

REPORT

The Hidden Costs of Cash to Ghana's Cocoa Sector

JULY 2020



World Cocoa
Foundation

BETTER THAN CASH
ALLIANCE



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CEO Voices



Federated Commodities is totally convinced of the multiple benefits of digitization for the farmers, Licensed Buying Companies and other actors in the value chain. With better coordination across the industry, we all can move faster to a digital future!

**MS. MARIA ADAMU-ZIBO, MANAGING DIRECTOR
FEDERATED COMMODITIES**



Shifting from cash to digital payments requires effective engagement across the cocoa sector, the government and the financial services providers. We are absolutely committed to strengthening collaboration and invite all actors in the value chain to join us in this important endeavour. That shift from cash to digital finance should provide improvements and enhancements that have never been seen before.

**MR. SAMUEL ADIMADO, MANAGING DIRECTOR
KUAPA KOKOO LIMITED**



Our farmers are very excited about receiving their premiums directly on their phones now because they feel it is safer than receiving cash and gives them access to additional financial services. They embraced our shift to digital much more quickly than we expected

**MR. ALHAJI ABDUL FATAH ADAMU, MANAGING DIRECTOR
COCOA MERCHANTS LIMITED**



We have played a leading role in digitalizing the cocoa supply chain in Ghana. Not only do digital tools enable more efficient, data-driven commercial decisions, they also drive forward our Cocoa Compass ambition to make the future of the sector more sustainable. Digital payments are essential to achieving this because cocoa farmers that are empowered to enter the financial system are more likely to prosper through increased productivity and incomes. We hope that all license buying companies in Ghana embrace the digital payment revolution as we have.

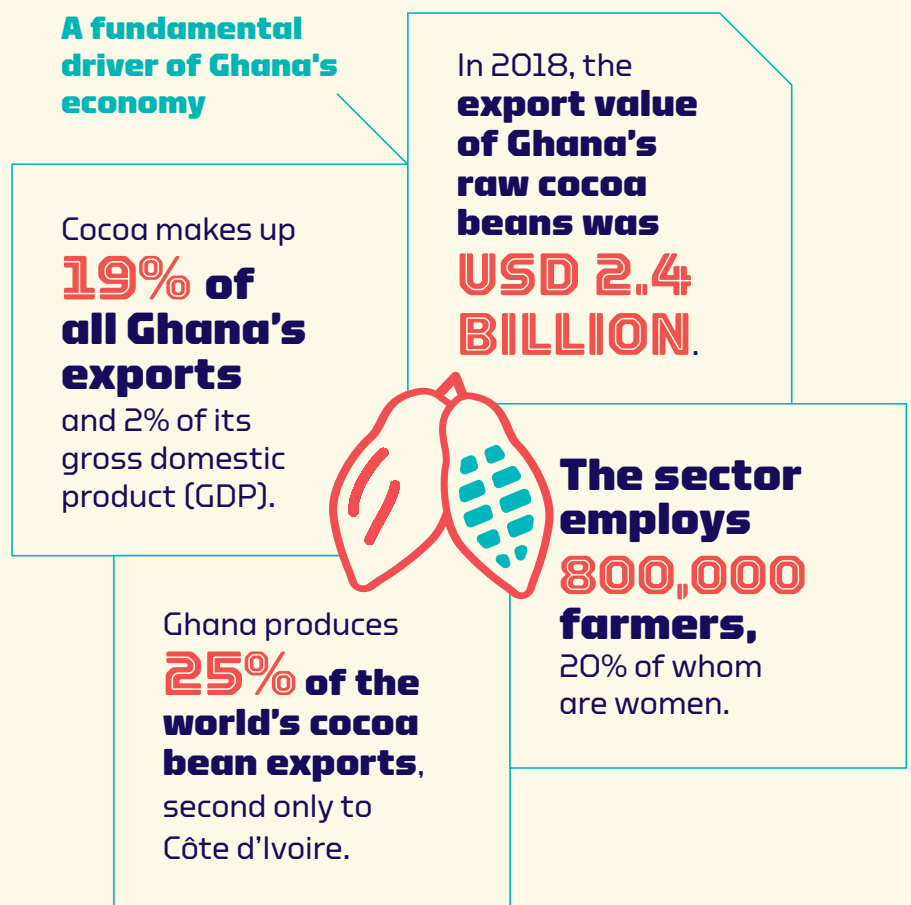
**ERIC ASARE BOTWE, BUSINESS HEAD
OLAM COCOA**

1. EXECUTIVE SUMMARY

Cash is the primary payment method used to purchase cocoa, with over 90% of farmer-level transactions (more than GHS 7 billion, or USD 1.26 billion) conducted using cash every year.¹ As the cocoa sector considers its transition to digital payments, this report seeks to determine the overall costs and risks of using cash, as well as the benefits of shifting to digital payments systems.

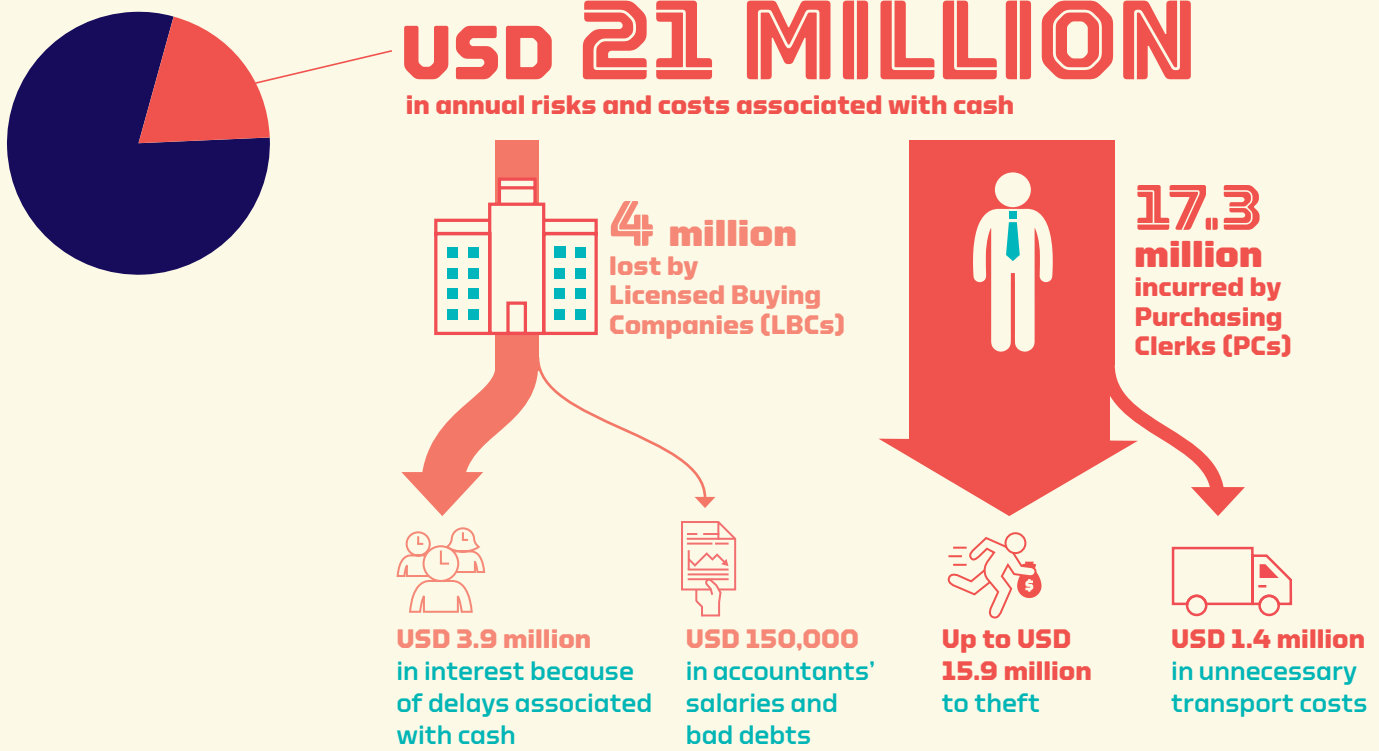
In addition to farmers, the cocoa sector has three other main actors. The Ghana Cocoa Board (COCOBOD) buys all Ghanaian cocoa from farmers through licensed buying companies (LBCs), then sells it to foreign and domestic processors. LBCs use funds from COCOBOD and banks to purchase cocoa from farmers, using a network of local purchasing clerks (PCs). The PCs, who are non-salaried agents of LBCs, withdraw cash from District Offices (DOs), then transport that cash to the farming communities they live in, where they use it to purchase cocoa.

