



Opportunities for Improving Digital Identification in Social Cash Transfer Programmes through Mobile

Insights from Kenya and Malawi

April 2020



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This document is an output of a project funded by UK aid from the Department for International Development (DFID), for the benefit of developing countries. The views expressed are not necessarily those of DFID.

Contents

Executive summary	2
Objectives and methodology	6
The market opportunity	7
Case study: Kenya	8
Case study: Malawi	12
Identification challenges and opportunities	16
Targeting and enrolment	18
Registration	18
Disbursement	21
Mobile-enabled verification concepts	26
Remote verification	28
Flexible payment collection by proxy	32
The opportunity for mobile-enabled digital identification and verification	36
Conclusion: Proposed next steps	37
Appendix 1: Methodology and sample	38
Appendix 2: Additional case studies	40



Executive summary

As of 2015, every country in the world had at least one social protection programme in place, and the average developing country had about 20 programmes.¹ Social benefit payments, or social cash transfers (SCTs) as they are commonly called, have become an increasingly popular component of these social protection systems in recent years. Yet, some populations continue to experience higher levels of exclusion from social safety net programmes, including SCTs.² In many cases, this is due to challenges related to enrolling, identifying and communicating with beneficiaries.³ As the most ubiquitous technology on the planet, mobile is uniquely positioned to support institutions with these challenges and ensure their target populations can fully participate in these programmes.

1 World Bank (2015), [The State of Social Safety Nets 2015](#).

2 ODI (2018), [New projections show extreme poverty is falling – but not fast enough](#).

3 GSMA (2019). [Digital Identity and Social Cash Transfers](#).



Ending poverty is the first of the United Nations Sustainable Development Goals (SDGs), which also set targets to implement nationally appropriate social protection systems and achieve substantial social protection coverage among the poor and vulnerable by 2030. Over the last three decades, the percentage of the world's population living in extreme poverty has fallen drastically, from 36 per cent in 1990 to 8.6 per cent in 2018.⁴ However, one out of every five children continues to live in extreme poverty, as do 17 per cent of those living in rural areas.⁵ Additionally, in 2015, over 50 per cent of people living in extreme poverty were located in Sub-Saharan Africa, and the World Bank estimates this will increase to nearly 90 per cent by 2030.⁶

Governments and non-governmental organisations (NGOs) are working hard to tackle this through wide-ranging social protection programmes. Following a recent shift in focus from food aid to emergency cash transfers, and from short-term to longer term humanitarian support, regular social benefit payments have become an increasingly common component of these systems.⁷ In fact, as of 2018, SCT programmes accounted for over half of all social protection spending worldwide.⁸ SCT programmes are increasingly considered one of the most cost-effective and adaptable components of social protection systems. They have also been found to contribute positively to local economies and, in the case of unconditional cash transfers, to provide beneficiaries with greater autonomy over how they use the financial support they receive.⁹

Today, however, 55 per cent of the world's population has no access to any form of social protection.¹⁰ Rates of exclusion are highest in low-income countries, where they are least able to direct resources to those who need them most. Only a tenth of the poorest quintile in Sub-Saharan Africa and a fifth of the poorest quintile in Asia have access to social safety nets.¹¹ In many cases, the poorest segments are excluded from these programmes because of challenges related to enrolling, identifying and communicating with beneficiaries.¹²

Efficient and widespread identification and verification methods are essential to validate recipients throughout the enrolment and disbursement process. Yet, in many low-income countries, access to official forms of identification, such as birth certificates or national identity documents, remains low, particularly among the poorest, oldest and most remote segments of society. Additionally, many SCT programmes require beneficiaries to validate their identity in person, often at multiple stages in the disbursement process, which can be expensive and less efficient than remote, digital methods of verification. Equally, when SCT programmes are digitised, it can be difficult to confirm whether the intended beneficiary has received the payment.

4 ODI (2018), *New projections show extreme poverty is falling – but not fast enough*.

5 <https://www.un.org/sustainabledevelopment/poverty/>

6 <https://www.worldbank.org/en/news/video/2018/10/17/new-ways-of-looking-at-poverty>

7 The World Bank (2012), *The Cash Dividend: The Rise of Cash Transfer Programs in Sub-Saharan Africa*.

8 World Bank (2018), *The State of the Social Safety Nets 2018*.

9 ODI (2018), *The Political Economy of Cash Transfer Programmes in Brazil, Pakistan and the Philippines*.

10 <https://www.un.org/sustainabledevelopment/wp-content/uploads/2016/08/1.pdf>

11 World Bank (2018), *The State of Social Safety Nets 2018*.

12 GSMA (2019), *Digital Identity and Social Cash Transfers*.



The efficient implementation of social protection systems, social cash transfers in particular, requires new digital tools that can facilitate the selection and enrolment of beneficiaries and targeted and transparent delivery of funds. Effective methods of verifying beneficiaries are essential to these processes. Mobile network operators (MNOs) are uniquely positioned to provide support due to their wide-ranging reach, even among the poorest and most vulnerable populations.

Additionally, as of December 2019, an estimated 155 governments have imposed Know Your Customer (KYC) regulations that require customers to present a valid proof of identity — often a government-issued or recognised credential like a national identity document or passport — before they can subscribe to mobile services.¹³ MNOs in these locations could therefore leverage their existing assets and identity-related practices, such as regulated SIM registration and KYC processes, to improve how institutions validate the identity of their SCT beneficiaries and ensure the targeted delivery of funds.

This study explores the opportunity for MNOs to support SCT programmes in the disbursement process, particularly in the identification and verification of beneficiaries.

Based on insights from primary research in Kenya and Malawi, the study explores:

- The potential size of the opportunity for MNOs;
- The identity-related constraints experienced by SCT programme stakeholders and the beneficiaries of such programmes; and
- Commercially viable opportunities for MNOs to support SCT programme stakeholders in overcoming these identity-related challenges.

The study focuses primarily on government-to-person (G2P) cash transfer programmes, which are of particular interest to MNOs given their relatively large scale and often long-term, reliable nature.

¹³ GSMA (2020), [Access to Mobile Services and Proof of Identity 2020: The Undisputed Linkages](#)



Research was conducted in Kenya and Malawi. These countries were selected on the basis of having:

- **Relatively large-scale, government-led social protection programmes that are not yet fully digitised.** However, interest has been expressed in both countries in digitising these programmes, which may provide an opportunity for MNOs to engage in this process as it progresses.¹⁴
- **High national ID penetration and KYC regulations that require MNOs to register customer SIM cards using official forms of identification,** such as birth certificates or national identity documents. MNOs could leverage their compliance processes to develop identification and/or verification services.
- **Availability of mobile money licences.** MNOs could act as licensed SCT payment providers in the future (offering add-on identity verification services where relevant).

Malawi was selected as a comparison to Kenya, due to the differences in mobile penetration and digitisation levels.

While **Kenya** has high levels of mobile penetration and a relatively tech-savvy population broadly familiar with digital services, including mobile banking, Malawi has much lower levels of mobile penetration, fewer available digital services and a less tech-savvy population.

These comparisons allow us to explore the opportunity for MNOs in countries where the target population is at different stages of mobile penetration and digital service engagement.

¹⁴ This interest has been expressed in separate GSMA stakeholder research (unpublished).

Objectives and methodology

This study explores the opportunities for MNOs to provide support with identification and/or verification of beneficiaries in the SCT process. The study was split into three phases, each of which aligns with slightly different research objectives.

Phase 1 aimed to explore the SCT landscape in each country through desk-based research and a literature review.¹⁵ This allowed us to evaluate the size of the opportunity and the potential value for MNOs to engage in this space, while also exploring how SCT programmes in each country function and their current level of digitisation.

Phase 2 aimed to define identity-related processes, challenges and opportunities through in-depth interviews and a creative workshop with MNO and SCT stakeholders in each country. Initial interviews mapped the identity-related processes, needs and barriers experienced by stakeholders delivering G2P/SCT programmes, while follow-up

interviews with MNO stakeholders examined how MNO assets and KYC processes might be leveraged to address these needs. Finally, SCT and MNO stakeholders were invited to a creative workshop to clarify the challenges and opportunities.

Phase 3 aimed to understand the identity-related preferences, behaviours, challenges and concerns of end users who are eligible to be targeted by SCT programmes. There was a particular focus on understanding their perceptions around new digital identification processes that might leverage MNO assets, such as the recipient's mobile number, handset details, location and SIM registration details. Additionally, this phase aimed to test how SCT digital identification concepts developed in earlier phases with stakeholders could work in practice with end users. Qualitative and quantitative research with end users was conducted in Kenya and Malawi across several urban, peri-urban and rural locations.¹⁶

Figure 1

End user sample by location

	 Kenya	 Malawi
Qualitative sample →	58 (female = 29, male = 29)	58 (female = 29, male = 29)
Quantitative sample →	200 (female = 119, male = 81)	200 (female = 123, male = 77)
Locations →	Nakuru; Nyeri; Nairobi ¹⁷	Balaka; Chikwawa
SCT programme →	National Safety Net Programme (NSNP), <i>Inua Jami</i> ¹⁸ <ul style="list-style-type: none"> • Cash Transfer for Orphans and Vulnerable Children (CT-OVC) • Older Persons Cash Transfer (OPCT) • Cash Transfer for Persons with Severe Disabilities (PWSD-CT) 	Social Cash Transfer Programme (SCTP), <i>Mtukula Pakhomo</i>

¹⁵ The size and scale focused primarily on the government SCT programmes as this was the main focus of the study.

¹⁶ For additional detail on methodology and sample, please see Appendix 1.

¹⁷ Nairobi was quantitative only.

¹⁸ This research did not include the Hunger Safety Net Programme (HSNP) due to the level of risk involved in conducting primary research in the areas where it operates.

The market opportunity

Every market presents its own challenges and opportunities for MNO, SCT and other stakeholders to implement identity verification services for SCT programmes. However, this research has found that three key factors are shaping the opportunity for these types of services.

