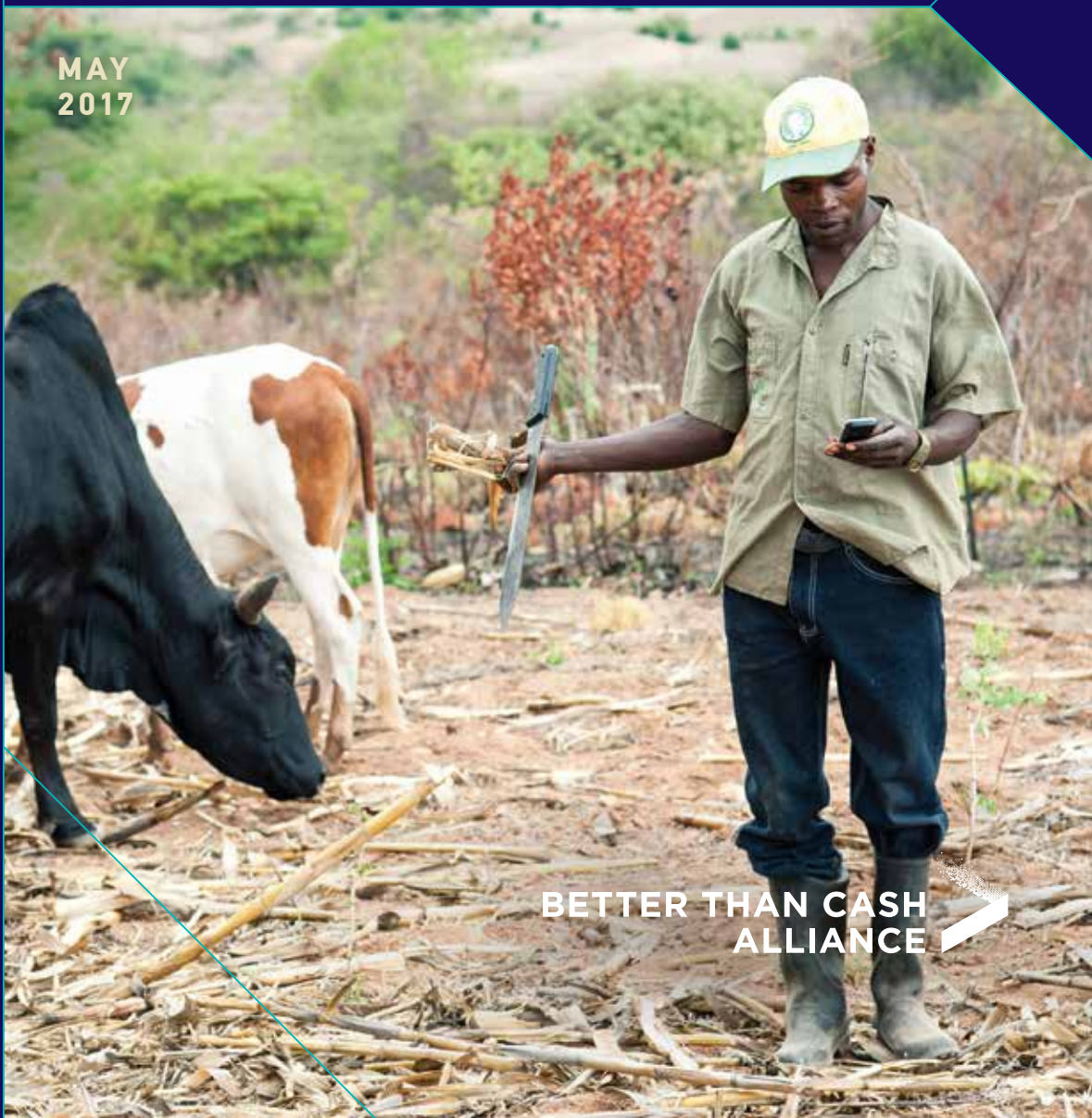


CASELET

How Digitizing Agricultural Input Payments in Rural Kenya Is Tackling Poverty: The Case of One Acre Fund

MAY
2017



BETTER THAN CASH
ALLIANCE

KENYA

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OVERVIEW

Nonprofit organization One Acre Fund (OAF) teaches better crop management techniques and provides inputs on credit, like seed and fertilizer, to smallholder farmers throughout East Africa. The results speak for themselves: **In 2015 the average Kenyan farmer in OAF earned \$211 (or 48 percent) more than peer farmers not in OAF.** Productivity growth for smallholder farmers is essential to achieve the Sustainable Development Goals of ending poverty and achieving food security.