We find that the cocoa sector's use of **cash forces these actors to lose or put at risk approximately USD 21.5 million**, equivalent to 19% of LBC revenues per year. In addition to the human costs from violence related to cash robbery, there are four main quantifiable costs and risks of using cash.



Annual risks and costs of cash in the cocoa sector

Licensed Buying Companies (LBCs) generate USD 112 million in annual revenue from buying cocoa, but risks and costs associated with cash payments reduce that revenue by 19%.



BENEFITS OF DIGITAL PAYMENTS for Ghana's Cocoa Sector



BENEFITS FOR **FARMERS**

Farmers can also benefit from making the switch to digital payments when they are implemented responsibly,² through better access to financial services, including credit for their farm inputs, and savings or insurance to help manage risk. Yet any transition must prioritize their existing payment and financial requirements, such as payment on delivery, ready access to liquidity, and a choice over payment mode.



BENEFITS FOR **LICENSED BUYING COMPANIES (LBCs)**

LBCs that have made the shift to electronic payments are reaping numerous benefits, including more secure personnel, lower interest costs, and better relationships with their PCs. The cost of adopting digital payments is not prohibitive: most vendors do not charge onboarding fees, transaction fees are similar to existing costs, and cash-out fees can be minimized through partnerships with agent networks and banks, as well as a robust digital payment acceptance system.

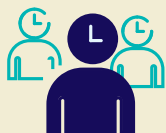


BENEFITS FOR **STRONGER COCOA ECOSYSTEM**

Cash is bringing unaffordable risks and expenses into Ghana's cocoa sector for farmers, purchasing clerks, companies, and society alike. Creating a stronger cocoa sector by digitizing payments will require collaboration from all actors.³

Digitizing payments in the cocoa sector can deliver vast benefits for all players in the supply chain, which far outweigh the costs of digitization. The potential returns of this investment make a powerful case for immediate action by LBCs, the financial sector, and the Government. Creating a more sustainable cocoa sector for everyone will require all actors to work together in digitizing payments.⁴

IMPROVED EFFICIENCY



- Shorter cash conversion cycles
- Higher return on capital
- Lower reconciliation costs

INCREASED REVENUE



- Lower interest expense
- Liquidity can drive business growth
- Sustainability certification for farmers



GREATER TRANSPARENCY AND SECURITY



- Reduce danger to PCs and LBC staff
- Traceability is crucial for sustainable cocoa sector
- Lower sectoral risk premium

STRONGER BUSINESS RELATIONSHIPS



- Improve relationships between LBC & PC through reduced risk
- Greater access to finance and risk mitigation tools for farmers from LBC

DIGITAL PAYMENTS CONTRIBUTE TO SDGs



Financial inclusion



Women's economic participation



Decent work & inclusive growth

2. PAYMENT CYCLES IN GHANA'S COCOA SECTOR

The transition away from the use of cash in Ghana's cocoa value chain has begun. Cocoa-buying companies are searching for new ways to deliver greater benefits to farmers while improving efficiency, sustainability, and transparency in their cocoa procurement. Digitizing payments in the value chain can mitigate the substantial risks faced daily by staff and agents of buying companies. At the same time, digital payments can lower the significant financial costs that threaten the profitability of the sector. End-to-end financial transparency can help cocoa processors around the world to verify where their product is sourced and reduce the risk profile of the sector for domestic lenders. For the smallholder farmers who form the backbone of the cocoa sector, digital payments can unlock financial services that will help them afford better inputs, manage liquidity, and become more resilient throughout the year.



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Methodology

As evolution towards a cashless cocoa sector gathers pace, many of the licensed buying companies (LBCs) that purchase cocoa in Ghana are exploring whether and how to shift from cash to digital payments. To support this vital decision-making process, the Better Than Cash Alliance, together with the World Cocoa Foundation, commissioned this research to provide evidence on the costs of cash payments in the cocoa value chain, as well as the benefits associated with digitizing those payments.

To arrive at the estimates presented in this report, researchers conducted focus groups with 32 farmers and 13 purchasing clerks (PCs), as well as interviewing operational managers, executives at various LBCs, and representatives from technology companies at the forefront of innovations in digitizing payments. These qualitative insights have been combined with desk research and analysis of cocoa purchasing data shared generously by participating LBCs, in order to present clear data points on the costs and benefits of shifting to digital payments.

COCOA IN GHANA

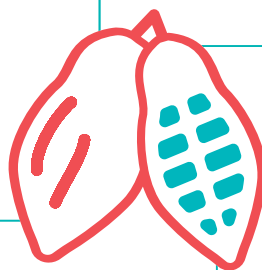
Cocoa trees (*Theobroma cacao*) produce cocoa beans, which are processed into cocoa powder and cocoa liquor and used in a wide variety of products. Indigenous to South America, cocoa trees first arrived in Ghana in 1876. The cocoa sector has since expanded dramatically, and today forms a pivotal part of the Ghanaian economy.

- **Ghana exported USD 2.4 billion of raw cocoa beans in 2018**, representing 26% of global production and second in value only to Côte d'Ivoire (UN Comtrade, 2020).
- **Cocoa exports (both raw and processed) accounted for 19% of Ghana's total exports in 2018** (ITC, 2020) and 2% of its gross domestic product (GDP) (Kolavalli and Vigneri, 2017).
- **Around 800,000 cocoa farmers are estimated to be part of the value chain in Ghana** (Vigneri and Kolavalli, 2018), approximately 18% of whom are women (Hiscox and Goldstein, 2014).

A fundamental driver of Ghana's economy

Cocoa makes up
**19% of
all Ghana's
exports**
and 2% of its
gross domestic
product (GDP).

In 2018, the
**export value
of Ghana's
raw cocoa
beans was
USD 2.4
BILLION.**



Ghana produces
**25% of the
world's cocoa
bean exports**,
second only to
Côte d'Ivoire.

**The sector
employs
800,000
farmers,**
20% of whom
are women.

Understanding the Ghana cocoa value chain

Cocoa is harvested during two seasons in Ghana: the main buying season (October to March) and the light buying season (June to September). There are four main actors in the buying process:



Cocoa farmers are also referred to as producers. There are around 800,000 cocoa farmers in Ghana (Vigneri and Kolavalli, 2018) with one survey finding 18% to be women (Hiscox and Goldstein 2014). In all, 89% of farmers grow cocoa on less than five hectares of land (Vigneri and Kolavalli, 2018), and one in four live on less than USD 3.10 per day (Bymolt et al., 2018). COCOBOD estimates that 2 million Ghanaians earn income from the cocoa sector.



Purchasing clerks (PCs) receive funds from licensed buying companies District Offices (DOs) and buy cocoa directly from farmers on behalf of LBCs. They traditionally live in the farming communities and are often cocoa farmers themselves. Although they are designated agents of the DOs, they are not staff and do not receive employment benefits. Informal estimates of the number of PCs in Ghana range from 17,000 to 26,000.



Licensed buying companies (LBCs) comprise a group of 56 privately-owned companies and one publicly-owned company, of which 30 were actively purchasing cocoa as of January 2020 (LICOBAG, 2020). Using funds raised from COCOBOD and local banks, they operate DOs, which manage networks of locally-based PCs who buy cocoa from farmers. Purchased cocoa is then quality-verified, aggregated, and transported to COCOBOD warehouses. Nine LBCs account for 89% of the cocoa market in Ghana (COCOBOD, 2018).