Figure 2

The market opportunity





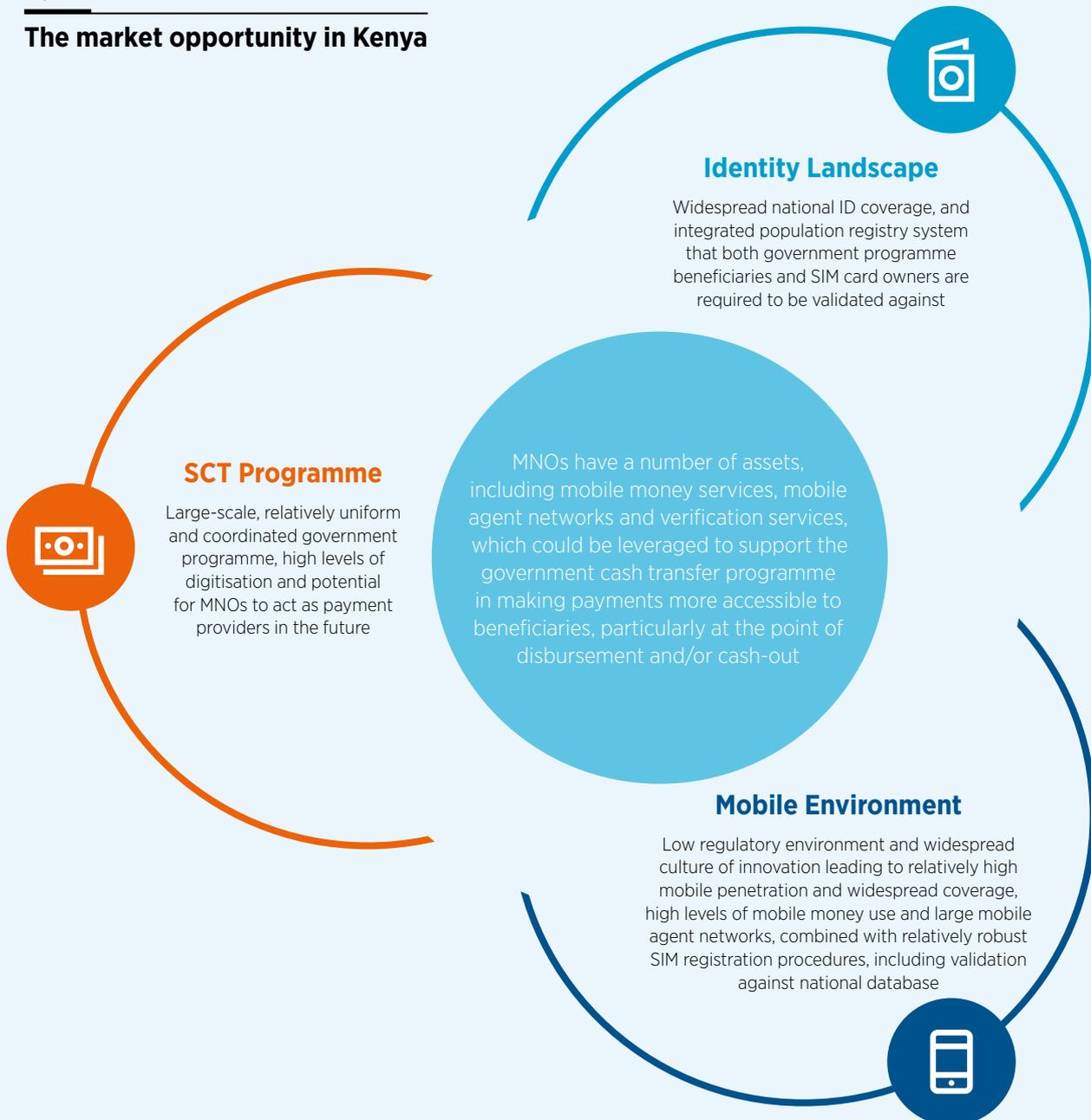
The following sections outline how these factors shape the market opportunity for MNOs to offer identity verification services in the SCT space, in Kenya and Malawi.

Case study

Kenya

Figure 3

The market opportunity in Kenya





SCT programme

Kenya's SCT space is dominated by a large-scale, relatively uniform and coordinated government social protection programme called the National Safety Net Program (NSNP), or *Inua Jamii*, as it is commonly known.¹⁹ The NSNP was established in 2013 to provide a common operating framework for the government's cash transfer programmes, which provide bi-monthly payments to beneficiaries across all 47 counties in Kenya.²⁰ The NSNP is supported by international non-governmental organisations (INGOs) and multilateral agencies, including The World Bank, DFID, WHO and UNICEF, which act as donor and implementation partners.

The Senior Citizens Programme is the largest of the NSNP's five sub-programmes with around 700,000 beneficiaries, and is also the newest (it was launched in 2018). This sub-programme differs from the others as it is intended to serve as a national pension scheme for all Kenyan citizens once they reach the age of 70, and may therefore become larger in the future. Across the five existing sub-programmes, the NSNP currently provides cash transfers to over 1.5 million beneficiaries, which translates to an annual cash disbursement of over \$400 million made in nine million separate disbursements.

Figure 4

NSNP programmes, by number of beneficiaries and payment amount

Programme	Senior Citizens Programme	Older Persons Cash Transfer (OPCT)	Hunger Safety Net Programme (HSNP)	Cash Transfer for Orphans and Vulnerable Children (CT-OVC)	Cash Transfer for Persons with Severe Disabilities (PWSD-CT)
Established	2018	2007	2009	2006	2011
Number of beneficiaries	700,000 persons (2019) ²¹	133,000 persons (2019)	371,800 households (2019)	340,087 households (2018)	45,505 households (2015; likely an underestimate)
Target beneficiaries	Over 70 with no pension	Poor/vulnerable over 65	Families living in food insecurity	Households with OVCs	Households with PWSDs
Payment amount	KSh 4,000 (\$40)/2 months	KSh 4,000 (\$40)/2 months	KSh 5,400 (\$52)/2 months	KSh 4,000 (\$40)/2 months	KSh 4,000 (\$40)/2 months
Total annual value FY 2019	\$168 million	\$32 million	\$116 million	\$81 million	\$11 million

19 Inua Jamii translates to "raise the community" in Swahili.

20 The HSNP only serves the counties of Turkana, Marsabit, Mandera and Wajir in northern Kenya, given its focus on drought-prone regions. All other programmes are nationwide.

21 ILO (Inua Jamii Senior Citizens' Scheme), [ILO Social Protection Department Country Brief](#).



A presidential declaration in 2013 mandated the digitisation of all government payments in Kenya.²² Since this time, payments under the NSNP have been delivered electronically to SCT accounts in commercial banks.²³ Although the bank accounts are fully functional, they are linked to the NSNP card rather than a standard chip and PIN card. The NSNP card is a biometric smart card with two-factor authentication, which means beneficiaries must register for the card using biometrics (fingerprints) and cash-out by providing the card and having their fingerprints scanned with a biometric device. This approach was selected due to concerns that beneficiaries who are illiterate may struggle to remember PIN numbers and/or might not understand the need to keep PIN numbers secret. It also allows the cards to act as e-wallets.²⁴ In

instances where beneficiaries' fingerprints fail, banks offer alternative methods of verification, most commonly PIN numbers, although this is only used in a small minority of cases.²⁵ Beneficiaries can cash-out of these accounts via bank payment agents equipped with specialised point-of-sale devices and over the counter in bank branches.

NSNP payments are made solely through these financial institutions, however, a range of stakeholders have expressed interest in including MNOs as payment providers in the future. As MNOs clarify their potential role as payment providers, exploring how identity verification services may support MNO engagement with the programme could be a valuable exercise.



Mobile environment

Since 2008, successive governments have broadly subscribed to Kenya's guiding Vision 2030, which seeks to make Kenya a "newly industrializing, middle-income country providing a high quality of life to all its citizens". To realise this, they have sought to stimulate innovation by providing digital communications infrastructure, tax breaks for key industries and a low regulatory environment that prioritises innovation and experimentation.²⁶

This has led to widespread tech innovation and adoption among its population. Kenya has relatively high levels of mobile penetration at 89 per cent, although there is a five per cent gender gap in mobile ownership.²⁷ Additionally, data suggests that almost 93 per cent of adults have adopted mobile banking, and nearly 35 per cent borrow money digitally.²⁸ Mobile money adoption is high in Kenya, although there is a gender gap of 10 per cent.²⁹

MNOs also maintain large mobile agent networks (approximately 223,931 agents in total) that outnumber bank branches (1,505), bank agents (61,604) and ATMs (2,833) combined.³⁰ Mobile-based payments could therefore provide beneficiaries with increased access to cash-out points, which is a primary objective for NSNP stakeholders.³¹

Additionally, mobile SIM registration policies are relatively robust, as customers are required to register their SIM cards at the point of purchase using an official form of identification, such as national ID. The MNO is then required to validate applicants' credentials against the Integrated Population Registration System (IPRS).³² The ICT Authority of Kenya recently directed all MNOs to suspend unregistered SIM cards in 2018, strengthening this method of identification.³³

22 The International Policy Centre for Inclusive Growth (2016), [Strengthening the cash transfer payment systems in Kenya](#).

23 Initially only Equity Bank and Kenya Commercial Bank, and then more recently the Cooperative Bank and Post Bank.

24 Caribou Digital (2019), [Kenya's Identity Ecosystem](#).

25 Stakeholder interviews indicate less than 10 per cent of beneficiaries use or are offered alternative methods of verification.

26 Caribou Digital (2019), [Kenya's Identity Ecosystem](#).

27 GSMAi Consumer Survey 2019

28 Caribou Digital's [Kenya's Identity Ecosystem](#) referenced a survey from mid-2017 that found 34.8 per cent of Kenyan adults had borrowed digitally (Gubbins and Totolo, 2017).

29 World Bank, Global Findex 2017. Calculated as (Male % - Female %)/ Male %

30 Central Bank of Kenya (2018), [Central Bank of Kenya Annual Supervision Report](#).

31 The International Policy Centre for Inclusive Growth (2016), [Strengthening the cash transfer payment systems in Kenya](#).

32 The IPRS is responsible for collecting, storing and maintaining population data in Kenya.

33 Caribou Digital (2019) [Kenya's Identity Ecosystem](#)



Identity landscape

The Kenyan national ID serves as the foundational credential for most state and private sector services that require users to verify their Kenyan citizenship. Coverage is high, with World Bank (2018) calculations estimating the card has national coverage of about 91 per cent, although there is a gender gap of approximately 4.5 per cent.³⁴

To access NSNP cash transfers, beneficiaries must register for an NSNP card using a valid national ID and biometrics (fingerprints). Beneficiaries' credentials are then validated against the IPRS and the programme shares their data with the Kenyan Single Registry System.

The IPRS was launched in 2015, and it aggregates and stores biographic and biometric data on all Kenyans and resident non-citizens. The system aims to allow government departments and the private sector to verify credentials and check

credit blacklists, and has been described as “the common reference and single source of truth” by the current president, Uhuru Kenyatta.³⁵ Each IPRS inquiry costs KSh 5 and private companies, such as banks and MNOs, are allowed to pre-pay for a number of inquiries, although batch inquiries are not permitted.³⁶

The Kenyan Single Registry System is a web-based policy tool that has been operational since 2014, and is used to provide a single reference point for information on the social protection sector in Kenya. It consolidates programme information from the management information systems (MIS) of various social protection implementers in one web portal. The Registry contains data on 839,000 households from the NSNP, including the number of beneficiaries per county, constituency and their names, dates of birth, national IDs and household members.³⁷

³⁴ World Bank, Global Findex (2018)

³⁵ Fred Mukinda (11 March 2015), “President Kenyatta launches Integrated Population Registration System”, Daily Nation.

³⁶ Caribou Digital (2019), [Kenya's Identity Ecosystem](#).

³⁷ Ibid.



