFFECTIVE COMMUNICATION IS CRITICAL TO THE UPTAKE OF AGRICULTURAL LAST MILE PAYMENTS

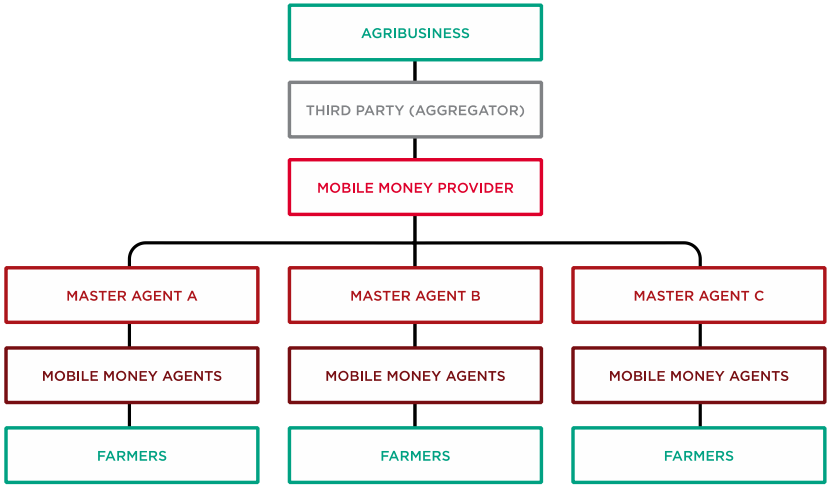
A clear line of communication must be in place between the agribusiness, aggregator (where relevant), mobile money provider, master agents and individual agents, so that all stakeholders understand when, who, and how many farmers are going to be paid.

If this communication fails, agents will likely have to turn farmers away due to lack of cash liquidity. This breeds distrust in the service.

SMS notifications or call centres can be leveraged to ensure effective communication between mobile money providers, master agents and individual agents before, during, and after last mile payments.

CASE STUDY: MTN GHANA ENSURES CONSISTENT COMMUNICATION TO MAINTAIN GOOD CUSTOMER SERVICE

In Ghana, when agribusiness Cargill makes a payment to farmers via MTN's bulk payment platform, it promptly communicates its intention to MTN, which in turn contacts master agents. The master agents are incentivised to ensure individual agents have sufficient liquidity, even moving around to visit individual agents and rebalance their float. This official channel of communication, coupled with adequate incentives, are key to effective disbursement of bulk payments.



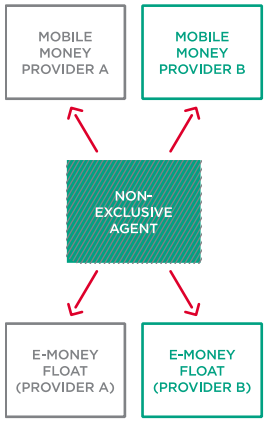
AGENT INTEROPERABILITY IS A NEW, BUT UNTESTED, COST REDUCTION STRATEGY

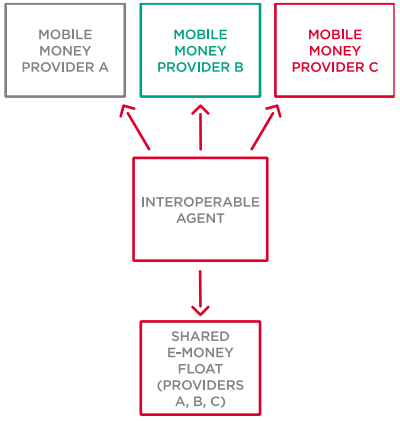
LIQUIDITY

Like mobile operators that collaborate to expand rural networks, collaboration between mobile money providers can support agent expansion in remote locations.

Globally, the mobile money business model is based on sharing mobile money agents (non-exclusivity). Recently, agent interoperability has emerged as an alternative model that may lower network expansion costs by allowing agents to serve customers from different mobile money providers using one float (e-money) account.

Although the concept of agent interoperability has been around for a few years, it remains largely untested due to complexities in the viability of the business model and the operational implications.