Since 2014, OAF has enabled farmers in Kenya to make loan repayments digitally using the mobile money service M-Pesa instead of in cash, increasing economic opportunity and financial inclusion in some of the world's poorest farming communities.



85%
REDUCTION IN
PAYMENT LEAKAGES



80%
COST SAVINGS
ON COLLECTION



46%
SAVINGS IN
FIELD OFFICER TIME
SPENT ON COLLECTIONS



100%
FARMERS PREFER
DIGITAL PAYMENTS

KEY FINDINGS OF THIS CASE STUDY:

1. **Farmers unanimously preferred digital payments.**

In a 2015 survey of 250 farmers, 100 percent preferred mobile repayment to cash, citing convenience and transparency. As one farmer explained, in the old system, “you didn’t know if the money had arrived, and you used to get confirmation after a week. Now, the very day [after I make a payment] I get an SMS with my name on it, and my balance has reduced.”¹

2. **Fraud reduction benefited women farmers especially:**

Instances of repayment fraud fell 85 percent after digitization of repayments, and anecdotal reports indicate farmers (particularly female farmers) and staff feel safer because the risks of holding cash are reduced.

3. **Farmers no longer had to wait two weeks to have payments registered:**

Total processing time for each repayment fell from 16 days to 2-4 days. Farmers now know immediately when their payment is received – they do not have to worry about whether it arrived.

4. **OAF costs fell dramatically:** Total repayment collection costs for OAF fell 80 percent, as manpower-intensive cash and paper reconciliations were reduced.

5 **Farmers benefited from field officers having more time to help them:**

Time spent by OAF field officers (FOs) on collection activities was cut almost in half, enabling them to spend more time working with farmers to increase their incomes from agriculture.

6 **OAF payment staff redeployed to benefit**

■ **farmers:** The number of people employed in repayment processing fell to four, from 56 prior to digitization, with four out of five of these people being re-employed in more productive parts of the organization, providing a strong example of thoughtful change management.

7 **Technology problems were solved:**

Initial problems with reconciling payments from multiple phone numbers for one account were managed by OAF and Citi Kenya. OAF is trialing a unique ID number ■ for farmers, which will increase digital payment efficiency.

Policymakers, other nonprofit organizations, businesses, and individuals can use the lessons in this case to inform their decision-making around digitizing payments.

INTRODUCTION: Tackling Poverty One Farmer at a Time

One Acre Fund recognizes that “farming is the dominant economic activity of the world’s poor,” and so increasing agricultural investment and productivity are highly effective means to address global poverty. Yet too many farmers have scant resources, and when they do have relatively large sums of money at harvest time, they often need to use those funds to settle debts, pay school fees or other family-related costs, and buy goods they need. These uneven cash flows can make it a challenge to invest in farming inputs, leaving many farmers stuck in persistent poverty.

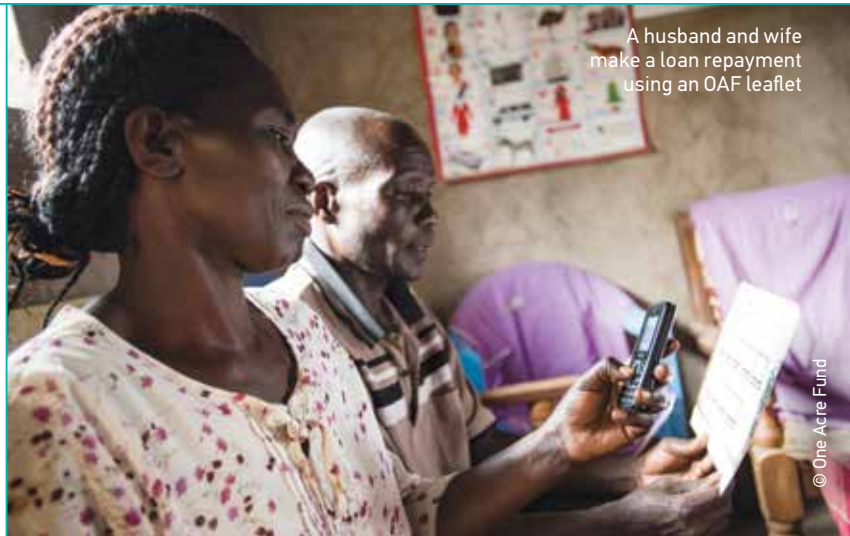
One Acre Fund (OAF) provides farmers with agricultural inputs such as seed and fertilizer, on credit, along with training in modern agricultural techniques that help improve crop yields. In 2015, farmers in Kenya with the OAF inputs and package of services earned on average \$211 more annually from agricultural activities compared with similar farmers in similar areas, **a 48 percent increase over their peers who were not participating in OAF programs.**