Case study

Malawi

Figure 5

The market opportunity in Malawi





SCTP programme

The Government of Malawi is working with a range of development partners to implement the Social Cash Transfer Programme (SCTP), commonly known as Mtukula Pakhomo.³⁸ This is an unconditional cash transfer programme that has rapidly expanded from serving 9,012 individuals in 2013, to 1,178,349 in February 2019.^{39,40} The programme targets households across Malawi, with the aim of reducing poverty, hunger and starvation among the ultra-poor and labour-constrained, and includes people

who qualify based on a range of vulnerabilities.⁴¹ By February 2019, the number of households reached was around 279,744.⁴²

Payments are primarily made bi-monthly and are based on the size of the household and the number of school-age children within the household. Estimating that SCTP reaches approximately 280,000 households, this translates to an annual cash disbursement of over \$44.4 million, made in over 1.6 million separate disbursements.

Figure 6

SCTP, by number of households, payment method and 2019 payment allocation

Implementer	The World Bank	European Union	German Government	Irish Aid	Government of Malawi
Number of districts funded	11	8	6	2	1
Number of households	71,043	46,437	49,559	15,687	12,674
Cash amount	The cash amount varies by household size, from \$3.60 per month (one-person household) to \$7.69 per month (4+ person household). An additional amount of \$0.68 per child is provided for households with children of primary school age, and \$1.36 per child for households with children of secondary school age.				
Payment frequency	Approximately bi-monthly				
Payment method	Manual	Manual	Manual	e-Payment	Manual
2019 allocation	\$17.6 million	\$12.6 million	\$7.9 million	\$3.2 million	\$3.1 million

38 Mtukula Pakhomo means "empowering the household" in Chichewa.

39 Ministry of Gender, Children, Disability and Social Welfare (2019), Social Cash Transfer Program (SCTP).

40 Development Pathways: The 'Unity Solution', E-payment prototype (2019), (unpublished)

41 Ministry of Gender, Children, Disability and Social Welfare (2019) Social Cash Transfer Program (SCTP). These include the elderly, children, the chronically ill and people living with disabilities. The majority of household beneficiaries – 49 per cent – have a chronic illness while 26 per cent are elderly, 23 per cent have a disability and two per cent are children. Additionally, 70 per cent of household beneficiaries are female-headed while 68 per cent of individual members are female.

42 Ministry of Gender, Children, Disability and Social Welfare (2019) Social Cash Transfer Program (SCTP).



However, programme implementation can vary widely by donor and district. This is because each donor is responsible for specific districts and has different financing modalities, funding time frames and reporting requirements.⁴³ The majority of beneficiary payments are done manually by district council personnel, whereby beneficiaries collect their payment from a collection point (often a mobile van), at a pre-determined time and date. However, in the Irish Aid districts of Balaka and Ntcheu, an e-payment model is being piloted in which beneficiaries are issued with a personalised chip and PIN card linked to a basic transactional bank account. The majority of these beneficiaries cash-out

at a mobile banking van at a pre-determined time and date, however, they could also access an ATM or bank branch at a time of their choosing. At least one other donor has a mandate to digitise their payment methods in the next few years.⁴⁴

Programme stakeholders aim to address this fragmentation. Collaboration and interoperability are key to the Government of Malawi's social protection agenda, which advocates for a harmonised delivery mechanism. Consequently, there are discussions around the development of a single financing system, digitisation of payments and potential involvement of MNOs.



Mobile environment

The lack of electricity to power mobile phones and cell towers, limitations in mobile network coverage and performance, and poor roads and transport networks are challenges to mobile access and the expansion of electronic financial services in Malawi, particularly in rural areas. Malawi has relatively low levels of mobile penetration at 51 per cent, and there is a gender gap in mobile ownership of around 13 per cent.⁴⁵ Mobile money adoption in Malawi is also low, with around 23 per cent of men and 18 per cent of women owning an account.⁴⁶ However, this is a huge opportunity for MNOs, which are increasingly expanding into rural areas and actively working on strategies to target this population with mobile products and services.

One element of this is the mobile agent network, which is continuing to grow. As of mid-2019, there were 45,929 registered mobile money agents in Malawi.⁴⁷ Unfortunately, 81.1 per cent of these agents are located in urban and semi-urban areas,

with only 18.9 per cent available in rural areas to support over 80 per cent of the country's population. However, this gap should narrow as MNOs continue to target rural populations.⁴⁸ This is important because currently, even if SCTP was digitised across all districts, cash-out points would be limited to 106 branches, 116 bank agencies, satellite kiosks and mobile vans and 494 ATMs.⁴⁹ The majority of branches and ATMs are also in urban areas.

MNO Know Your Customer (KYC) processes have also become more robust recently, following the introduction of the Communications Act of 2016, which mandated that all SIM cards must be verified against an official form of identification, such as the customer's national ID (NID) number. This has led to a large-scale SIM registration drive, requiring customers to register their SIM cards with an official form of ID. Additionally, from July 2018, all new SIM cards must be registered within seven days from the date of purchase or they are deactivated.⁵⁰

43 Development Pathways: The 'Unity Solution', E-payment prototype (2019) (unpublished), also from discussions with programme stakeholders (unpublished).

44 From discussions with programme stakeholders (unpublished).

45 Gallup World Poll (2018) (unpublished)

46 World Bank, *Global Findex 2017*.

47 Development Pathways: The 'Unity Solution', E-payment prototype (2019) (unpublished), quoting Reserve Bank of Malawi, National Payment Systems (NPS) Second Quarter 2019 NPS Report.

48 Ibid.

49 Development Pathways: The 'Unity Solution', E-payment prototype (2019) (unpublished), quoting Registrar of Financial Institutions (2019).

50 <https://times.mw/macra-sets-new-sim-card-registration-deadlines/>



Identity landscape

Malawi has made significant strides in recent years to develop a robust foundational identity system with widespread population coverage. The National Registration Bureau (NRB) developed the National Registry and Identification System (NRIS) and led a nationwide registration drive from May to November 2017, which resulted in the registration of over 9.2 million citizens, or around 98 per cent of the adult population. Around 8.9 million or 93 per cent, were issued with foundational credentials, the NID card.⁵¹

The new NID card is a smart card with a machine-readable chip containing two fingerprints, a digital photo and some additional information that can be accessed using a card reader.⁵² Projected next steps will enable NRIS integration with public and private sector systems, such as the Universal Beneficiary Register (UBR), to allow appropriate data sharing and ensure the systems are kept up to date, providing citizens with relevant services.⁵³

The UBR is still in development and aims to become the single source of information on households eligible for social support services.⁵⁴ The registry is defined as “a national platform used for entering, storing, accessing and sharing household data to facilitate respective programme implementers in targeting, linking, monitoring and producing periodic reports on the outreach and implementation of social support programmes in Malawi.” Data collection for the registry is ongoing and, as of June 2019, had reportedly been completed in six of 16 districts.⁵⁵ The system is also in the process of being digitised and discussions on functionality and interoperability are ongoing.

Citizen data captured for the NRIS and UBR is currently up to date due to the recent introduction of both systems, however, this data could become outdated in the next few years as the circumstances of individuals change. Hence the importance of the discussions around interoperability and inclusion of a death registry component in the NRIS, which could be integrated with the UBR.

51 UNDP (2018), National Registration and Identification System (NRIS) Project, Quarterly Progress Report (01 April 2018 to 30 June 2018)

52 <http://finmark.org.za/achieving-financial-inclusion-goals-through-digital-id-in-malawi/>

53 GSMA (2019), [Digital Identity Country Report: Malawi](#).

54 [UBR website](#)

55 Nyasa Times (12 June 2019), “Ministry of Finance introduces unified social beneficiary registry in Nsanje”.



Identification challenges and opportunities

Identification and/or verification of beneficiaries takes place across multiple stages of the cash transfer process. It has a different purpose at each stage, ranging from ensuring that eligible citizens are considered for the programme, to confirming that the intended recipients are receiving the payments. The efficient implementation of social protection systems, particularly SCTs, requires new digital tools that facilitate the efficient selection and enrolment of beneficiaries and the targeted and transparent delivery of funds. Effective methods of verifying beneficiary identities are essential to these processes.

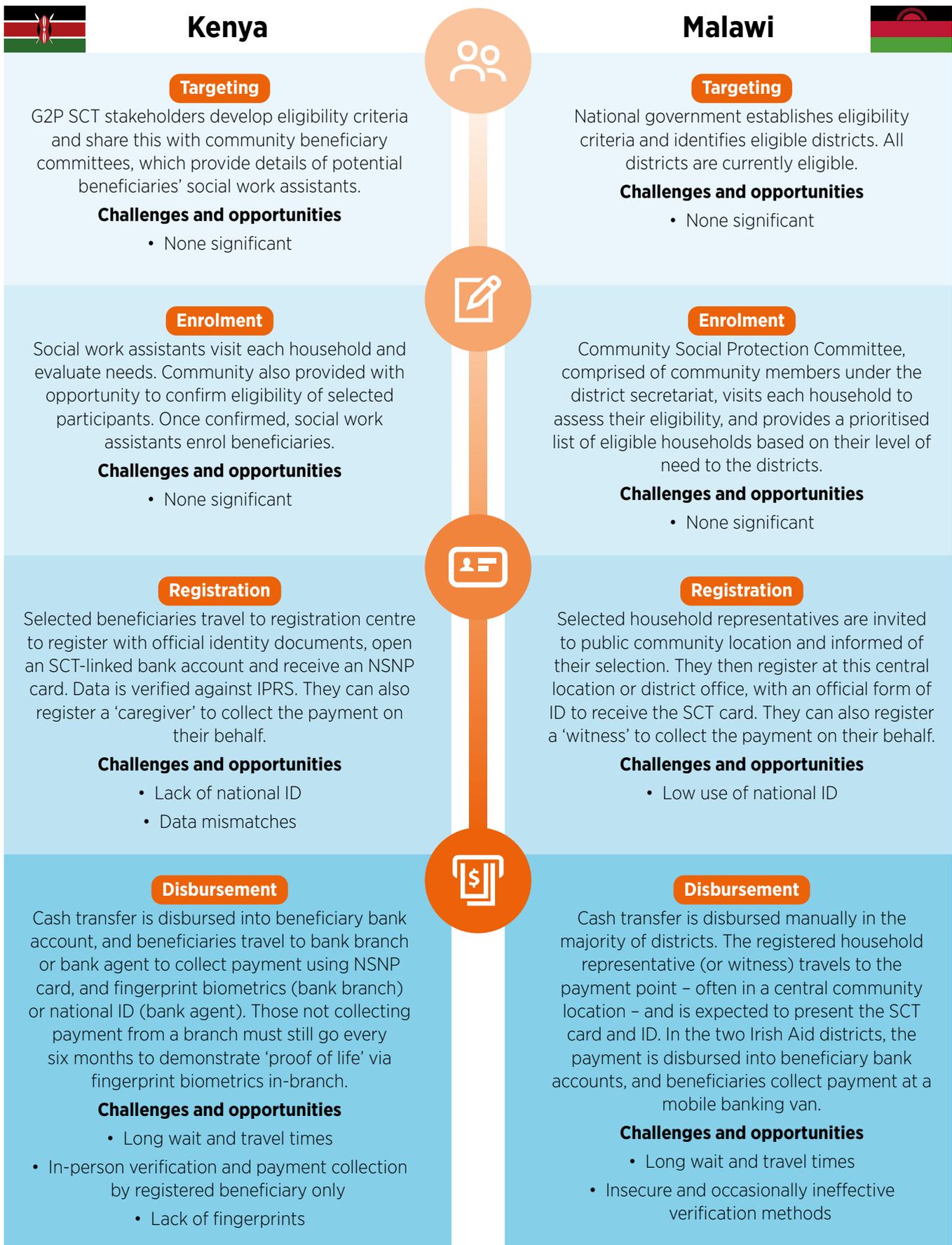
To understand where new digital tools could support identification and verification, it is necessary to clarify the challenges and opportunities that exist within the cash transfer process. Using the government programmes in Kenya and Malawi as case studies, it becomes apparent that the most significant challenges and opportunities in these contexts are in the disbursement and/or cash-out phase of the process.⁵⁶

⁵⁶ For manual payments, disbursement coincides with cash-out because the moment the payment is disbursed, the beneficiary also receives it as cash in hand. However, for e-payments, disbursement and cash-out are separate steps, as the payment is disbursed into the beneficiary's account and the beneficiary can cash-out at a different time.