The Ghana Cocoa Board (COCOBOD) is a government-controlled entity that regulates the cocoa industry. Together with other stakeholders, it fixes the price paid to farmers, as well as the buyer's margin for LBCs. Farmer prices and buyers' margins currently stand at GHC 8,249 (USD 1,477) and GHC 739 (USD 132) per metric ton, respectively (Larnyoh, 2019). Together with its subsidiary, the Cocoa Marketing Company, COCOBOD receives all cocoa produced in Ghana from LBCs, then markets and sells that cocoa to domestic and international processors.

PAYMENTS PROCESS

No more than
10% of
farmers are
currently being
paid digitally
for their cocoa.

The operational cycle of an LBC (as depicted in Figure 2) can take between 40 and 60 days, with significant variation depending on the company and the season. In traditional, cash-based cocoa procurement, the main financial transactions are as follows.

Cash and check are the predominant modes of payment for steps 3 and 4 in this process. Some farm owners who do not typically reside on their farms are paid with mobile money through informal arrangements with a PC.

At least six LBCs have implemented or are experimenting with digital payment methods to PCs, and several of those are piloting direct-to-farmer payments (see box on page 16). However, based on analysis of payment data and interviews conducted for this report, it appears that at present, no more than 10% of farmers are currently being paid digitally for their cocoa through a formal procurement system.

FIGURE 1

Three types of digital payments in the Ghana cocoa value chain



MOBILE MONEY

Digital money is transferred to a payee's mobile wallet. Users can store e-money on the wallet, make payments, or transfer funds to other users from their phones. They can also change the e-money into cash at mobile money agents, with cash-out fees of 1% and USD 1.33 maximum fee per cash-out. Regular users may be restricted in how much they can withdraw at a time. There are three mobile network operators with mobile money services in Ghana.



ELECTRONIC FUND TRANSFERS

Funds are transferred directly to a payee's bank account. Withdrawal fees vary by bank, but are usually lower than mobile money operators' fees.



E-ZWICH

An interoperable, biometric-linked smart card that allows Ghanaians to access funds at dozens of different banks, as well as thousands of e-zwich agents around the country.

FIGURE 2

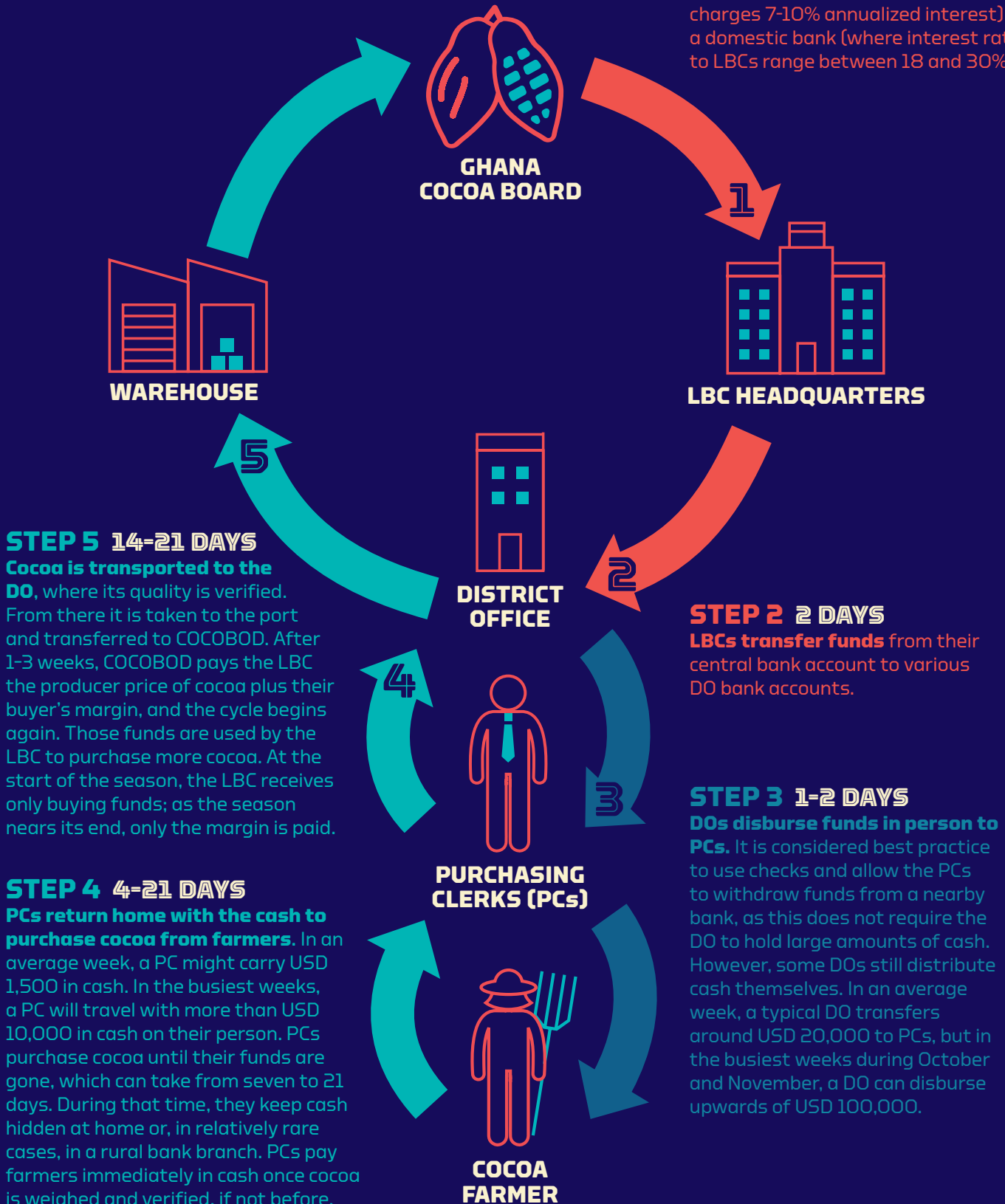
Purchase cycle of cocoa in Ghana

Overall the operational cycle of payments in the cocoa sector could be reduced by 5 days using digital funds, cutting 8-12% off the current time and leading to significant savings for the sector.

- Cocoa
- Electronic Payment
- Cash or Check

STEP 1 14 DAYS

LBCs receive funds to purchase cocoa from either COCOBOD (which charges 7-10% annualized interest) or a domestic bank (where interest rates to LBCs range between 18 and 30%).