POTENTIAL BENEFITS OF AGENT INTEROPERABILITY*

- **Reduces pressure on agent liquidity** since agents are no longer required to manage multiple float accounts.
- **Reduces the cost of managing the agent network** by pooling resources from providers.
- **Helps to build a more robust and sustainable agent network.**

* GSMA (2015) "Spotlight on rural supply: Critical factors to create successful mobile money agents". Available at: https://www.gsma.com/mobilefordevelopment/programme/mobile-money/spotlight-on-rural-supply-critical-factors-to-create-successful-mobile-money-agents

DUE DILIGENCE

Implementing flexible yet rigorous practices

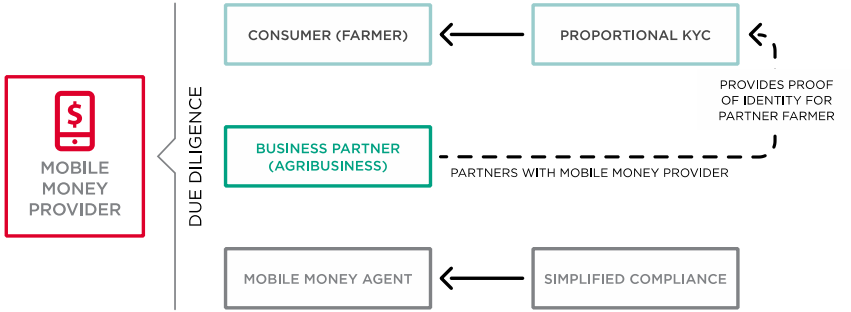
DUE DILIGENCE MUST BE FLEXIBLE TO ENABLE RURAL UPTAKE OF MOBILE MONEY SERVICES

Conducting due diligence protects a financial services provider (e.g. mobile money provider) from taking on risks by evaluating relevant (past, present, and future) aspects of potential customers and business partners.*

Complex due diligence processes impede service uptake, especially since many rural customers (farmers) and agents are not likely to have the official documentation needed to sign up for a mobile money account.

To enable uptake of mobile money services in rural areas, it is important to minimise due diligence requirements while also maintaining the integrity of the financial system. Proportional Know Your Customer (KYC) for farmers and simplified compliance for agents can help to overcome this systemic challenge.

Agribusinesses and cooperatives have an important role to play, not only because as formal entities they are more likely to be able to open a corporate account, but also because they can support service providers by providing proof of identity for the farmers they work with.



* GSMA (2014) Mobile Money Enabling Regulatory Solutions. Available at: https://www.gsma.com/publicpolicy/wp-content/uploads/2013/02/GSMA2013_Report_Mobile-Money-EnablingRegulatorySolutions.pdf

PROPORTIONAL KYC REQUIREMENTS CAN BOOST MOBILE MONEY ADOPTION AMONG THE RURAL POOR

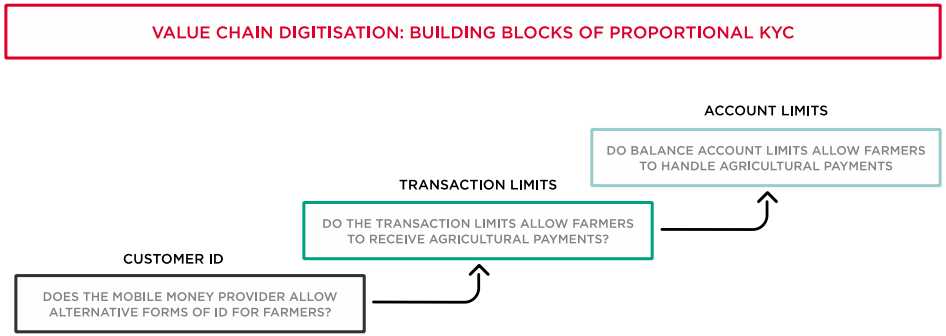
KYC requirements for opening a mobile money account can be challenging, especially for the rural poor, including farmers, who are most likely to lack the necessary ID.

To address onerous customer due diligence requirements, regulators are increasingly applying the principle of proportionality: if a product is deemed to be low risk, simplified KYC permits easier customer identification and verification.

The principle of proportionality allows alternative forms of ID to be accepted (e.g. letter from employer) and sets ad-hoc transaction limits on accounts where less formal or no ID is provided.

To support digitisation of the last mile, proportional KYC must allow:

1. Alternative forms of customer identification for farmers;
2. Suitable (in-bound) individual and daily transaction value limits to allow farmers to receive agricultural payments; and
3. Suitable maximum account balance limits to allow farmers to handle agricultural payments in their account.