Figure 7

The programme delivery process





Targeting and enrolment

Targeting is managed by government departments and does not require beneficiary identification in Kenya or Malawi, as it involves these departments setting eligibility criteria for each cash transfer programme. Consequently, there were few identification challenges or opportunities for MNOs to support.

Programme stakeholders also did not identify any significant challenges around identification during enrolment. Notably, they highlighted the importance at this stage of community involvement of assessing and selecting eligible households (Malawi) and vetting individuals who have been selected by

social workers (Kenya). Community knowledge is perceived to be more effective at identifying eligible individuals/households than government data alone, and helps to gain community support for the programme. Any new digital tools developed for this stage should therefore take this community element into account.

Opportunities to support targeting and enrolment by leveraging MNO assets were also explored with MNO stakeholders. However, there were perceived to be few viable opportunities and relatively little appetite, partly due to the distance from core MNO business functions.



Registration

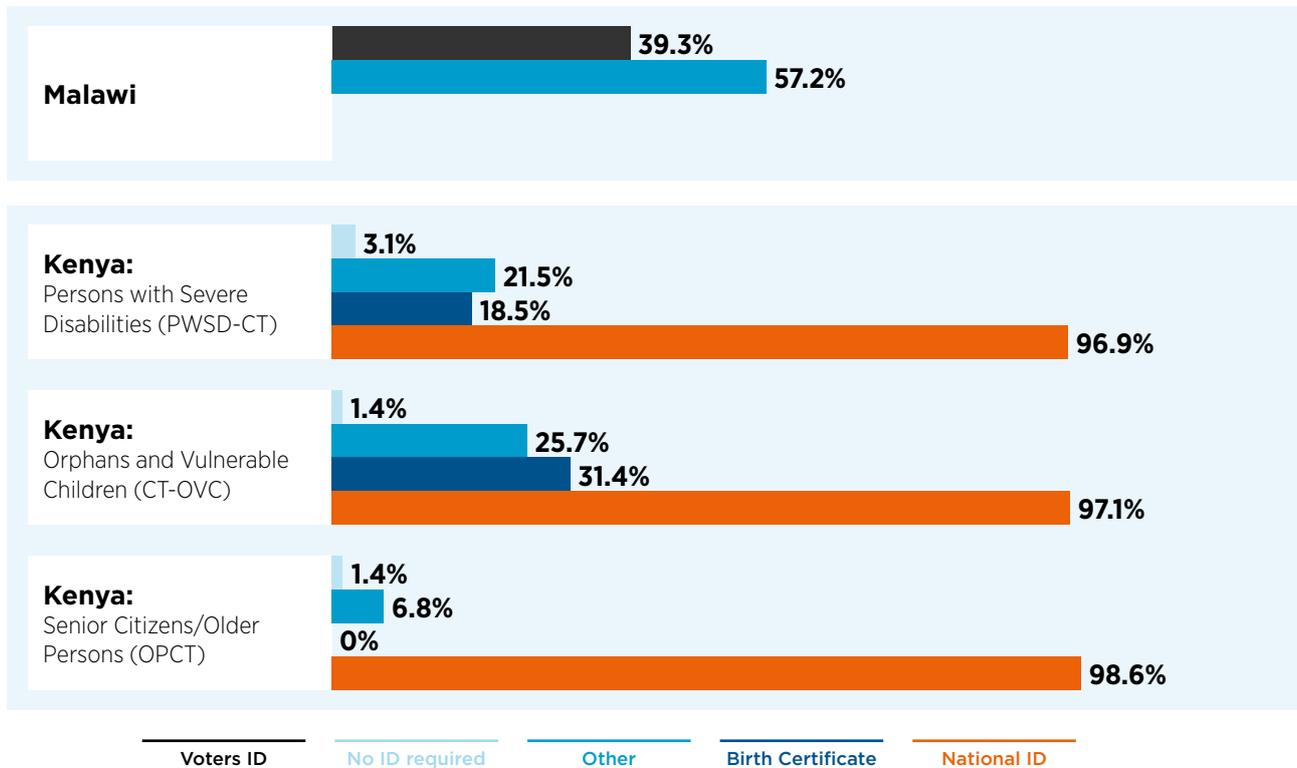
Identification challenges arose during beneficiary registration in Kenya and to a lesser extent in Malawi. These challenges varied between countries due to differences in programme processes and levels of national ID integration. The NSNP system in Kenya has largely integrated the national ID, so challenges

arise when beneficiaries do not have a national ID or their data does not match. In contrast, national ID is still relatively new in Malawi and the SCTP system does not yet appear to rely on using it in the same way (see Figure 8).



Figure 8

Beneficiary ID required during registration



Kenya identification challenges

Lack of national ID: Programme stakeholders highlighted that some, often particularly marginalised, beneficiaries do not have national IDs and therefore cannot register for the programme, as they cannot prove their citizenship. This challenge is particularly pronounced in border areas where the Hunger Safety Net Programme operates.⁵⁷

Data mismatches: Programme stakeholders and beneficiaries noted challenges around data mismatches, as some beneficiaries were found to have conflicting details, including age, sex and name arrangements, on their national IDs. Mismatches during registration are checked against the IPRS to resolve the issue. Beneficiaries who had experienced this issue noted the length of time it took to resolve (a minimum of several months) and the stress involved in fear of disqualification.

“If the names do not match, the ID numbers do not match or you have three names in the ID but two on the card, you will need to wait for a long time, or you can get disqualified.”

Male beneficiary, Older Persons Cash Transfer (OPCT) programme

57 Primary research with beneficiaries was not conducted in those areas for this study, due to ongoing risk of violence.



Malawi identification challenges

Low use of ID: 57.2 per cent of beneficiaries in our quantitative sample reported they were not required to provide ID during registration. The registration process requires representatives of households selected for the programme to provide a form of official identification, and although national ID is increasingly used, it is also possible to provide other forms of ID, such as an introduction letter from a community chief, if necessary. Importantly, many beneficiary households registered for the programme before the introduction of the national ID in 2017, and therefore used other forms of identification or none (instead they relied on being “known” by district staff involved in registration).⁵⁸

This was not identified as an issue by programme stakeholders or beneficiaries, potentially because national ID is still relatively new in Malawi and some flexibility ensures inclusion of the more marginalised in society, who this programme aims to support. However, it is worth noting that low use of national ID could have an impact on the effectiveness of interoperability between the NRIS and UBR if it continues.

“At that time, I didn’t have an ID, so I did not provide an ID in registration and used a letter from my community chief.”

Male beneficiary, Chikwawa, Malawi

“During registration, I showed my voter’s ID because I was not with national ID.”

Female beneficiary, Balaka, Malawi

Stakeholders do not feel MNOs can provide support with challenges around lack of national ID, because their KYC processes also require registration with this form of identification.

MNOs could support with resolution of data mismatches. MNOs in Kenya check their KYC data against the IPRS database during registration, so their data should reflect what is in the IPRS. However, data may be captured slightly differently as the MNOs’ SIM registration processes may

include additional fields to be completed about their customers, such as extra names. Cross-checking mismatches against MNO data could be a quicker or more accessible alternative for resolving mismatched data than the current method in Kenya. Some programme stakeholders were open to exploring this, however, the business case for MNO stakeholders to invest in such processes was considered less appealing as it was not perceived to align with core business functions.

⁵⁸ This is also likely to skew the numbers in our quantitative sample to a certain extent.



Disbursement

Ninety-three per cent of Kenyans and 88 per cent of Malawian participants in our quantitative sample viewed verification during disbursement and/or cash-out as necessary. However, some challenges were reported, with 22 per cent of Kenyan and 39 per cent of Malawian participants describing the process as stressful. Many of these challenges arose from registered beneficiaries being required to collect their payment and verify themselves in person at payment points far from where they lived (Kenya and Malawi), often on specific dates and at certain times (Malawi). This meant there was very little flexibility for beneficiaries to fit the payments into their own lives and circumstances. Some verification methods were also challenging for beneficiaries to engage with appropriately, including fingerprints (Kenya) and card PINs (Balaka, Malawi).⁵⁹

⁵⁹ Primary research in Malawi was conducted with beneficiaries in two districts: Balaka and Chikwawa. Beneficiaries in Balaka were part of an e-payment pilot where they received their payment using chip and PIN cards. Beneficiaries in Chikwawa received their payments manually.



Kenya verification challenges

Long travel and wait times: 51 per cent of participants in our quantitative sample reported having to travel long distances to a payment point.⁶⁰ On average, they had to travel for 52 minutes and many travelled via public transport, mutatu (bus) or boda (moped), meaning they also had to spend money to get to a payment point. Beneficiaries also pointed out that once they reach a payment point, they often have to wait in long queues. In a few cases, beneficiaries noted they had to travel to the payment point multiple days in row before they were able to cash-out.

“The distance and queueing part is my biggest problem. It is very tiresome, you have to wake up early in the morning at around 5am because of the travelling and when you get there, you will still queue.”

Male beneficiary, Older Persons Cash Transfer (OPCT), Kenya

“There are always long queues, so that at times I have to go for two days to get the money.”

Female household representative, Cash Transfer - Orphans and Vulnerable Children (CT-OVC), Kenya

In-person cash-out and verification by registered beneficiary (or their “caregiver”): Registered beneficiaries can nominate one “caregiver” to cash-out on their behalf. The caregiver must have their biometrics (fingerprints) registered alongside the beneficiary. Programme stakeholders estimate that almost all representatives for OVC and PWSD programmes nominate a caregiver, and about half of beneficiaries in the OPCT programme do. However, a number of beneficiaries in our qualitative sample, particularly from the OPCT programme, highlighted that sometimes they would like to nominate someone (potentially not the caregiver) in the moment they experience ill health or disruptive life events, or their caregiver is not available, yet still need to cash-out to cover daily needs.

“There is no way you can send someone else even when you are sick because they are not the ones who registered.”