3. COSTS OF CASH ACROSS THE SECTOR



LICENSED BUYING COMPANIES

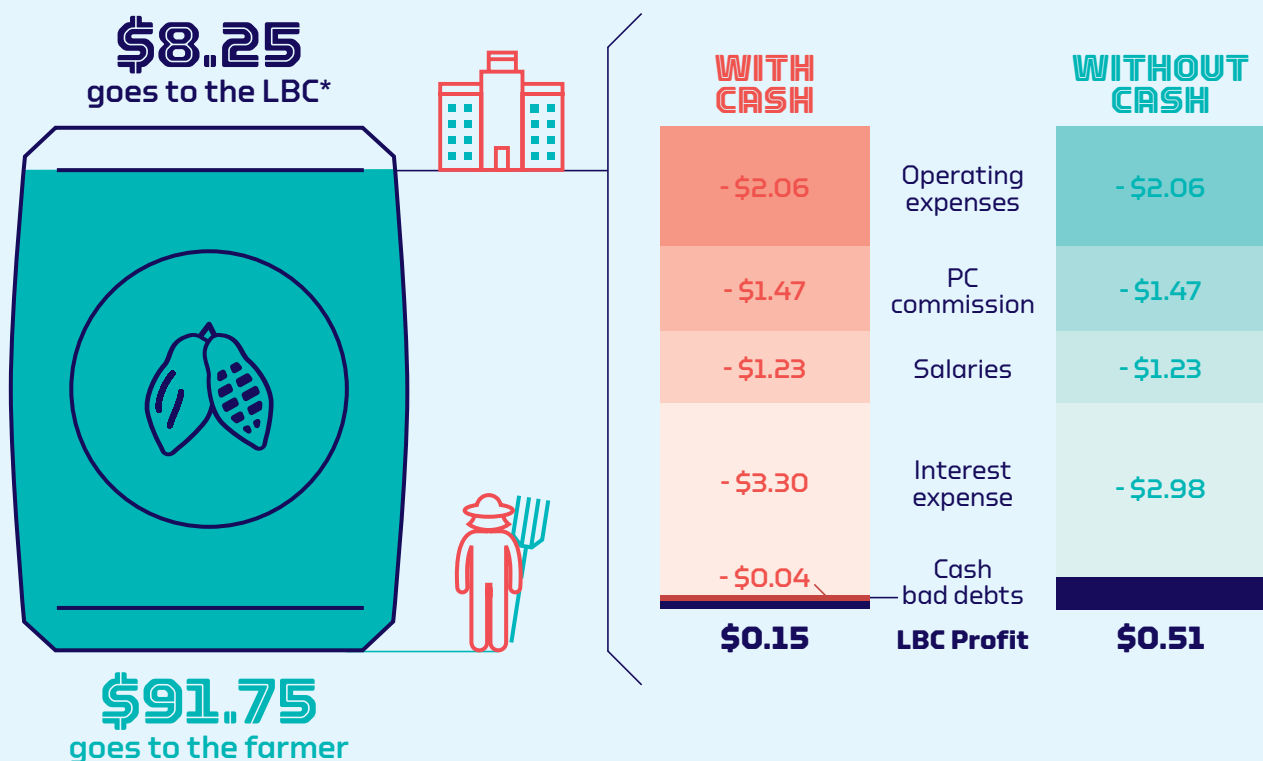
In the cocoa sector in Ghana, the number of days in the operating cycle greatly affects expenses. As working capital sits as cash in PCs' houses or in bags of cocoa waiting to be paid for at the port, LBCs must borrow heavily to make more cocoa purchases and generate their margin revenue. Some LBCs borrow from COCOBOD at concessionary rates, but most purchasing funds are sourced from local banks in the form of overdrafts. The sector pays a premium on its borrowing costs due to the lack of transparency inherent in cash-based payments and the high level of perceived risk, according to LBC executives, who cited interest rates from banks of between 22% and 30%, compared with an average commercial bank lending rate of 23.7% (Bank of Ghana, 2020).

Interest costs are the LBCs' largest barrier to profitability. Interest accrues daily from the moment the funds leave the LBC bank account (step #2 in Figure 2 on previous page) and only stops accruing when the LBC is paid on delivery of the cocoa, typically some 40 to 60 days later. LBCs interviewed for this report indicated that between 42 and 59% of their margin revenue is lost to interest costs before paying commissions, salaries, or operating expenses. In its last published quarterly financial statement, PBC Limited – the state-owned LBC – paid 52% of its margin revenue in interest, turning an operating profit into a significant pre-tax loss. Using 40% of margin revenue as a conservative estimate, and with the government's projections of 850,000 tons to be purchased in the 2019/20 season, LBCs will pay GHC 251 million (USD 45 million) in interest over the season.

Payments made in cash are a major cause of delay within the operational cycle. In parts of the year, it can take PCs two to three weeks to source enough cocoa to purchase, with cash in their pocket and interest costs mounting. By contrast, digital funds can remain unborrowed at the bank until the moment of purchase. LBCs estimated that transaction delays and holding time associated with cash and check payments add between two and seven days on average to the operational cycle. Using a midpoint of five days, **cash costs the sector an estimated USD 3.9 million in added interest expense, or 3.5% of total revenue.**

FIGURE 3

Unit economics of USD 100 cocoa bag



*Stylized model based on shared data and public financial statements

In addition to interest costs, write-offs suffered by the LBCs related to theft of cash bills and bank notes are between 0.1 and 0.5% of revenue, or USD 110,000–550,000. Further, LBCs' accounts departments must spend around 10% of their working hours issuing checks and reconciling cash payments, costing LBCs around USD 40,000 a year.

All told, cash payments for cocoa costs LBCs at least **USD 4.1 million annually, or 3.6% of margin revenue**. In a highly competitive sector with very thin margins (see Figure 3) and no differentiation on price due to government controls, losses caused by cash payments can make the difference between profit and insolvency.

Cash payments for cocoa costs LBCs at least USD 4.1 MILLION annually, or 3.6% of margin revenue.

Spotlight on



Cargill is a privately-owned, US-based company with USD 113.5 billion revenue in 2019. It has

significant operations in agriculture and food processing. Cargill has been sourcing cocoa from Ghana for over 40 years. In response to growing risks in cocoa sourcing, Cargill established its own LBC in Ghana in 2016. The LBC - Cargill Kokoo Sourcing Limited - delivered an important innovation for the sector in the use of electronic payments linked directly to a digital cocoa scale. Cargill can load funds digitally into DO accounts each morning, and allow DOs to allocate funds to the e-wallets of their PCs. Purchases are made by PCs and recorded in real time, providing instant visibility and transparency. And at the end of each day, any unused funds are swept back into Cargill's Ghana headquarters account, preventing unnecessary interest charges.

This end-to-end transparency enabled sustainability premium payments of USD 870,000 to farmers supplying Cargill in Ghana in 2018. The company now buys directly from 20,000 active farmers, having doubled its farmer roster in Ghana in two years (<https://www.cargill.com/2018/cargill-doubles-sustainable-sourced-cocoa-in-ghana>).



The model benefits everyone in the supply chain – farmers, whose livelihoods improve, and Cargill and our customers, who have access to more certified cocoa... It is our hope that our electronic payment model, which has proven to benefit the farmers, will help encourage the government to fulfill its vision of a cashless economy.

Pieter Reichert

Managing Director of Cargill's operations in Ghana



PURCHASING CLERKS

In the 2018/19 cocoa season, **PCs paid farmers in rural areas over GHS 6.3 BILLION (USD 1.3 billion).**

That money was paid on regular schedules by PCs, almost entirely in cash.

In the 2018/19 cocoa season, PCs paid farmers in rural areas over GHS 6.3 billion (USD 1.3 billion). That money was paid on regular schedules by PCs, almost entirely in cash. **Unfortunately, these regular movements of cash have become a target for armed robberies, with strong indications that theft and violence appear to be increasing.** Data on the exact number of robberies is unavailable; however, every PC interviewed for this report had either been robbed themselves or knew a PC who had been targeted. Tragically, robberies often result in loss of life. The human cost of this worsening reality is well expressed in a 2019 newspaper headline: “Automate system of payment to save our lives – Cocoa purchasing clerks decry” (AgricToday, 2019).

Robberies also carry severe financial risk for PCs. Because they are technically independent agents, any cash lost in a robbery becomes a personal debt owed by the PC to the DO. **The financial impact of such losses can be devastating, particularly as PCs routinely carry more cash than they earn in a year, sometimes as much as five times more.**

Clearly there can be no price put on the loss of life involved in these robberies. Even so, when 49 PCs were surveyed on what they would be willing to pay for full theft insurance, the average response was USD 1.33 per bag. This estimate may be high, as it represents three-quarters of their LBC commission (PCs often receive payment from farmers as well) but could be a sensible investment, if it would protect PCs from much larger potential losses caused by theft. Extrapolating this across the entire sector based on 2019/20 projections, this report quantifies the financial risk of theft for PCs at USD 15.9 million.

In addition, most PCs are required to travel every week to DOs to collect cash, while PCs who work in cashless systems can reduce those trips by half. Costs for PCs associated with this unnecessary travel demanded by cash payments are estimated at USD 1.4 million annually.

This brings the **total cost and risk of cash for PCs to USD 17.3 million.** If this amount was borne by LBCs, it would equate to over 15% of LBC revenue. In reality, these risks and costs are borne by PCs with often-ruinous financial impacts on them and their families. This figure does not account for additional costs associated with risk, such as medical care, lost income, and the emotional impact of seeing a loved one injured or killed. Yet these costs are real and experienced. **Abraham Kofi Topeng, the Operations Manager for Kuapaa Kokoo Limited, summed them up: “People are being devastated”.**



FARMERS

Most cocoa farmers are paid in cash on delivery. Because the analog nature of transactions makes it hard for farmers to create verifiable business and financial records, they often face difficulty in accessing credit for seed, unsubsidized fertilizer, or labor. A survey of cocoa farmers in 2016/17 found that only one in eight had purchased any agricultural inputs on credit (Bymolt et al, 2018). This lack of credit is a key reason why cocoa farmers have been unable to invest in the mechanization and hired labor that would allow them to increase their economic opportunities and move out of poverty (Kolavalli and Vigneri, 2017). Instead, they remain trapped in small-plot, family-based production. Farmers also cited robbery as a downside of cash payment, although none of the farmers interviewed had been robbed.