OAF has spent the last two years modernizing its repayment system, using mobile technology

that has put it at the forefront of smallholder agricultural lending. In March 2016, **OAF’s 208,000 farmer clients in Kenya** received input packages that included enhanced maize seed, fertilizer, and tree seeds, as well as other products such as solar lights or cookstoves, depending on the farmer’s preference. Each farmer had made a 500-shilling (US\$5) deposit by the end of 2015, then began making payments on their nine-month loan. For an OAF farmer in Kenya in 2016, the median loan size was just US\$90, and an average repayment was only 668 shillings (US\$6.50).

“These days, paying by phone is easy. If we paid the Field Officer on a Wednesday, he couldn’t pay until Monday, and we were afraid [the money] could get lost”

— *Hassan Osuwole, Farmer Group Leader*



A husband and wife make a loan repayment using an OAF leaflet

The Challenges of Cash Repayments for Farmers and OAF

Prior to 2014, farmers' repayments to OAF were entirely cash-based. Farmers gathered once a week at group meetings to hear their loan balances and make repayments. Those repayments were entered in a receipt book, each farmer was given a paper receipt, and the cash was given to an OAF-employed Field Officer (FO) in charge of transporting the funds to the district level. Once funds arrived at the district they were deposited, and bank statements were reconciled two different times with receipts before loan balances were updated and communicated to FOs. This process took anywhere from 12 to 16 days, and was challenging for several reasons:

1 Uncertainty. Farmers gave FOs their hard-earned cash in order to repay OAF for inputs. But their loan balances would not reflect those payments for weeks, and they had little or no visibility on what was being done with their money.

2 Inefficiency. The role of Field Officers is principally to provide agricultural education and work with groups to develop repayment strategies. However, prior to 2014, FOs had to spend significant amounts of time collecting and holding cash, which limited their ability to expand their operations and serve more farmers. As OAF wants to increase client density per FO, cash posed a significant limitation to scale.

3 Insecurity. FOs were known to carry large amounts of cash, and became targets for robbery. Cash was delivered to OAF's offices on Mondays, meaning that FOs had to hold it over the weekend, creating further risk.

4 Leakages. The large and frequent cash collections also created a temptation for some farmer group leaders, FOs, and others, which led to significant levels of repayment fraud prior to 2014. When payments did go missing, investigations could take weeks or months to resolve, if they were resolved at all.

5 High Costs. As OAF grew, the task of processing and reconciling large amounts of cash became increasingly difficult. Each district employed a bookkeeper and a treasurer who worked full-time to count cash and reconcile it with receipts – 56 people by 2015. The revenue and the receipts often did not match, requiring double-checking and more counting. Meanwhile OAF could not deploy its revenue for up to two weeks.

THE SOLUTION: Replacing Cash with Digital Repayments

This combination of factors was restricting the effectiveness and growth of the program. Beginning in 2014, OAF shifted loan payments at the FO level to mobile money. FOs still collected cash from farmers, but instead of delivering it to OAF, they remitted it via M-Pesa, the Kenyan mobile money service offered by Safaricom, whose extensive cash-in infrastructure allows organizations like OAF to serve rural customers more efficiently. This solved the cash-counting problem, but reconciliation still took too long, and client funds remained vulnerable to theft or misuse.

To address the remaining challenges, OAF and Citi – through its Citi Kenya and Citi Inclusive Finance units – started piloting mobile loan repayments directly from farmers to OAF. Small-scale pilots in 2014 led to a five-district trial in 2015, with full rollout in 2016. The objectives of this shift were to reduce leakages and increase farmer confidence in OAF.