Female beneficiary, Older Persons Cash Transfer (OPCT), Kenya

Challenges with fingerprint scanning:

Beneficiaries must present their NSNP card and have their fingerprints scanned to cash-out at a bank branch. When beneficiaries go to bank agents to cash-out, they may not be required to have their fingerprints scanned as these agents do not always have biometric devices available. However, beneficiaries still must present themselves at a bank branch every six months to have their fingerprints scanned to provide “proof of life”. However, some beneficiaries, particularly the elderly and those engaged in manual labour, experience challenges with the biometric scanner, as their fingerprints are no longer readable.

“Sometimes, the machine cannot read my fingerprint because my hand is peeling from the farm work that I do in my compound.”

Male beneficiary, Older Persons Cash Transfer (OPCT), Kenya

“There have been some difficulties around using fingerprint biometrics, including for tea pickers, pastoral herders and the elderly, each of whom tend to have harder to read fingerprints.”

NGO stakeholder

60 51 per cent overall, which breaks down geographically into 70 per cent rural, 48 per cent peri-urban and 26 per cent urban.



Malawi verification challenges

Long travel and wait times: 63 per cent of our quantitative sample reported having to travel long distances to the payment point.⁶¹ On average, this travel time was around 147 minutes. Based on observations in field, many of these beneficiaries were walking to the payment point due to lack of availability and cost of public transport. Although beneficiaries in our sample who had been issued with chip and PIN cards could theoretically use ATM machines, these were often perceived to be too far away, in urban centres, so participants continued to rely on the mobile banking van.

Once at the payment point, some beneficiaries described queuing for around 30 minutes, but observations suggest the wait times are often much longer. These beneficiaries also had to ensure they were at the payment point at a certain time and date, depending on when district personnel, or the mobile banking van, were going to be there.

In-person cash-out and verification by registered beneficiary (or their “witness”):

Registered beneficiaries can nominate one “witness” to cash-out on their behalf. The witness must be registered alongside the primary beneficiary (household representative). However, a number of beneficiaries in our qualitative sample highlighted that sometimes they would like to nominate someone (potentially not their witness) in the moment they experience ill health or disruptive life events, or when their witness is not available, yet still need to cash-out to cover daily needs.

“The problem that I have seen is that there have been times when some people were sent back because the scanner failed to scan the card, maybe because the card developed some lines that hinders the scanner, or the scanner was not working well.”

Male beneficiary, Chikwawa, Malawi

Insecure and occasionally ineffective verification methods: Beneficiaries who received their payments manually noted that their identity was verified at the payment point by having their SCTP card scanned. However, some reported that this was occasionally ineffective because either the scanner or SCTP card was faulty, which could result in the beneficiary not receiving their expected payment.

Beneficiaries involved in the e-payment pilot were verified at the mobile banking van by providing their SCTP card, chip and PIN card, and often also the paper they had been given containing their PIN. These beneficiaries had very low levels digital and financial literacy — they often perceived the e-payment process to be the same as manual payment, but with the addition of a (chip and PIN) card and paper containing the PIN. They understood the importance of keeping the paper hidden and not sharing it with others, however, at the point of cashing out, they did not understand or have the confidence to use the PIN themselves. Instead, they gave the paper with the PIN to the personnel at the mobile banking van to use. Beneficiaries had also been advised not to use ATMs, which district personnel noted was due to district-level concerns that beneficiaries would give their card and PIN to passers-by to help them cash-out.

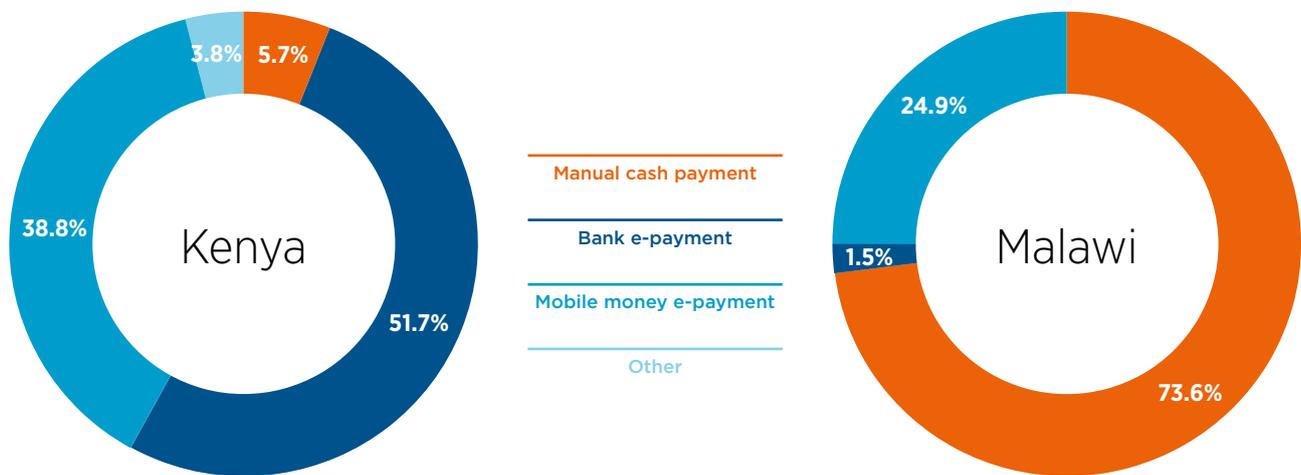
⁶¹ 63 per cent overall, which breaks down geographically into 65 per cent rural and 60 per cent peri-urban.

Many beneficiaries in Kenya and Malawi reported that their preferred payment method is the one they are currently using: bank e-payment (Kenya) or manual cash payment (Malawi). This is unsurprising given the human preference for the familiar, particularly when it comes to money.⁶² However, nearly 40 per cent of Kenyan respondents and nearly 25 per cent of Malawian respondents reported they would prefer to receive their payments via mobile money if it were an option (see Figure 9). Particularly in Kenya, beneficiaries highlighted that

they were already using mobile money, and it would be easier for them to manage their payments if they could receive them directly into mobile money accounts. This would allow them to navigate some of the challenges, especially around long travel and wait times. However, some beneficiaries who were familiar with mobile money were also slightly more averse to receiving their payments into mobile money accounts, due to perceptions that they would also experience associated service charges.

Figure 9

Disbursal method preferences, according to beneficiaries



MNOs are well positioned to develop payment platforms that leverage their KYC data, as these databases already link the customer’s proof of identification (e.g. national identity number) with their mobile phone number, providing a higher level of assurance that funds delivered through the payment platform would reach the intended beneficiary. Other mobile services, such as SMS prompts, one time passwords (OTP), voice recognition or potentially facial recognition, could be introduced to ensure that it is the intended

beneficiary who has access to the mobile money wallet prior to funds being disbursed, and to confirm that the beneficiary has received the funds afterward. This would provide beneficiaries with “remote” payment and verification options, thus overcoming some of the challenges around long travel and wait times (Kenya and Malawi), fingerprint scanning (Kenya) and insecure or ineffective verification methods (Malawi).

⁶² This is due to cognitive biases such as “loss aversion” whereby people prefer to avoid perceived potential losses than to acquire potential gains (Kahneman and Tversky, 1979), and “status quo” whereby the current baseline (or status quo) is taken as a reference point and any change from that baseline is perceived as a loss (Samuelson and Zeckhauser, 1988). As a result, changing habits and behaviours or encouraging new service adoption is often challenging due to previously established “cognitive defaults”. Overcoming these biases often requires careful framing of the new service, for example, by leveraging similarities with existing services.



Additionally, these mobile-enabled verification options could also enable registered beneficiaries to nominate a third party to cash-out for them in instances where the registered beneficiary is unable to attend due to ill health or other disruptive life events. For example, MNOs could leverage USSD or SMS to develop a token-based system for providing authorisation of a third party, or technologies such as voice recognition to enable beneficiaries to remotely verify their identity and authorise trusted third parties (or proxies) to collect the payment on their behalf.

Programme stakeholders in Kenya and Malawi saw significant value in introducing mobile money payment options for beneficiaries, with the caveat in Malawi that mobile penetration and digital literacy is still low, so this would need to be taken into consideration. Verification options that ensure the intended beneficiary receives the payment were appealing, and remote verification options in general were of interest, particularly voice recognition options, to overcome some of the challenges with using fingerprint scanning and the cost of biometric scanning devices (Kenya). However, programme stakeholders raised some concerns in Kenya around authorising third parties to cash-out, due to previous experience of intra-household dynamics, where registered beneficiaries had been defrauded by household members. Any new mobile-enabled verification service should therefore take these types of concerns into account.

MNO stakeholders in Kenya and Malawi also saw significant value in introducing mobile money payment options for beneficiaries, due to the potential size of the market and the opportunity to increase their user base. Additionally, these stakeholders saw the value in introducing remote verification options to ensure the intended beneficiary had received their payment. In instances where MNOs were already using Interactive Voice Response (IVR) to serve more illiterate populations with other services, voice recognition was considered a particularly logical addition.

Importantly, MNO stakeholders felt strongly that it would only be in their interest to offer mobile-enabled verification services to SCT programme stakeholders if they were also the payment provider, as this is where they saw the primary commercial opportunity.



Mobile-enabled verification concepts

The most significant identification-related challenges, and the opportunities for mobile to address them, were in the disbursement phase of the cash transfer process. To understand how these challenges might be addressed with mobile-enabled verification services, several concepts were explored with programme beneficiaries in each country. The concepts have been kept similar across locations due to the similar challenges beneficiaries experience.

These concepts focused on enabling “remote” verification so that beneficiaries could verify themselves via mobile phone and avoid long travel and in-person verification at a bank branch/agent (Kenya) or mobile banking van/payment point (Malawi).

An additional area of exploration involved “flexible” payment collection, which would enable the registered beneficiary to authorise another person of their choice to collect their payment in instances where the beneficiary was experiencing ill health or disruptive life events. This could be valuable for a range of potential disbursement methods. These concepts are discussed below.



CASE STUDY

Payment collection challenges in Kenya

Andrew is a widower who lives with his three children and two grandchildren, and has been a beneficiary of the OPCT programme for over a year. He is an ex-matatu driver who now relies on subsistence farming. Andrew learned about the OPCT programme from a representative of the chief who inquired about his age and instructed him to visit a registration centre.

At the centre, he was required to present his national ID card and complete some forms. He then received his first payment a year later. Andrew has never missed a payment. He receives them in a KCB bank account and withdraws them with a KCB agent. He must present his Inua Jamii card and scan his fingerprint for verification.

Payment collection challenge: Andrew expressed concern about how long it took him to get to the registration centre, as well as the time it takes and long queues at the agent stall.