COCOBOD

COCOBOD's primary focus is the health and viability of the overall sector, and the Board has recognized that inefficiency and a lack of transparency – particularly around payments – present significant threats to this health and viability. Notably, safety and interest costs are both major concerns for the LBCs that COCOBOD relies on to procure cocoa, particularly domestically owned firms. A lack of transparency over payments is symptomatic of a larger problem, in that lack of adequate LBC managerial control over district-level operations is the main reason for the failure of many LBCs (Kolavalli et al., 2012). The absence of district- or local-level purchasing data also makes it difficult for COCOBOD to monitor the health of the sector, and forms a barrier to potential interventions, such as securing additional credit for farmers or targeting subsidies to help them improve their productivity. For this reason, COCOBOD has made digitization of the cocoa sector an important priority, starting from a unified farmers' database and moving to electronic accounts where sales of cocoa will be recorded.



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4. DIGITIZING COCOA PAYMENTS

Digitizing payments within the Ghana cocoa sector will deliver a wide range of direct and indirect benefits to stakeholders throughout the value chain.



IMPROVED EFFICIENCY

By adopting digital payments direct from LBCs to farmers, firms can shorten their operational cycles, reduce their interest costs, and achieve a higher return on their capital. In addition to reducing their operational cycle, LBCs using digital payments can retrieve unused funds from a PC or DO wallet at the end of each day, thereby avoiding interest expenses. Digital payments will also substantially lower the staff time required for disbursing and reconciling physical payments, freeing staff and other resources for more productive tasks.



INCREASED REVENUE

LBCs that are able to recover their capital faster through the use of digital payments should be able to acquire more cocoa, enabling those moving to digital systems to grow their top-line revenue. In addition, financial transparency helps to meet the criteria for premiums paid for sustainably produced products, such as those offered by Rainforest Alliance/UTZ. Helping farmers to access these premiums can be an important differentiator between LBCs, in a way that helps support a more competitive, innovative, and sustainable cocoa sector.

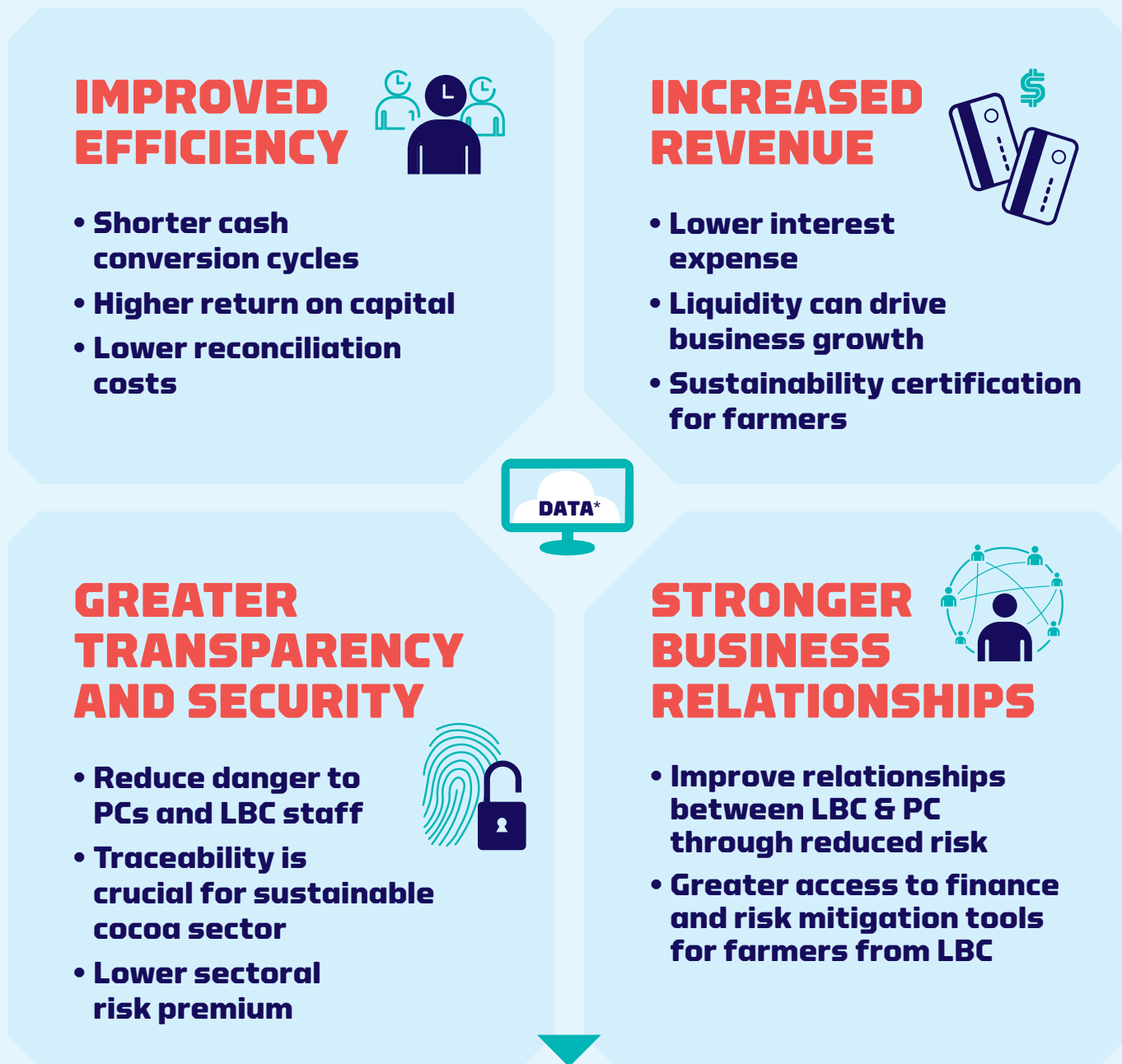


STRONGER BUSINESS RELATIONSHIPS

Although LBCs do not always view PCs as business partners, the relationship between them is of immense importance to both. Multiple farmers in focus groups spoke of choosing an LBC based on the character of the PC operating in their community, and several mentioned that they had switched LBCs to follow a PC they trusted. In order to maintain high volumes of cocoa purchases, LBCs need to find ways to keep their PCs motivated. Given the risks faced by PCs in their jobs, eliminating cash payments is probably the strategy that would do most to improve that business relationship.

At the same time, there is a persistent concern among farmers that they are not receiving full value for their crop. Scandals involving weight-tampering on cocoa scales have damaged trust in PCs. Adopting digital payments that are linked to digital scales and humidity sensors can help to assure farmers that they will be paid accurately for their harvests.

FIGURE 4
Benefits of digital payments for Ghana's cocoa sector



DIGITAL PAYMENTS CONTRIBUTE TO SDGs



Financial inclusion



Women's economic participation



Decent work & inclusive growth



GREATER TRANSPARENCY AND SECURITY

The security of LBCs' staff is the single greatest benefit that would motivate LBCs to shift to electronic payments.

The benefits to human welfare and safety from shifting to digital payments are incalculable in a sector that has been plagued by severe violence in recent years. LBCs repeatedly cited the security of their staff as the single greatest benefit that would motivate them to shift to electronic payments. Farmers participating in a digital payment pilot related an instance in which their PC was set upon by robbers but released unharmed: "They thought the cash was with him and attacked him...But the money was on his [e-] wallet." A high level of perceived risk was one reason cited for the low numbers of women PCs; digitization might help reduce the disparity (only one of the 13 PCs interviewed for this report was female).