In making the shift, OAF Kenya had an advantage over many similar lenders elsewhere in the world, due to operating in a thriving digital payments ecosystem and collaborating with a banking partner that has a focus on inclusive finance. The majority of OAF farmers were already familiar with M-Pesa and had used it to receive person-to-person money transfers

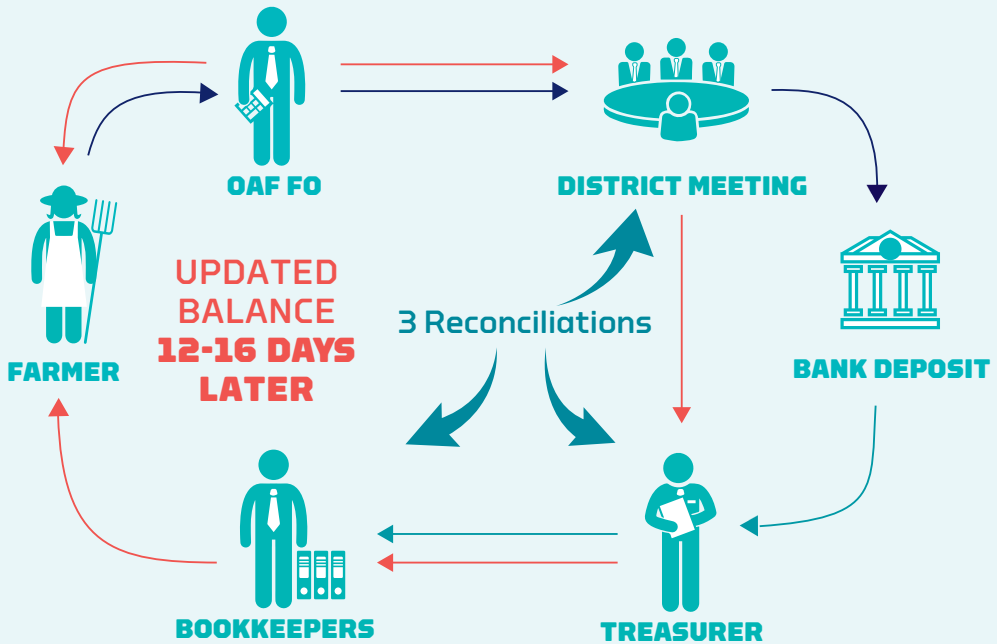
or to purchase mobile phone airtime; however, relatively few had used it to make payments to a merchant or creditor.

To implement the new system in the field, OAF printed and distributed fliers with the OAF bill pay number and screen-by-screen instructions. FOs then gave farmers step-by-step instructions on how to make mobile bill payments. Group members were quizzed and quizzed each other on the prerequisites for making a digital payment (money in your wallet, mobile money PIN). The result? Out of 1,362 OAF households surveyed in March 2016, **95 percent said they learned how to make mobile payments from an OAF source.**

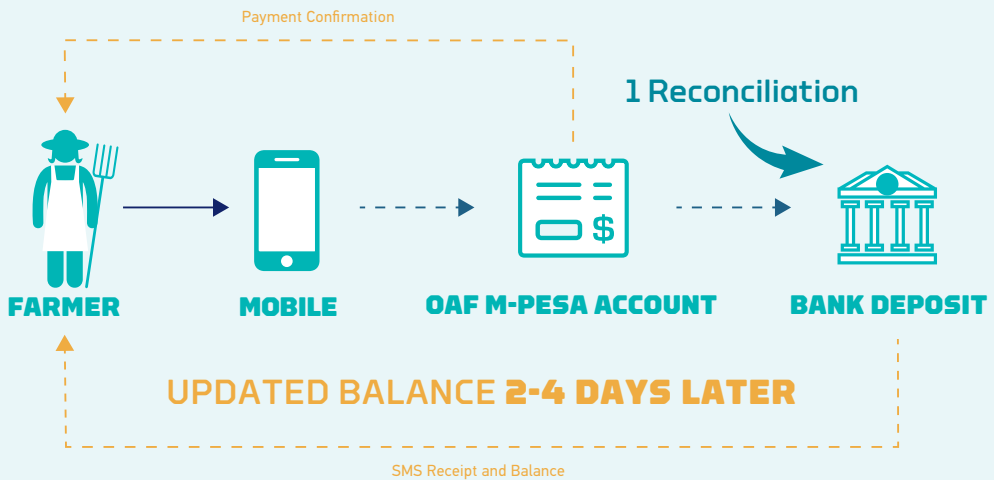
OAF flier explaining how to make mobile loan repayments.