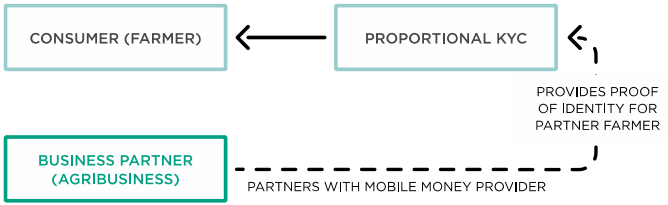
AGRIBUSINESSES AND COOPERATIVES HAVE A ROLE IN PROVIDING PROOF OF IDENTITY FOR FARMERS

The introduction of alternative forms of customer identification can be challenging because even progressive financial regulators typically require mobile money providers to request some form of formal ID to access entry-level mobile money accounts.

Where national ID schemes are particularly weak, some financial service regulators have allowed providers to accept alternative forms of documentation to open mobile money accounts (e.g. India, Fiji, Somaliland).

When a prospective customer does not possess formal documentation, alternative forms of ID may include reference letters confirming the identity of the individual. Referees can be village elders, regional government/administration officials (e.g. social welfare office, health care centre) or employers.

As entities that pay farmers even when they are not directly employing them, agribusinesses and cooperatives can play an active role in ensuring farmers can open mobile money accounts by providing proof of identification documents as set out by the regulator, such as an employer ID and/or a reference letter.



ACCOUNTS MUST ACCOMMODATE THE SIZE AND FREQUENCY OF VALUE CHAIN PAYMENTS

Service providers must comply with the transaction value and account size limits mandated by financial sector regulators in their markets.

The average size and frequency of transactions vary widely depending on the value chain. Service providers must therefore consider whether account sizes and transaction limits can handle payments in the targeted value chains.

To allow the full breadth of opportunities in the digitisation of agricultural payments, it is imperative that service providers understand the unique nature of the agricultural sector.

In countries such as Haiti, Ghana and Sri Lanka, where mobile operators are digitising last mile payments for the procurement of key cash crops, the transaction value and account size limits mandated by regulators have been challenging to implement.

KYC REQUIREMENTS AND IMPLICATIONS FOR DIGITISING LAST MILE PAYMENTS IN SELECTED COUNTRIES

	VALUE CHAIN	IDENTIFICATION (CUSTOMER ID)	TRANSACTION LIMITS	ACCOUNT LIMITS
HAITI	MANGO	ENABLING	ENABLING	ENABLING
GHANA	COCOA	ENABLING	NON-ENABLING	ENABLING
GHANA	TEA	NON-ENABLING	NON-ENABLING	NON-ENABLING

MANGO IS THE MAIN FRUIT GROWN IN HAITI AND THE COUNTRY'S LARGEST AGRICULTURAL EXPORT, CONTRIBUTING TO OVER 70% OF AGRICULTURAL EXPORT REVENUE.*

COCOA CONTRIBUTES TO 18% OF TOTAL COMMODITY EXPORTS IN GHANA, WITH 800,000 SMALLHOLDER FAMILIES DERIVING INCOME FROM IT.

TEA IN SRI LANKA GENERATES 65% OF AGRICULTURAL EXPORT REVENUE, CONTRIBUTING APPROXIMATELY 2% TO THE COUNTRY'S GDP.

* See https://knoema.com/jipyxgb/haiti-agriculture-trade-statistics

CASE STUDY: DIGICEL HAITI OFFERS BASIC AND FULL ACCOUNTS TO MEET RURAL NEEDS

DUE DILIGENCE

In Haiti, Digicel Haiti's Mon Cash mobile money service has leveraged an initiative by the central bank to alter KYC requirements to allow prospective customers without official photo ID, especially those in rural areas, to sign up to mobile money services.

For those customers, Digicel offers a "'Mini Wallet" that places a maximum aggregate limit on daily transactions of USD 240, as well as a maximum account size limit of $120. Together with the "Mini Wallet", Digicel also offers the "Full Wallet" to customers able to provide official photo ID, which allows large transactional and amount limits suited for mango procurement payments.