Digital payments are also a key part of a larger shift to the greater transparency and traceability needed across the value chain. Large-scale international purchasers of cocoa are increasingly concerned with ensuring that cocoa has been grown sustainably by well-paid professional farmers, not using child labor or from protected forests. LBCs themselves are hampered by a lack of visibility in district-level operations; they have no real-time knowledge of how much cocoa has been purchased or where it is stored after harvest.

Digital payments are part of a broader shift towards digital stock management systems that can help LBCs track and manage their operations more effectively. Digital payments also enable international purchasers to verify that the product meets their sustainability commitments, and end-consumers to know that the chocolate they buy has been procured ethically and sustainably from farmers earning a living wage. In February 2020, COCOBOD announced a sector-wide shift towards digital scales for weighing cocoa. Although this will take time to implement, when paired with digital payments and management systems this will give LBCs dramatically greater visibility over their operations.

Finally, interviewees at payment system providers stated that the sector is perceived as excessively risky and difficult to insure, due in large part to the high prevalence of cash payments. This risk is felt acutely when LBCs must pay for guarantees from local banks or insurers before accessing COCOBOD funds. One of COCOBOD's key goals in digitizing payments is to make lower-cost finance available to LBCs. This is a crucial step towards building a more sustainable cocoa sector.



CONTRIBUTING TO SDGS: FINANCIAL INCLUSION

In the current system, PCs are often the main source of credit to farmers, either through loans or ‘pre-financed’ cocoa purchases, made using the PC’s own money. These interest-free loans create significant risk for the PCs, who have little recourse if the crop should fail or a farmer chooses to sell their crop elsewhere.

A shift to digital payments holds great potential to increase the availability of relevant financial services for smallholder cocoa farmers. In an interview with a Ghanaian mobile network operator, their product manager advocated for digitizing payments as the entry point to an entire ecosystem of value-added financial services. A lack of affordable finance is a major barrier to farm productivity, as it prevents farmers from accessing high-quality inputs such as fertilizer or seed (Gayi and Tsowou, 2016; Kolavalli and Vigneri, 2017). Digital credit for farm inputs can help boost productivity; savings accounts that auto-deposit a portion of harvest earnings would help build wealth;⁵ and crop-indexed insurance could help to mitigate the risk of crop failure. More transparent transactions would also enable additional contract farming arrangements, which can increase the predictability of farmers’ incomes, de-risking investment (Roldan et al., 2013).

As one farmer noted: “if cash is with you, it just goes.” **But when paid digitally, farmers reported that they were better able to manage their expenditures.**

Indeed, LBCs and farmers who have experimented with digital payments report that they have secured meaningful savings. Cocoa farmers receive their annual income in just two main periods of the year, and stretching that income between payments can be a major challenge. As one farmer noted: “if cash is with you, it just goes.” But when paid digitally, farmers reported that they were able to manage their expenditures better. **Cargill, an LBC that pays 20,000 farmers digitally, said that farmers had often left money on their cards and e-wallets, using them as an ad hoc savings account.** More cocoa-specific financial products might create better returns and build resilience among farmers, along with influencing better environmental and social outcomes in the communities that depend on a sustainable and profitable cocoa sector.



COSTS OF IMPLEMENTING DIGITAL PAYMENTS

Many LBCs would like to receive more information about up-front costs in implementing digital payments, both for themselves and for their farmers. Part of this research involved a review of the digital payment systems of four major providers. Each uses a different revenue model, assigning costs to different actors in the value chain.

There are four main costs associated with digitizing payments:

1. **Onboarding.** There can be a one-time fee for bringing an LBC or farmer on to the platform. One provider charges LBCs GHS 14 (USD 2.50) per farmer for onboarding. Another charges a one-time LBC fee to be paid by a third-party insurer that wants LBCs on the system to improve the traceability of their transactions. The other two providers do not currently charge onboarding fees.
2. **Subscription.** LBCs could be charged monthly or annual fees to use a platform. None of the payment systems currently charge subscription fees, although one indicated they may do so in the future.
3. **Transaction.** Banks charge between 0.20 and 0.28% of total transfer value for transfers to LBCs' DOs. Digital payment providers offer a range of price points, from free to 0.33%. All offer instantaneous or near-instant payments, compared with one or two days for banks.
4. **Cash-out.** Mobile money providers charge a 1% fee on cash-out, with a GHS 10 (USD 1.79) cap. That fee can be borne by farmers or LBCs, or shared between them. Banks and e-zwich cards (see Figure 1) may also charge a withdrawal fee; these are usually less than those charged by mobile money providers. Aggregators are working to drive this cost down as much as possible by setting up low-cost or free cash-out points.

There are several key tradeoffs between mobile money, bank, and agent-based payments:

- **Mobile:** Transactions are generally free for the LBC and there are numerous cash-out points (in the form of mobile money agents), however cash-out fees are higher.
- **Bank:** Cash-out fees are lower or nonexistent, but there is a cost for transfers and fewer withdrawal points.
- **Agent:** Some payment providers have taken the step of aggregating agents at the local level. These agents can offer cheap or free withdrawals and are well-supported with liquidity, but their presence is mostly at the District level, meaning PCs would still need to use cash for local purchases.

These tradeoffs exist both between and within payment systems, as two providers offer the option of bank or mobile payments to farmers, while others require a choice of one or the other. Different providers also offer different benefits; for example, one system is backed by an insurer that offers lower-cost guarantees to LBCs who make transactions on their system.

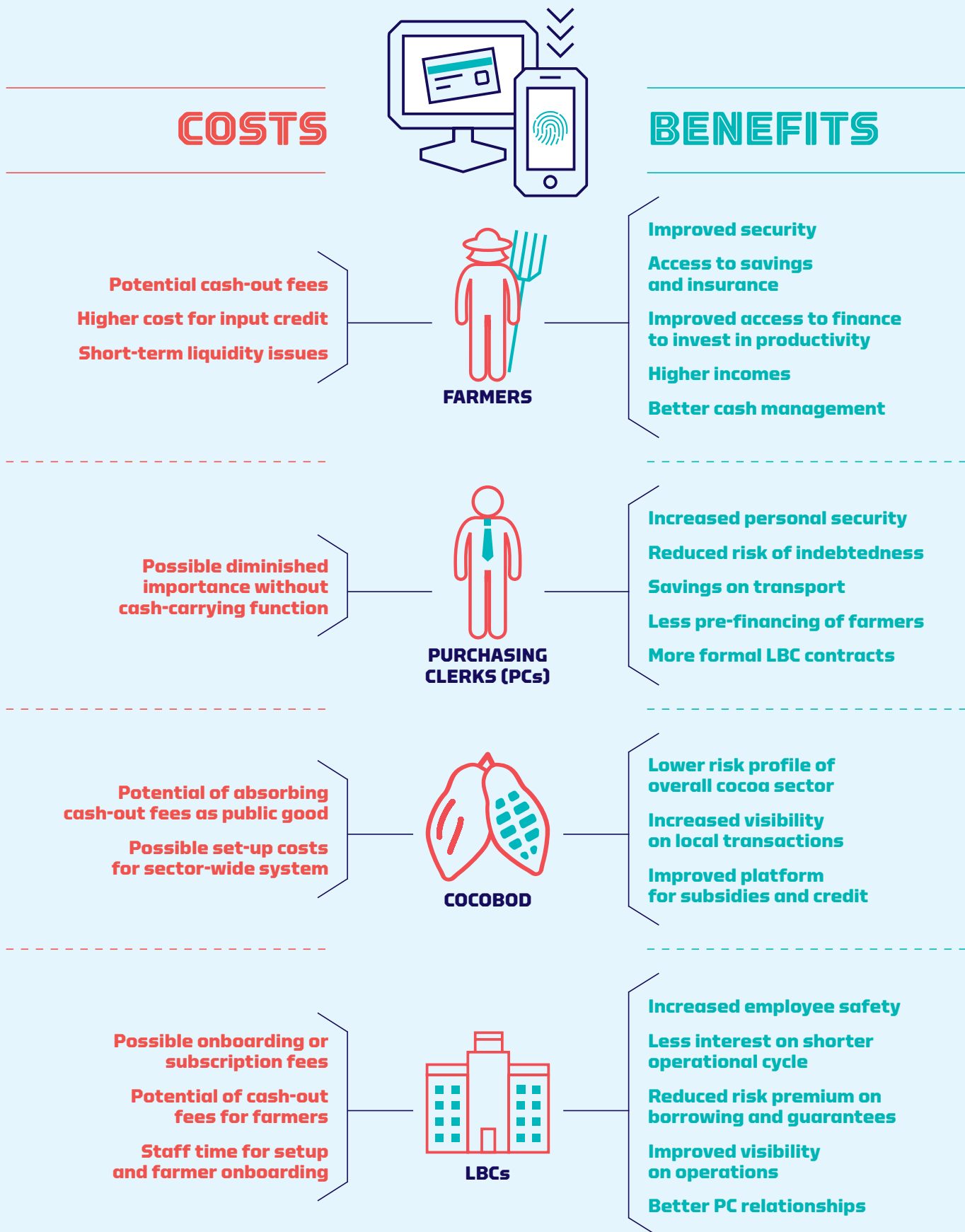
Overall, the financial cost of setting up a digital payments system is relatively low for LBCs, especially when compared with the vast benefits, which include greater personal safety and cost savings. Onboarding fees are only significant for one provider, and transaction fees are equivalent or cheaper than current bank transfers. Subscription costs may emerge over time, yet the main business case for payment providers is not charging LBCs, but rather offering financial services to LBCs and farmers.