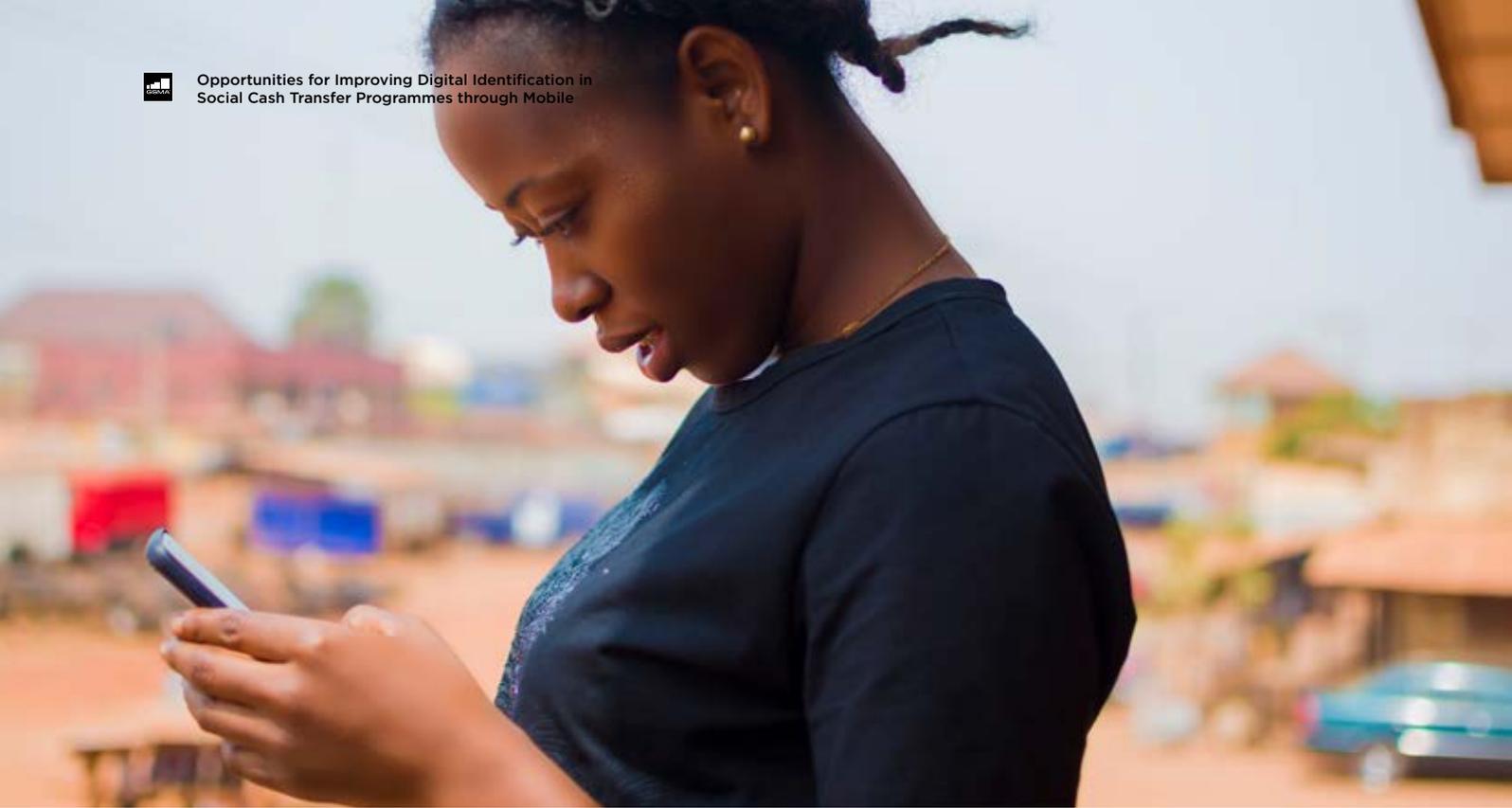
“The queuing part is the biggest problem and very tiresome, you have to wake up early in the morning at around 5am and maybe come back around 4pm in the evening, let me say it takes eight hours.”

Andrew has a low-end smartphone which was given to him by his daughter. He uses it for calls and he has an M-Pesa mobile money account that he uses to receive payments from his children occasionally. Andrew would prefer to receive his cash transfer payments via mobile money because of the close proximity of mobile agents to his house and likelihood he could avoid the long queues.

“I will choose mobile money because I will not have to use money for transport. The agent is near me.”

Although Andrew always collects the payment himself, he expressed his willingness to allow his daughter to withdraw on his behalf, as he believes this could be beneficial in the event that he is unable to go himself.

Andrew feels he is familiar with voice recognition options, because he already uses his phone for voice calls, and he would trust this method because he believes his voice is unique to him, and so is secure. While Andrew is not familiar with facial recognition, he is open to this idea as he feels it would be based on his unique identity, and therefore secure.



Remote verification

The two forms of remote verification explored with beneficiaries included voice and facial recognition. In instances where beneficiaries do not have their own phone, the potential of using a mobile agent's phone was also explored.⁶³

Voice recognition

Concept: The beneficiary would register their voice by dialling the phone number for the voice recognition service, keying in their national ID card number and then repeating a phrase, such as “My voice is my password.” To receive or “unlock” their SCT payment, the individual would prove they are the intended beneficiary by using their voice. They would receive an incoming call or dial a code, and then repeat the phrase, “My voice is my password.” This method could also be used to provide “proof of life” in Kenya.

The idea of using voice recognition to access a service was fairly familiar in Kenya (see Figure 10), possibly due to relatively high levels of mobile penetration and services such as Safaricom's Jitambulisho.⁶⁴ Many participants reported that voice recognition was similar to receiving a voice call and speaking to someone who was able to identify them by their voice. Familiarity in Kenya may support interest and confidence in the service. Beneficiaries

of the PWSD-CT programme had particularly high levels of interest, although across programmes, confidence in the security and reliability of the approach was slightly lower. This appears to be due particularly to concerns about the potential for users' voices to change over time or due to illness and, to a lesser extent, concerns that an individual's voice is not unique.⁶⁵

63 One-time passwords and token systems were also briefly explored, however, due to the low digital literacy levels of participants, it was felt that tangible prototypes and more time would be needed for participants to fully understand these concepts.

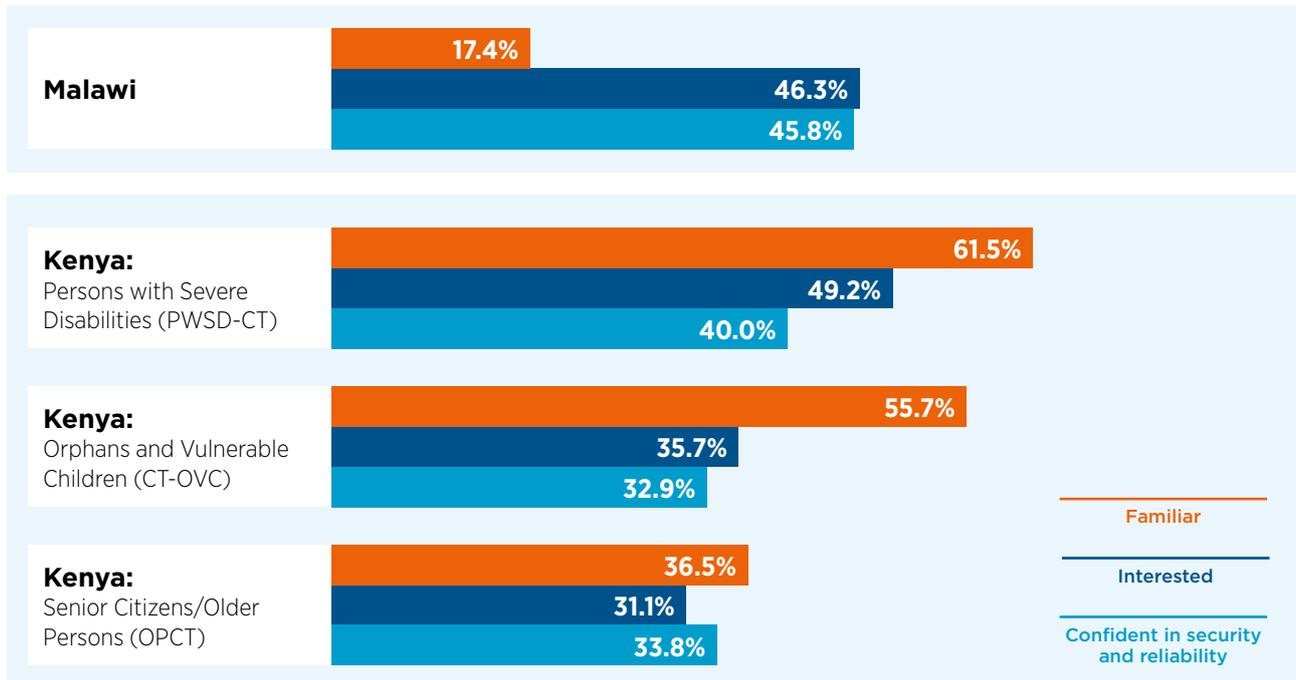
64 Jitambulisho is a service that allows Safaricom Prepaid, Individual Post-pay and Hybrid customers to enrol their voice and use it to access services such as PUK, unlock their M-Pesa account, get an M-Pesa PIN/start key and replace their line.

65 Concerns about voice changing: 59.5 per cent (OPCT); 42.9 per cent (CT-OVC); 46.2 per cent (PWSD-CT). Concerns about lack of voice uniqueness: 43 per cent (OPCT); 22.9 per cent (CT-OVC); and 40 per cent (PWSD-CT).



Figure 10

Beneficiary attitudes toward verification through voice recognition



Familiarity was much lower in Malawi (see Figure 10), potentially due to lower levels of mobile penetration and lack of voice recognition services in the wider landscape. However, this does not appear to be a significant issue, as participants in Malawi still reported relatively high levels of interest and confidence in the security and reliability of using voice recognition.⁶⁶ The greatest concerns were about the voice not being unique and its potential to change, but these were still lower than among participants in Kenya.⁶⁷ This could indicate the challenges that participants in Malawi are experiencing with their current disbursement methods and desire to embrace new approaches that make it easier to receive payments. It could also indicate a higher level of trust in technology.

However, some participants also reported concerns about their low levels of digital literacy and how complicated they perceived technology to be, especially new verification technologies like voice recognition. Additionally, some reported there were rumours about people receiving fraudulent calls from people attempting to steal money from them, and fears they would not know whether they could trust voice methods. To manage these concerns, it will be important to create a very clear and simple voice recognition process, and develop communication campaigns that support beneficiaries/MNO customers with how to use it and how to recognise the difference between this service and fraudulent calls.

66 Only 15.42 per cent of Malawian participants listed lack of familiarity as a concern versus 21.4 per cent of Kenyan participants.
 67 Concerns about voice changing: 35.8 per cent. Concerns about lack of voice uniqueness: 36.8 per cent.