In 2011, under the Haiti Hope Project,* mango exporter Perry Exports used Digicel's mobile money service to pay 133 farmer cooperatives, known as Producer Business Groups (PBGs), reaching 1,500 mango producers. Due to low phone ownership and literacy levels among farmers, Perry Exports decided to make payments to the mobile money accounts of intermediaries at the PBGs. PBG staff intermediaries then withdraw the amount from local banks and distribute the amount due to each farmer in cash. PBGs received on average $250-300 over a three week period. Most PBGs had a Full Wallet that could hold the amount required to pay mango producers at the peak of the season. In future, there is an opportunity to use low KYC Mini Wallets to enrol farmers and perform payments directly to farmers.

DIGICEL HAITI MON CASH *	MINI WALLET	IMPLICATIONS FOR MANGO VALUE CHAIN PAYMENTS	FULL WALLET	IMPLICATIONS FOR MANGO VALUE CHAIN PAYMENTS
ACCOUNT SIZE	HTG 7,500 ($ 120)	👎	HTG 75,000 ($1,200)	👍
DAILY TRANSACTION VALUE LIMIT	HTG 15,000 ($240)	👎	HTG 150,000 ($2,400)	👍
MONTHLY TRANSACTION VOLUME LIMIT	100	👍	100	👍

THIS TABLE ILLUSTRATES THE COMPATIBILITY BETWEEN PERRY EXPORTS' MANGO PAYMENTS INITIATIVE AND DIGICEL'S MON CASH MOBILE MONEY ACCOUNT OPTIONS. THE AMOUNT FIELD OFFICERS AT FARMERS' COOPERATIVES (PBGS) NEED TO HOLD IN THEIR ACCOUNTS TO PAY THEIR NETWORK OF MANGO PRODUCERS EXCEEDS THE LIMITS IMPOSED BY THE "MINI WALLET", THEREBY MAKING THE "FULL WALLET" THE ONLY SUITABLE OPTION.

* GSMA (2016) "Market size and opportunity in digitising payments in agricultural value chains", https://www.gsmaintelligence.com/research/?file=29e480e55371305d7b37fe48efb10cd6&download

** Mon Cash – Digicel: https://support-ht.digicelgroup.com/hc/en-us/articles/115014939868-What-are-the-limits-of-the-accounts-

CASE STUDY: CASH-OUT FEES ARE AN OBSTACLE TO DIGITISING PAYMENTS TO GHANA'S COCOA FARMERS

The Bank of Ghana permits mobile money providers to issue a minimum KYC account (no proof of address required), with a balance limit of GHS 1,000 ($226) and an aggregate daily transaction limit of GHS 300 ($68). The Bank's mid-level KYC account, which corresponds to the maximum balance account offered by MTN's mobile money service MoCash, has a maximum balance limit of GHC 10,000 ($2,260) and an aggregate daily transaction limit of GHC 2,000 ($453).

During the main cocoa season (October to January), a cocoa farmer delivers to buyers an average of sixteen 64-kilo bags of cocoa beans ($108 per bag at 2017 prices).

Due to daily transaction limits, farmers have to withdraw cash several times during the cocoa season, as well as to ensure their next payment does not exceed their account balance. Withdrawal fees have become the most significant barrier to adoption, with every transaction over GHS 50 incurring a 1% fee.

MTN and agribusiness Cargill have partnered to digitise cocoa procurement in Ghana. However, given the challenge of withdrawal fees, their initial focus is on digitising only premium payments for cocoa farmers registered in certification schemes (on average $5.50 per bag).

MTN MOCASH** (MID-LEVEL KYC ACCOUNT ALLOWED BY THE BANK OF GHANA)			IMPLICATIONS FOR COCOA VALUE CHAIN PAYMENTS
ACCOUNT BALANCE LIMIT	GHS 10,000 ($2,260)	👍	ACCOUNT BALANCE LIMITS ARE UNLIKELY TO BE AN ISSUE FOR FARMERS RECEIVING MOBILE MONEY PAYMENTS
AGGREGATE DAILY TRANSACTION LIMIT	GHS 2,000 ($453)	👍	FARMERS NEED TO PERFORM MULTIPLE CASH-OUTS TO RETRIEVE THEIR FUNDS DURING THE COCOA SEASON AND TO ENSURE THERE IS A SUFFICIENT BALANCE FOR THE NEXT PAYMENT.
WITHDRAWAL FEE PER TRANSACTION	GHS 0.50 (FOR 1-50 GHS) ($0.10) 1% OF TOTAL (FOR 50 GHS AND ABOVE)	👎	FARMERS BEAR THE COST OF MULTIPLE WITHDRAWALS, INCREASING THE BURDEN OF DIGITAL PAYMENTS. EVEN THE SMALLEST POSSIBLE PAYMENT BEARS THE 1% WITHDRAWAL FEE.