However, the main concern for LBCs is the cost of cash-out. One LBC stated that they could not justify the cost of digitizing payments, as they were certain they would have to absorb the cash-out fees charged by mobile money operators. The views of farmers interviewed for this report are set out in the next section.

ELECTRONIC PAYMENTS: WHAT DO FARMERS WANT?

Four focus groups were conducted with farmers for this report. Three groups, comprising 20 farmers, had only ever been paid in cash or by check ('cash group'). A fourth group, comprising 12 farmers, had been paid with mobile money the previous season ('mobile group'). Across the 32 farmers interviewed (seven of whom were women), 88% had a mobile money account and 81% had an account at a financial institution. This is higher than average for rural Ghana, where 39% of adults in 2017 reported having a mobile money account, and 37% reported having an account at a financial institution (Demirgüç-Kunt et al., 2018).

FIGURE 5
Cost-benefit of digitization process



Most farmers in the cash group understood how mobile money and bank transfers worked, and appreciated the security they offer, but were wary of being paid digitally. **For example, in a hypothetical exercise, 19 out of 20 farmers chose cash over mobile money, even when cash-out fees were waived. Their main reasons were: (i) lack of mobile network signal causing them to miss notifications; (ii) lack of liquidity at agents or bank branches; and (iii) fear of being defrauded or misled.**

This third reason was by far the largest concern; farmers, especially women, worried about being scammed before they realized it, or losing money slowly to misunderstood fees. Illiterate farmers viewed themselves as particularly vulnerable, and preferred cash as a result. One farmer told us, “People are tricky. It’s possible [a PC] will tell you he has sent your money, but you go [to the agent] and there is nothing.” These concerns echo those in a study by Akomea-Frimpong et al (2020, which found mobile money fraud is a significant problem in Ghana that needs to be addressed through regulation and public awareness campaigns from mobile network operators. This finding is in line with the Responsible Digital Payments Guidelines (Better Than Cash Alliance, 2016), which identifies several best practices for payment providers around notification and compensation for digital payment fraud.



55% of cash group farmers said they would rather receive payment into an account if it meant they could access formal credit.

By contrast, farmers in the mobile group had received thorough education on mobile money. The LBC gave them the choice to receive funds as mobile money, cash, or a combination. All 12 had received at least some cocoa payments as mobile money and four had received all their funds via mobile. Their responses tell a very different story from those of the cash group.

- Farmers that had received mobile payments did not find cash-out fees to be a barrier; they often received large sums, of which cash-out fees were a small percentage (<0.5%).
- They also reported leaving more money on their mobile wallets than anticipated, and they saved more than normal.
- Money on mobile wallets was used to pay school fees or utilities, sent to family around the country, or saved.
- When asked to choose just one method, nine out of 12 chose mobile money.

Two other key points emerged from these focus groups. Firstly, in fund-allocation exercises, on average, farmers stated that:

For every GHS 100 they received, about

- GHS 36 was spent immediately
- GHS 37 was placed in an account or mobile wallet
- GHS 27 was kept in cash

Interestingly, these preferences were similar for both the mobile and cash groups. This indicates that cash-out fees would only need to be paid on a portion of cocoa income, particularly if farmers are able to make essential purchases using digital payments.

Second, even cash group farmers saw value in acquiring greater access to credit; 55% said they would rather receive payment into an account if it meant they could access formal credit, up from just 5% who would prefer an account without credit to cash. This is consistent with findings from focus groups conducted by Strategic Impact Advisors (2015), which found that **farmers' main interest in mobile payments was as a means of accessing financial services.**



Spotlight on

Agriculture

Agriculture value chains, as well as the national payment systems in which they operate, vary greatly. Learnings from this case study will need to be adapted appropriately and applied on a market-by-market basis, taking account of local contexts and conditions.

GSMA (2020) has recently reported that USD 392 billion worth of cash-based agricultural payments are yet to be digitized, a figure that is expected to grow to USD 491 billion in 2025. This represents a revenue opportunity of USD 2.4 billion for mobile money operators, which will increase to USD 3.2 billion in 2025. Nor are the benefits of digitization unique to Ghana: the 2018 Cocoa Barometer, an annual update on the sector's sustainability, reported that farmers in neighboring Côte d'Ivoire are regularly paid less than the established price by traders purchasing in cash.

Digitizing agricultural payments has been clearly shown to deliver outsized benefits for the world's 475 million smallholder farmers by reducing market asymmetries, improving efficiency, and delivering access to relevant and much-needed financial services (Better Than Cash Alliance, 2017). As shown in this report, there are equal if not greater benefits for agribusinesses, which can reduce their operations and finance costs while improving their visibility over the supply chain and inventory management capabilities.

Beyond the financial benefits of digitization, there is a larger movement in the global agriculture sector towards more ethical, sustainable, and efficient practices, of which digitization is a crucial first step.

Digital payments are a crucial part of sustainability in agriculture. They allow businesses that value and respect human rights and livelihoods to trace purchases back to the original producer, better understand the conditions in which commodities are produced, and either verify the sustainability of a given operation or address any shortcomings.

Farmers' top requirements for digital payment solution



As LBCs look to digitize payments, farmers' requirements are as follows:

1

Immediacy

Farmers still want to be paid on delivery of cocoa, as the expectations of their laborers, partners, and/or creditors in terms of payment will not change based on the method of payment.

2

Liquidity

Cash must be accessible whenever needed, even if that need hopefully diminishes as digital payments grow and the broader digital payments system in Ghana expands over time.

3

Choice of payment method

Farmers' preferences vary; giving them options in how to receive payments (i.e. mobile, bank, e-zwich) will drive higher levels of adoption.

4

Education

Detailed and ongoing guidance on how to use payment systems, and how to avoid fraud, will give farmers confidence and drive higher adoption rates. PCs can be an invaluable tool here.

5

Ecosystem

More merchants, agrovet dealers, laborers, and other cocoa stakeholders accepting **digital payments will mean less demand for cash withdrawals**, and a safer and more efficient experience for all parties.