BEFORE THE SHIFT:



AFTER THE SHIFT:



Cash →

Paper Receipt →

Bank Statement →

SMS Receipt →

Digital Transfers →

ASSESSING THE BENEFITS OF SWITCHING TO DIGITAL REPAYMENTS

Overall, the transition from cash to digital repayments has been overwhelmingly successful in achieving its desired objectives for both farmers and OAF.



BENEFIT #1: Very high participant satisfaction

Farmers have responded positively to the shift: A survey in 2015 of 250 farmers showed that **100 percent of them prefer the mobile repayment to cash**. Interviews revealed that transparency and convenience were the main benefits they saw. Specifically, the convenience that mobile payment offers was also appreciated: “You used to have to wait a whole week to pay. But now if I have 200 shillings on Monday, I send it. And if I have 200 on Wednesday, I send it again.”²

A Kenyan farmer receives a message from One Acre Fund confirming her payment and updating her loan balance.



“We women had a problem. We used to save money, but it was taken. Now we send it right away and it’s paid.” — *Priscilla Masia Kristoff, Farmer*



BENEFIT #2:

Lower repayment fraud

Perhaps the most dramatic impact has been on misappropriation of funds. In 2015, OAF identified 50 cases of repayment fraud, costing the organization 1.8 million shillings (~US\$17,500). In 2016 the number of cases fell by more than half to 24, and **the value lost was down 85 percent, to just 293,000 shillings (less than US\$3,000)**. As one farmer explained, in the old system, “you didn’t know if the money had arrived, and you used to get confirmation after a week. Now, the very day [after I make a payment] I get an SMS with my name on it, and my balance has reduced.”³ Anecdotal reports also indicate that farmers (particularly female farmers) feel safer because the risks of holding cash are reduced. Increasing client security was only possible thanks to OAF and Safaricom’s commitments to keep client funds safe, protect their data, and provide sufficient recourse, as described in the Better Than Cash Alliance’s Responsible Digital Payment Guidelines.⁴



BENEFIT #3:

Faster processing times for repayments

OAF’s reconciliation and revenue process has been considerably streamlined. Instead of an average of 16 days, payments are processed and credited toward a client’s balance within 2-4 days. Farmers receive SMS notifications that their payments have been confirmed, with their updated balance. The entire system is now automated and is well positioned for deployment in other countries. For farmers, the added security allows them to invest more in their livelihoods, and the improved efficiency means that more farmers can be served by OAF.



BENEFIT #4: Much lower repayment processing costs

Instead of 56 employees engaged in counting cash and reconciling receipts, four people now handle the growing volume of OAF payments. **The 80 percent cost savings on revenue collection** and reconciliation nearly offset the fees for using M-Pesa, making it close to a revenue-neutral switch. And while there has not been a significant improvement on repayment rates, OAF was starting at an extremely high base: 99 percent of credit was repaid in 2015. In 2016, a year that featured persistent drought in western Kenya (where OAF operates), 98.3 percent of credit was repaid, well within OAF's acceptable bounds.



BENEFIT #5: Less time spent on repayment processing; more time available for farming education

Cash collection was never the intended role of FOs. Their job is to assist farmers in getting the maximum yield possible out of their farms through training, educational programs, and market facilitation. Time spent following up on overdue payments is time spent away from that task. In a study done on the 2014 pilots, FOs were found to be spending 214 minutes a week on repayment activities. When the shift to digital repayments occurred, that fell to 116 minutes. This increased efficiency was one factor that helped enable FOs to serve more farmers: Each FO is now handling 230 clients on average, compared with 180 two seasons ago, although other factors have also contributed to that increase.

Solving Problems in the Shift From Cash to Digital

There were challenges in making the switch, but solutions have been found.

Keeping costs low for farmers:

Conscious of price sensitivity within its client base, OAF and Citi negotiated a flat fee with Safaricom, which in turn eliminated customer fees on all bill payments to OAF. Rather than presenting their clients with a more expensive means of paying their loans, **OAF recognized the importance of making digital payments as frictionless as possible**, and internalized the fees in order to drive adoption. OAF was able to absorb these costs because of the savings from digitizing payments.