* GSMA (2018) "Opportunities in agricultural value chain digitisation: Learnings from Ghana". Available at: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2018/01/Opportunities-in-agricultural-value-chain-digitisation-Learnings-from-Ghana.pdf
** MTN Ghana Mobile Money: https://www.mtn.com.gh/personal/mobile-money/about-mobile-money

CASE STUDY: MOBILE MONEY CAPS REDUCE THE DIGITISATION OPPORTUNITY IN SRI LANKA'S TEA SECTOR

Sri Lanka's Central Bank has capped the size of mobile money accounts at LKR 25,000 (USD 160). These limits are preventing agribusinesses from implementing digital payments in the tea value chain, by far the largest agricultural export in the country and widely produced by smallholder farmers.

Typically, a single agribusiness-to-farmer payment for tea crops ranges from LKR 25,000 to 50,000 ($160-$320). These payments, which are made on a monthly basis, are significantly above the maximum account size limits permissible in the market. The only option available for an agribusiness is to send the payments to farmers' accounts in multiple instalments.

Additionally, the maximum withdrawal allowance mandated by the financial regulator is LKR 5,000 ($32) per transaction. This would require tea farmers to cash-out multiple times to retrieve the full funds and pay fees of LKR 100 ($0.60) per withdrawal — an additional cost and inconvenience to the farmer.

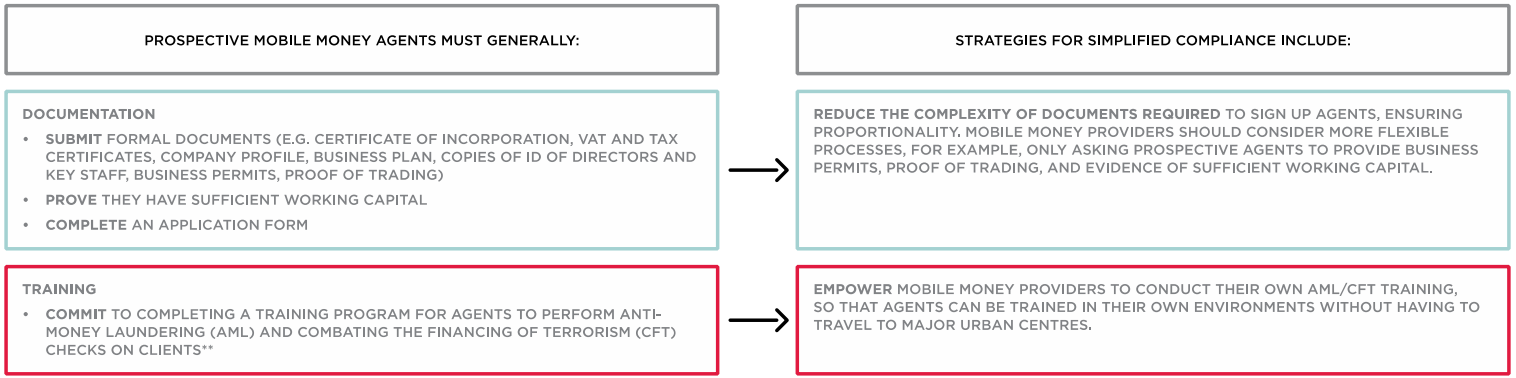
MOBILE MONEY LIMITS AND FEES*		IMPLICATIONS FOR TEA VALUE CHAIN PAYMENTS
MAXIMUM ACCOUNT SIZE	LKR 25,000 ($160)	ON AVERAGE, A SINGLE TEA VALUE CHAIN PAYMENT IS TWICE THE AMOUNT A MOBILE MONEY ACCOUNT CAN HOLD.
WITHDRAWAL TRANSACTION LIMIT	LKR 5,000 ($32)	FARMERS HAVE TO PERFORM MULTIPLE CASH-OUTS — AN INCONVENIENT PROCESS.
WITHDRAWAL TRANSACTION FEE	LKR 100 ($0,64)	FARMERS BEAR THE COST OF MULTIPLE WITHDRAWALS, INCREASING THE BURDEN OF DIGITAL PAYMENTS.