6

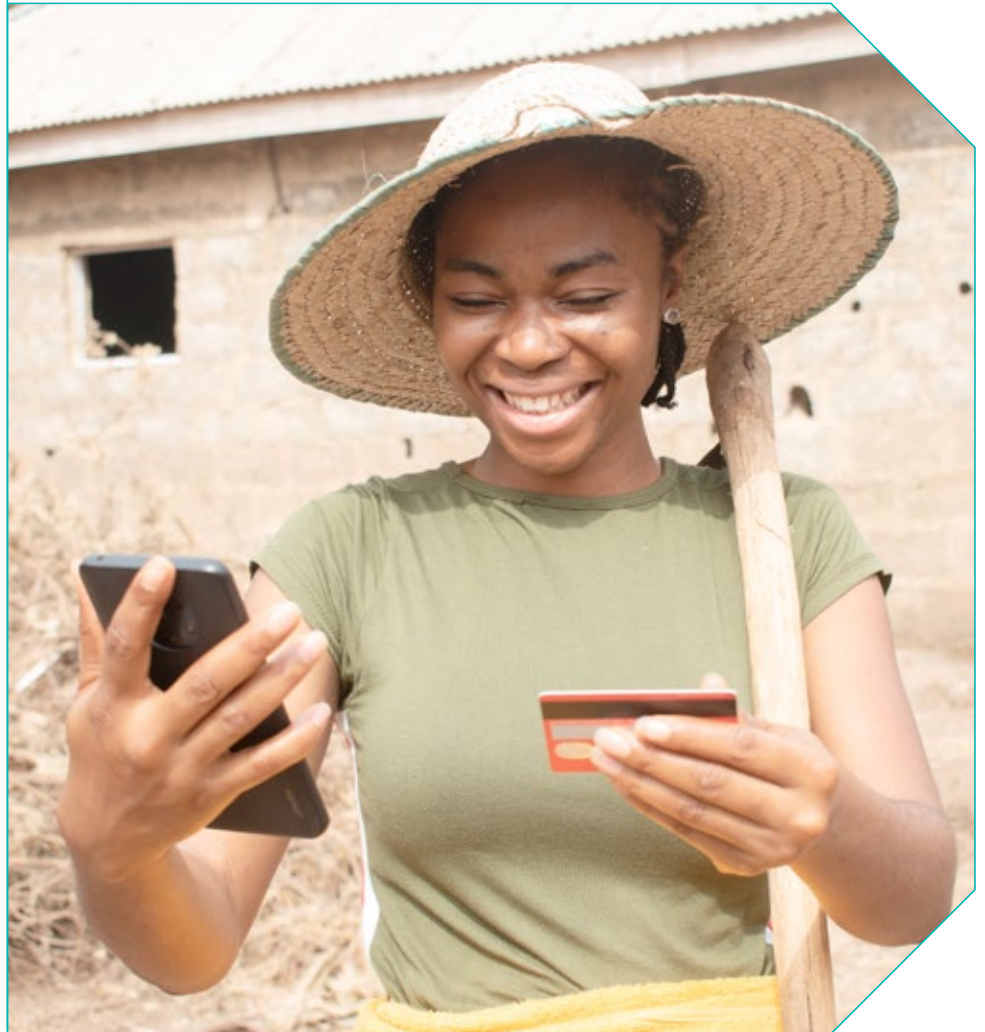
Finance

There is a real and unmet demand for input **credit**, as well as financial products that can increase resilience and productivity, while also lowering risks for farmers.

5. RECOMMENDATIONS

LBCs in the Ghanaian cocoa sector operate in a highly challenging environment, characterized by very thin margins and intense competition. Any unnecessary costs, downside risks, or inefficiencies create additional pressures on businesses and individuals, and can make the difference between viability and failure. Right now, cash-based payments are making that struggle harder, as cash puts people at risk from robbery and causes significant delays in operations.

However, in that firms have an opportunity to turn their payments into an asset that can strengthen and grow their businesses. Digitizing cocoa payments can serve as a foundation to build a lower-risk, more sustainable, more profitable LBC – the kind of partner-centric organization that can attract the best PCs and farmers.





RECOMMENDATIONS FOR LICENSED BUYING COMPANIES

For LBCs considering digitizing their payments, either fully to farmers or partially to PCs, this report recommends the following steps.

- **Assess the various digital payment options** on relevant costs (onboarding, transaction, and cash-out), but also on the ability to deliver on farmers' top priority needs (immediacy, liquidity, choice, education, ecosystem, and finance).
- **Incorporate training for farmers** around digital payments and fraud avoidance into regular agronomy seminars.
- **Seek out partners that facilitate not only the transfer of funds, but also liquidity at the last mile.** If there is no place for farmers to access cash when they need it, especially in the early stages of a shift to digital payments, then they will look to other firms.
- **Sustainability does not stop with farmers.** Too much risk in the Ghanaian cocoa sector is currently hidden at the PC level. Formalizing PC relationships, with the help of digitization, will strengthen relationships between farmers and their LBCs, creating more secure livelihoods, stronger businesses, and a healthier sector overall.
- **Take into account specific needs and barriers that can be faced by women farmers** in the digitization process. Evaluate how sex-disaggregated data can be collected relating to payments and access to financial services in the supply chain.

More recommendations for LBCs to build responsible and scalable digital payments solutions can be found in the Better Than Cash Alliance and the World Cocoa Foundation report: Digitizing Payments in Ghana's Cocoa Supply Chain - Four Building Blocks for Responsible and Scalable Digitization.



RECOMMENDATIONS FOR FINANCIAL SERVICE PROVIDERS

- **Help LBCs to understand the transaction and inventory data they provide**, which would reduce the risk profile of the sector.
- **Work with payment providers** to better understand the dynamics of the sector and develop appropriate financial services.
- **Use this knowledge to accurately and competitively price risk**, and develop financial products tailored to the needs and conditions of Ghanaian cocoa farmers.
- **Encourage and adopt practices to ensure responsible digital payment solutions** in line with national consumer protection regulation and international practices, such as the Responsible Digital Payments Guidelines (Better Than Cash Alliance, 2016).



RECOMMENDATIONS FOR COCOBOD

- Ad hoc efforts to develop multiple payment platforms may lead to duplication and be vulnerable to side-selling. As COCOBOD works with existing vendors to create a single unified database of farmers and PCs, **evaluate how it can be linked to digital financial services accounts** (bank, cards, or mobile money), taking into consideration farmers' existing accounts with providers.
- **Work with existing LBCs and financial service providers that have started digitization efforts to understand the challenges** in building a digital financial payments system that works for farmers and PCs in rural areas.
- Much of the risk in the sector has been pushed onto PCs. **Setting clearer standards for LBC-PC relationships** will make the sector more sustainable and profitable.
- As an interim measure, **promote insurance for PCs** so their livelihoods are not at risk.

CONCLUSION

The cocoa sector faces **avoidable costs and inefficiencies representing up to 19% of revenues** in the sector.

The cocoa sector that is the pride of Ghana - and a pillar of the country's economy - faces major threats. These range from avoidable costs and inefficiencies representing up to 19% of revenues in the sector. This is threatening the financial viability of key players in the value chain, and causing serious risks to people's physical safety. There is an urgent need for greater collaboration and action to tackle these serious challenges. Many of these threats, risks, and costs can be lowered significantly, if not removed entirely, by digitization of payments.

At the same time, the powerful opportunity digitization presents to the sector is a compelling argument for action. As shown in other markets and sectors with comparable features to the Ghanaian cocoa sector, digitizing payments can deliver vast benefits for all players in the supply chain, not to mention the advantages for national and local economies. These benefits far outweigh the costs of implementing digital payments and make a powerful case for immediate action to build a more sustainable cocoa sector for everyone.

LBCs can and must be at the forefront of this action, in collaboration with other key stakeholders, and indeed LBCs are amongst those with the most to gain. Digitizing payments is a concrete action that LBCs can take, right now, to build a better sector. There are lessons from past experiences and existing company initiatives that can define the building blocks of success on how to digitize payments responsibly and at scale. Partners such as COCOBOD and the World Cocoa Foundation are important players LBCs can turn to for experiences and tools. There is no time to lose.

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The Better Than Cash Alliance

The Better Than Cash Alliance is a global partnership of governments, companies, and international organizations that accelerates the transition from cash to digital payments in order to advance the Sustainable Development Goals. Based at the United Nations Capital Development Fund (UNCDF), the Alliance has 75 members, works closely with other global organizations, and is an implementing partner for the G20 Global Partnership for Financial Inclusion.

World Cocoa Foundation

The World Cocoa Foundation, a member of the Better Than Cash Alliance, is a non-profit international membership organization whose vision is a sustainable and thriving cocoa sector – where farmers prosper, cocoa-growing communities are empowered, human rights are respected, and the environment is conserved.

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