A lack of rural agents: M-Pesa has existed since 2007, but one of the reasons OAF did not get rid of cash sooner was a lack of rural mobile money agents who could transform cash into e-money. But as the increasing volume became evident, Safaricom responded by adding agents in rural areas who could operate closer to farmers, attend farmer meetings, and help to expand the digital payments ecosystem. One full-time agent interviewed for this study explained that OAF had significantly improved his business, with over 100 farmers providing liquidity balance through their regular cash-ins. In August 2016 alone, OAF received 327,198 payments on M-Pesa, with an average size of just US\$10.

Farmer ID: Additional work is still required to help the new system operate smoothly. OAF used farmers' phone numbers as their unique identifier, meaning a farmer could only make loan repayments using that

specific phone number. For some OAF clients who had family or friends helping them, this resulted in irreconcilable repayments. Citi worked with OAF to resolve reconciliation issues and made system enhancements to prevalidate phone numbers. OAF is now trialing a unique customer ID number which will improve loan repayments on a farmer's behalf.

Changing status of FOs and group leaders:

FOs and farmer group leaders previously derived authority from their status as payment collectors. Shifting them to a new role – as trainers and enablers – was, in the eyes of some, a demotion. And group attendance has fallen with the introduction of digital payments, as farmers now pay individually. Working with the group leaders to develop their new role as builders of social capital is an important ongoing component of the movement away from cash.

Internal Change Management:

Going from 56 employees counting repayments down to four is a win for the additional farmers reached, but a loss for the 52 people who depended on that work for income. However, this was anticipated and used as an opportunity. OAF did everything in its power to make sure that bookkeepers and treasurers were transferred or rehired, not simply let go. Out of the 52 staff, 41 of them found new roles that let them more productively serve farmers, providing a valuable example of thoughtful change management.

CONCLUSION:

Digitization of Farmer Payments in Kenya by One Acre Fund Is a Success Ready for Expansion

By nearly all measures, OAF's mobile collection shift in Kenya has been an impressive success. The program has enabled an 85 percent reduction in leakages, an 80 percent cost savings on collections, and a 46 percent savings in Field Officer time spent on collections – all accompanied by high client satisfaction. At the same time, OAF is introducing digital solutions to efficiently scale programs in other countries including Rwanda, Tanzania, and Zambia.

For agricultural companies, financial service providers, and nonprofits looking to serve rural customers, there are important lessons that can be drawn from this case study. Smallholders will be more likely to embrace digital payments if: they are given training; there is an accessible and functional infrastructure, and; the value proposition of the digital payment mechanism is clear, including lower or zero additional fees. Digitizing payments is likely to create some “losers” in the short term, but smart organizations anticipate and ameliorate those effects.

Digital payments allow organizations to save money, build trust, and reduce risk, while driving financial inclusion and expanding economic opportunities in some of the world's poorest communities. OAF is financing seeds and the inputs that make them grow, generating additional income for poor farmers that desperately need it. Advances like this digital repayment mechanism are helping OAF ensure financial sustainability and growth for the organization, freeing up more resources to devote to essential farming inputs. The result is a clear victory in the fight against poverty and hunger, and a significant step up in the economic prospects for thousands of smallholder farmers and their families.

AUTHORS

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END NOTES

1. Peter Wafula Wanjala, Farmer
2. Edward Steho, Farmer
3. Peter Wafula Wanjala, Farmer
4. The Better Than Cash Alliance 'Responsible Digital Payments Guidelines' identify best practices for designing digital payment products and terms, focusing on common types of digital financial services provided to the financially underserved. The guidelines note that for people to adopt and use digital payments, they need to feel protected from risks such as loss of privacy, exposure to fraud, and unauthorized fees. This means that service providers need to proactively take steps to protect their clients and that regulators should ensure a sound consumer protection regulatory framework. <https://www.betterthancash.org/tools-research/case-studies/responsible-digital-payments-guidelines>

WWW.BETTERTHANCASH.ORG

About The Better Than Cash Alliance

The Better Than Cash Alliance is a partnership of governments, companies, and international organizations that accelerates the transition from cash to digital payments in order to reduce poverty and drive inclusive growth. Based at the United Nations, the Alliance has over 50 members, works closely with other global organizations, and is an implementing partner for the G20 Global Partnership for Financial Inclusion.

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