*This table includes the prices and limits set by Dialog Sri Lanka's mobile money service EzCash based on the Central Bank regulation: http://www.ezcash.lk/pricing.php

SIMPLIFIED COMPLIANCE REQUIREMENTS FOR AGENTS WILL SUPPORT RURAL EXPANSION

Placing heavy compliance or financial constraints on potential agents will limit their ability to scale the distribution network in rural and underserved areas where businesses are often less formal and less likely to have official business documentation.*

Maintaining the integrity and financial sustainability of the agent network needs to be balanced with proportionate due diligence.



* GSMA (2012) Building a Network of Mobile Money Agents. Available at: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2012/03/building.pdf
** GSMA (2012) Designing and Delivering Effective Agent Training. Available at: https://www.gsmaintelligence.com/research/?file=81300e594a6c024ca9204c8e3ecde693&download

KEY TAKEAWAYS (1)

The opportunity

- There is a clear opportunity for mobile operators and third parties to derive new revenue streams from digitising the agricultural last mile, starting with mobile money procurement payments from agribusinesses to farmers. At the same time, digitising the last mile offers a pathway to financial inclusion for farmers.

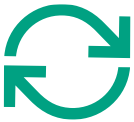
- While early initiatives are more likely to succeed where farmers are integrated in formal value chains and have established relationships with formal buyers, as the rural mobile money ecosystem develops there is scope to extend last mile digital tools to informal farmers too.

Connectivity

- While there are still significant challenges in ensuring network coverage in rural areas, last mile digitisation initiatives can focus initially on regional clusters where there is demand from agribusiness clients in suitable value chains and adequate network coverage is in place.

- When opportunities arise in regions that are not adequately covered, it is crucial that mobile operators assess the business case for rural network expansion based on the full revenue opportunity of rural base stations, not only voice, messaging and data, but also mobile financial services and a broader suite of enterprise solutions.

KEY TAKEAWAYS (2)



Liquidity

- Early mobile operator-driven initiatives to digitise payments for last mile procurement have proved there is no secret recipe to efficiently deploying mobile money agents in rural areas. Mobile operators are unlikely to offer more favourable commissions to agents given the already pressing burdens of commissions on the mobile money business model.

- There is mounting evidence that efforts to activate rural agents should focus not on changing commission structures, but rather on a) ensuring agents understand the commission structure, the benefits on offer, and the registration processes for new customers; and b) providing agents “soft” non-financial incentives, such as offering best performers the opportunity to move up the ladder and become a trusted community member.

- Rural agent selection and recruitment should be based on five key criteria: 1) the agent’s ability to maintain cash and e-float balance; 2) identify strategic retail locations (established businesses); 3) basic and digital literacy for the agent to support their business and the needs of rural customers; 4) “farmer friendliness” and trust from the community; and 5) customer reach based on selecting locations where demand for mobile money services will be high enough to create a sustainable business case.

KEY TAKEAWAYS (3)

- Master agents play a key role in identifying suitable rural agents and incentivising and training them. Early experience in digitising last mile procurement payments for farmers also shows the critical role master agents play in ensuring liquidity when agricultural payments are being made by maintaining an open line of communication between the mobile money provider, the aggregator (if involved), and individual agents. For mobile operators, the deployment of master agents should focus on ensuring they are ready and liquid at the time of agricultural payments.

Due diligence

- Proportional yet rigorous KYC is required to enable uptake of last mile procurement payments and, when formal identity documentation does not exist or is lacking, formal agricultural buyers like agribusinesses and cooperatives have an important role in providing alternative proof of identity for the farmers they work with.

- Given the KYC challenge, the ability of mobile money accounts to handle agricultural payments (both the size of single transactions and overall account size) is the single biggest challenge to implementation. Given the significance of agricultural payments for rural economies, financial regulators must consider the needs of the agricultural sector and, if they are willing to take full advantage of mobile money for financial inclusion, they must adapt due diligence regulations to support these transactions.


GSMA