Facial recognition

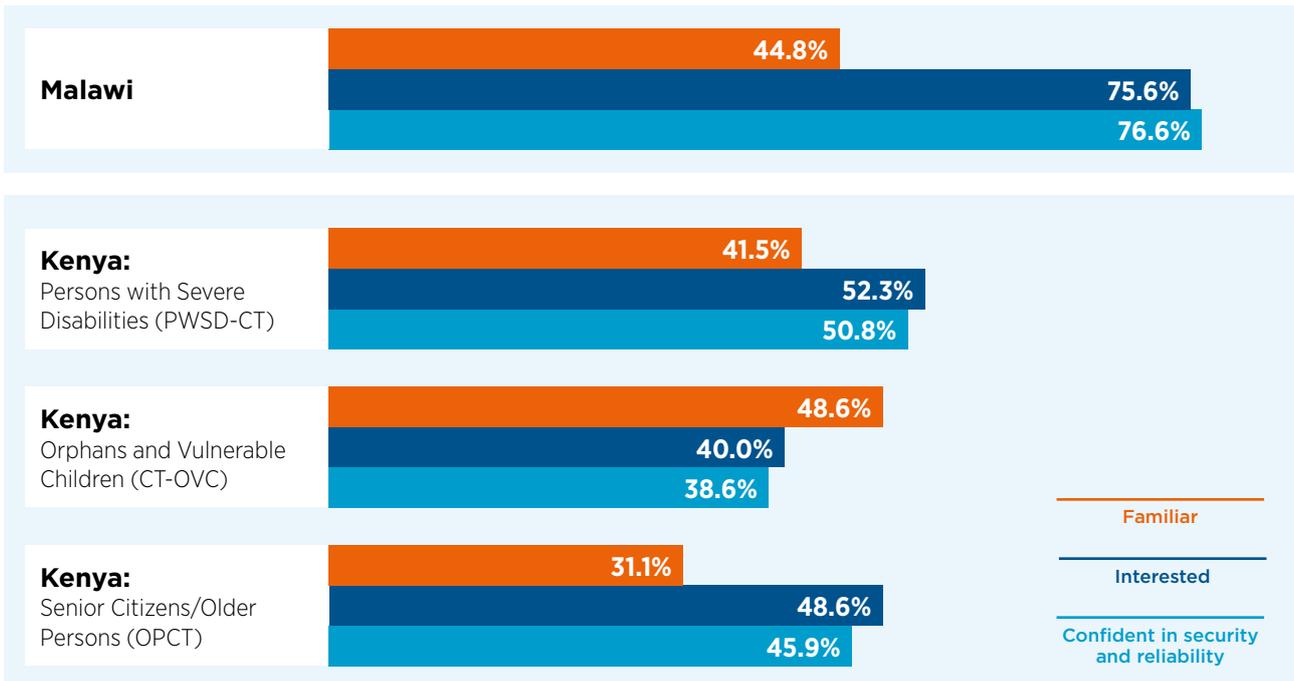
Concept: The beneficiary would register their face by dialling the telephone number for the facial recognition service, keying in their national ID card number and then using the camera to take a photo of themselves. To receive or “unlock” their SCT payment, the individual would prove that they are the intended beneficiary by dialling a code and then using the camera to take a photo of their face. This method could also be used to provide proof of life in Kenya.

Facial recognition was largely less familiar to participants in Kenya than voice recognition (see Figure 11), potentially because of the lack of facial recognition services in the wider landscape. However, participants were more interested and had more confidence in the security and reliability of facial recognition than they did in voice recognition. There remained some concerns, however, these

were almost all lower than those reported for voice recognition. Participants’ primary concern was with facial changes (e.g. growing a beard, growing older), but concerns related to facial uniqueness were far lower than those related to voice uniqueness.⁶⁸ Lack of familiarity with facial recognition was also a greater concern for participants in Kenya than with voice recognition.⁶⁹

Figure 11

Beneficiary attitudes toward facial recognition



68 Concerns about face changing: 45.9 per cent (OPCT); 37.1 per cent (CT-OVC); 38.5 per cent (PWSD-CT). Concerns about lack of voice uniqueness: 31.1 per cent (OPCT); 17.1 per cent (CT-OVC); 29.2 per cent (PWSD-CT).

69 26.09 per cent reported concern with lack of familiarity with facial recognition versus 21.4 per cent for voice recognition.

In contrast, familiarity with the concept of facial recognition was much higher in Malawi than voice recognition (see Figure 11). This could be due to participants' familiarity with having their photo taken for their ID card in recent years and understanding that mobile handsets have cameras installed. Participants in Malawi also had high levels of interest and confidence in the security and reliability of facial recognition, especially in comparison to voice recognition. There remained some concerns, however, these were all lower than for voice recognition. Similar to participants in Kenya, concerns about facial changes were greatest, but concerns related to facial uniqueness were far lower than those related to uniqueness of voice recognition.⁷⁰ Overall, participants in Malawi

appeared to be particularly interested in using remote forms of verification for their cash transfers, and especially facial recognition, potentially due to their greater familiarity with its benefits, and confidence in its security and reliability.

"I feel like this process is good because if I happen to lose my ID, I will still have access to the services." Female beneficiary, Malawi

"The process is good. But the problem is that someone who has no phone will face challenges with this process." Male beneficiary, Malawi.

"I am not comfortable with it because the face keeps on changing. How I was when I was young is not how I am now, the face keeps changing." Male beneficiary, Kenya

⁷⁰ Concerns about face changing: 29.4 per cent. Concerns about lack of face uniqueness: 13.9 per cent.

Flexible payment collection by a proxy

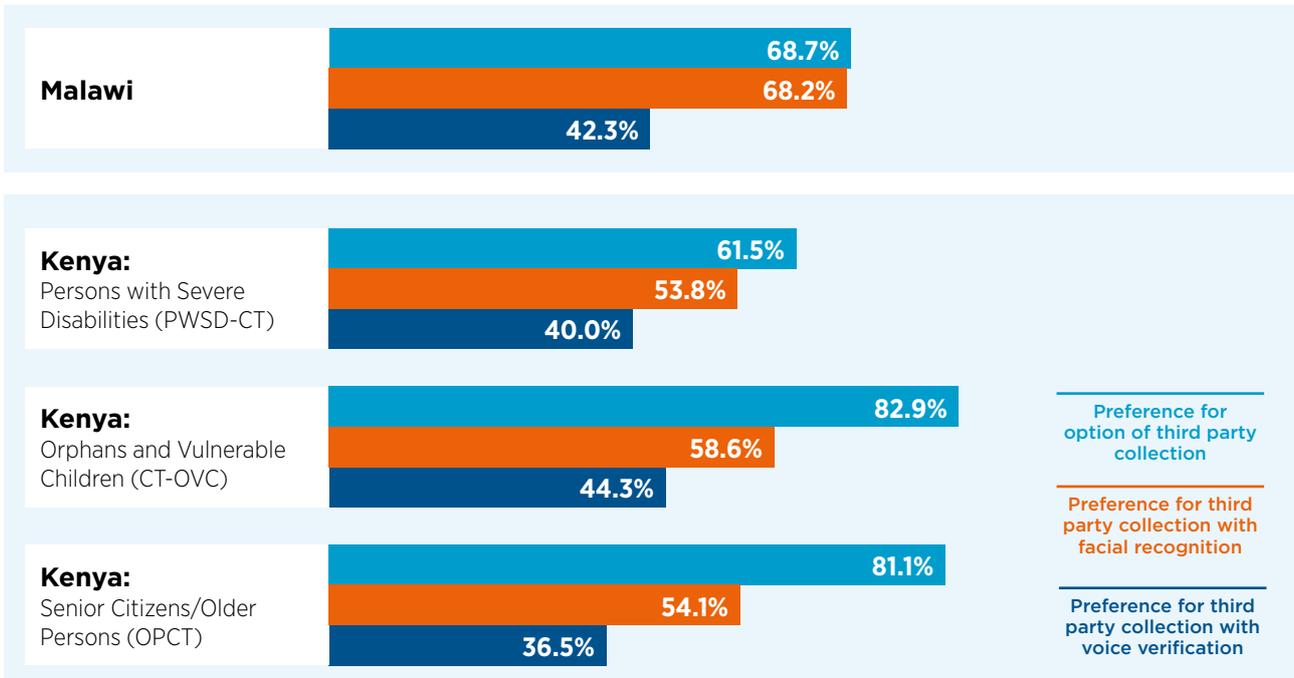
An additional area of exploration involved “flexible” payment collection, or enabling the registered beneficiary to authorise another person (a proxy) of their choice to collect their payment, for example, when the beneficiary is experiencing ill health or disruptive life events.⁷¹ This could involve the registered beneficiary authorising a proxy through voice or facial recognition via mobile phone, (or other means, such as USSD and secret PIN or one-time passwords) when the proxy is at the point of payment collection (or cashing out).

Payment collection (or cashing out) by a proxy was appealing across all programmes in Kenya, particularly for participants of the OPCT and CT-OVC programmes (see Figure 12). There is already a proxy system in Kenya where the beneficiary can nominate a caregiver during programme registration who can collect the payment on the beneficiary’s behalf. However, this requires the beneficiary to rely on the person who they nominated when they joined the programme. Some participants were not aware they could nominate a proxy, and others

wanted to be able to nominate people other than their caregiver, especially in instances where this person was not available at the time of payment collection. This desire was potentially due to some participants experiencing instances where they have not been able to collect their payment when needed due to ill health or disruptive life events. Importantly, participants explained they would only be comfortable with payment collection by a proxy if it were a person they trusted and felt close to, which was often an immediate family member.

Figure 12

Beneficiary attitudes toward having a payment collection by proxy option



⁷¹ Beneficiaries in Kenya highlighted in the qualitative research that they lacked the ability to nominate a trusted third party to collect their payment from a bank branch/agent, which could be challenging if they experienced ill health or disruptive life events. This was less of an issue in Malawi, as registered household representatives could register a trusted third party, or “witness”, to collect their payment in their absence. However, this may still be relevant to provide authorisation when their witness is not available.



A majority of these participants were also in favour of including a remote verification service that would enable them to authorise this payment collection. Facial recognition was the preference of participants of all programmes in Kenya, similar to their broader preferences for remote verification.⁷²

Payment collection by a proxy was also appealing in Malawi. There is already a proxy system in Malawi in which the beneficiary can nominate a “witness” during programme registration who can collect the payment on the beneficiary’s behalf. Participants in our qualitative sample were aware of this system and many had relied on it previously. The slightly lower levels of appeal in Malawi may therefore be a result of these participants not having experienced being unable to send a third party.

However, participants in Malawi felt that being able to authorise a third party other than their witness was appealing, particularly in instances where their witness was not available, as this gave them greater flexibility. Additionally, some participants felt that if they could remotely authorise the payment collection when the witness was cashing out, they would feel more comfortable trusting their witness

to collect on their behalf. This may partly explain why a majority of participants were in favour of including a remote verification service that would enable them to authorise this payment collection. Facial recognition was also the preference for participants in Malawi, similar to their preferences around remote verification more generally.

*“I will like if I can send my son to collect the money for me, but they should also inform me who the person claims to be so that I can approve that he or she is representing me and whether I sent him.”
Female beneficiary, Kenya*

*“It is challenging that no one else aside from the witness can be sent to collect the money because when your witness is away and you are sick, you can’t have any other means to access the money.”
Female beneficiary, Malawi*

“If the bank can be sending messages for me to confirm first if I sent my witness before they give him the money it will be very good. The witness will not be able to go without my consent to get the money.” Male beneficiary, Malawi

⁷² Although one-time passwords and token systems were also briefly explored due to the low digital literacy levels of participants, it was felt that tangible prototypes and more time would be needed for participants to fully understand these concepts. This data therefore only reflects responses to voice and facial recognition.



CASE STUDY

Payment collection challenges in Malawi

Grace, a farmer who lives in Balaka with her family of four, has been a beneficiary of Mtukula Pakhomo for seven years. She heard about the programmes from members of the Social Protection Committee who visited her house to collect information on her living conditions. She found the registration process to be relatively straightforward.

She receives the cash transfers from a mobile bank van that comes to her community. Along with other beneficiaries, she is informed by members of the Social Protection Committee of the date the vans will arrive. She then walks to the payment collection point and joins a queue to receive payment upon presenting her SCT card, ATM card and paper with her PIN written on it. She withdraws the entire payment each time because the money is barely sufficient to meet her household needs.

Payment collection challenge: It takes Grace around two hours to get to the payment collection point and withdraw her money. She always feels stressed walking this distance.

"I walk two hours to the payment point, to collect the money. Walking on such a long distance is hard for me and painful but I still come because I know that I end up being helped. On days I come to collect the money I move my chores and do them later."

While she has never wanted to send anyone apart from her witness to collect the payment on her behalf, she would prefer that the bank sent her messages to secure her consent whenever her witness goes to collect payment. She feels this would help to ensure her witness never makes a withdrawal without her knowledge.

"The first registration was done in our homes. Then they came with a list of names that were successful. I happened to be one of the successful people. Then they called us for official registration in the programmes shortly afterwards."

The opportunity for mobile-enabled digital identification

This study was designed to provide the GSMA, MNOs and SCT stakeholders with an understanding of the opportunities for MNOs to support the identification or verification of beneficiaries in the SCT process.

Every market will have its own challenges and opportunities for MNO, SCT and other stakeholders seeking to develop and implement digital identification and verification services for SCT programmes. However, this research has identified three key factors shaping the opportunity for identification and verification services that target SCT beneficiaries or end users:

- 1) The SCT programme, including its size, funding structure and level of digitisation;
- 2) The mobile environment, including mobile and mobile money penetration, and the wider regulatory environment and related policies;
- 3) The identity landscape, including foundational ID coverage and ID policies, systems and registries in the country.

The ways in which these factors can shape the opportunity was explored in Kenya and Malawi. Kenya represented a market with a large-scale, relatively uniform and coordinated government programme with high levels of digitisation, widespread foundational ID coverage (in the form of a national ID), and high mobile and mobile money penetration. In this context, there is an immediate market opportunity as MNOs have a number of existing assets, including mobile money services, mobile agent networks and verification services, which could be leveraged to support providers of the National Safety Net Programme (NSNP) to make SCTs more accessible to end users, particularly at the point of disbursement and/or cash-out.⁷³

⁷³ For manual payments, disbursement coincides with cash-out because the moment the payment is disbursed, the beneficiary also receives it as cash in hand. However, for e-payments, disbursement and cash-out are separate steps, as the payment is disbursed into the beneficiary's account and the beneficiary can cash-out at a different time.



In contrast, Malawi represented a market with a government programme with currently low levels of digitisation and a fragmented approach to implementation, combined with relatively low mobile penetration and low mobile money adoption. However, following the recent and rapid increase in national ID coverage in Malawi, combined with the drive to streamline and digitise the Social Cash Transfer Programme (SCTP), opportunities are arising for MNOs to support the payment delivery process, including the potential to offer verification services at the point of disbursement and/or cash-out.

Using the government programmes in Kenya and Malawi as examples, it became apparent that in these contexts the most significant challenges and opportunities are in the disbursement and/or cash-out phase of the SCT process. Despite the differences between the programmes, beneficiaries in both countries were experiencing challenges around when and where they could collect their payment (or cash-out) and how their identities were verified at this point.

MNOs are well positioned to support programme stakeholders in overcoming these challenges through the development of payment platforms that leverage the various attributes they have on their customers, including the customer's national identity number, SIM registration and KYC data, and mobile phone number. Other mobile services, such as SMS prompts, one-time passwords (OTP), voice or facial recognition, could be introduced to provide higher levels of assurance to the disbursing entity that funds are reaching the intended beneficiary/mobile money user. Additionally, these mobile-enabled verification options could support payment collection (or cash-out) by a proxy in instances where the registered beneficiary is unable to appear in person.

SCT and government stakeholders in Kenya and Malawi saw significant value in introducing mobile money payment options for beneficiaries. Verification options that could ensure the intended beneficiary receives the payment were appealing, and remote verification options in general were of interest, particularly voice recognition services, to overcome some of the challenges experienced with using fingerprint scanning and the cost of biometric scanning devices (Kenya).

MNO stakeholders in Kenya and Malawi also saw significant value in introducing mobile money payment options due to the potential size of the market and the opportunity to increase their user base. Additionally, these stakeholders saw the value in introducing remote verification options that could support them to ensure the intended beneficiary had received the payment. Importantly, MNO stakeholders felt strongly that it would only be in their interest to offer mobile-enabled verification services to SCT programme stakeholders if they were also the payment provider, as this is where they saw the primary commercial opportunity.

Several verification concepts were also explored with programme beneficiaries in Kenya and Malawi. These aimed to support greater flexibility with disbursement and payment collection (or cash-out), via "remote" identity verification options, such as voice and facial recognition. Additional options enabling the registered beneficiary to authorise another person of their choice to collect their payment were also included. Beneficiaries were broadly interested in these options when they felt it gave them greater flexibility to collect their payments, and greater security if sending a proxy to collect the payment. There was a preference for facial recognition over voice recognition among beneficiaries, although this may have been due to greater familiarity with the concept (Malawi) and greater confidence in the concept's security due to perceptions such as "uniqueness" of one's face versus voice.

Conclusion: Proposed next steps

The following are potential next steps for MNOs interested in exploring the opportunity to offer mobile-enabled payment and identification/verification services to SCT programme stakeholders.



Establish partnerships with programme stakeholders

A critical next step for MNOs is to establish partnerships with government-to-person (G2P) SCT stakeholders. These partnerships should be built on a mutual understanding of what assets MNOs can bring to the programme and SCT process, and focus particularly on their capability and capacity to support with payment and identification and/or verification of beneficiaries.



Explore cash disbursement opportunities

Following the development of partnerships with programme stakeholders, a key focus of discussion should be how MNO assets can support cash disbursement, potentially in combination with identification and/or verification services during disbursement to beneficiaries and/or payment collection by a proxy.



Develop data access modalities and structures

A vital requirement for MNOs to implement these services involves interoperability between MNO databases and the other registries and databases underlying the SCT disbursement process. This will include the national ID registry/database and the SCT programme's registry/database. Adequate structures and modalities must be established to support the flow and exchange of data relevant to the verification process. This will also entail ensuring compliance with all legal requirements and policies related to data privacy and protection.



Prototype

To ensure these services are fit for purpose for SCT beneficiaries, it will be important to build prototypes and user-test them before deciding on the finalised solution. This will ensure the service is beneficial, relevant and easy for beneficiaries to engage with.



Pilot

Prior to full implementation, it will be important to pilot the prototyped solutions. This will provide MNOs with the opportunity to identify implementation challenges that may have an impact on the effective roll-out of the service and identify processes that could be improved to support the efficacy and commercial viability of the service.



Appendix 1: Methodology and sample

PHASE 1 Desk research	1.1 Desk research on SCT trends and best practice
	1.2 Desk research on G2P/SCT landscape in Kenya and Malawi
PHASE 2 Stakeholder engagement	2.1 Stakeholder interviews with Government/donors/relevant others
	2.2 Stakeholder interviews with MNOs
	2.3 Creative workshop with research agency and GSMA
	2.4 Creative workshop with Government/donors and MNOs
PHASE 3 End-user research	3.1 Qualitative research with beneficiaries
	3.2 Short surveys with beneficiaries

Desk research: The first phase of this project involved desk research to explore the overall context in Kenya and Malawi. This generated insights in three primary areas: (i) the SCT landscape, with a clear focus on government SCT programmes; (ii) potential MNO engagements offering verification as a service for SCT programmes; and (iii) potential verification solutions based on existing work being done in other regions.

Stakeholder interviews: Interviews were conducted with key stakeholders to clarify findings from the desk research and understand the challenges and opportunities in the identification and verification of beneficiaries. Stakeholders included those involved in the government SCT programmes, NSNP in Kenya and SCTP in Malawi; MNOs; NGOs and others engaged in the SCT landscape in each country.

Creative workshop (research agency/GSMA): Building on this information, a creative workshop was held with the research agency and GSMA to crystallize lessons from the desk research and stakeholder interviews, and to translate them into potential identification and verification concepts to support stakeholders in overcoming challenges in the SCT process.

Creative workshop (stakeholders): Following the development of potential concepts, a workshop was conducted with potential stakeholders. This sought

to work with SCT practitioners and MNOs to explore the viability and appeal of the various concepts, including opportunities to improve them.

Primary research with beneficiaries: Research was conducted with beneficiaries of NSNP in Kenya and SCTP in Malawi to understand the challenges around identification and verification from their perspective, validate lessons and findings from previous phases and test the potential concepts that had been developed.

This research was conducted in two regions of Malawi and three regions of Kenya (two were a mix of peri-urban – Nyeri and Nakuru, and one was entirely urban – Nairobi). This sample provided a wide range of experiences across a set of areas chosen for their differences. Respondents were recruited to represent different ages, genders and, in Kenya, programme type (CT-OVC, OPCT and PWSD-CT). Only the Hunger Safety Net Programme (HSNP) was excluded, as its respondents are located in areas that the study was unable to reach (due primarily to security concerns). In Malawi, two districts were selected based on current SCT disbursement methods. Chikwawa was chosen to explore the experience of those receiving manual payments and Balaka for those receiving payments digitally. Respondents were recruited to represent a range of ages, genders and household sizes.



Qualitative beneficiary research

Kenya	County	In-Depth Interviews (IDIs)	Focus Group Discussions (FGDs)
	Nakuru	9 IDIs (5 = female, 4 = male)	2 FGDs (1 = female, 1 = male)
	Nyeri	9 IDIs (4 = female, 5 = male)	3 FGDs (1 = female, 1 = male, 1 = mixed gender)

Malawi	District	In-Depth Interviews (IDIs)	Focus Group Discussions (FGDs)
	Balaka	9 IDIs (5 = female, 4 = male)	3 FGDs (1 = female, 1 = male, 1 = mixed gender)
	Chikwawa	9 IDIs (4 = female, 5 = male)	2 FGDs (1 = female, 1 = male)

Quantitative beneficiary research

An in-person quantitative survey was used to explore the experiences of beneficiaries in each country. Practical difficulties in accessing lists of beneficiaries meant that this study was not able to use a random selection methodology. Instead, a stratified purposive sampling methodology was employed, which aimed to capture the experiences of a diverse range of beneficiaries across gender, age, location and, for Kenya, the G2P SCT programme. Therefore, the results from this sample cannot be considered representative of all SCT respondents in Kenya and Malawi. However, they provide a strong indication of common responses across a range of

respondent types.

The sample is skewed slightly toward women by design, based on the desk research and stakeholder interviews that highlighting women are more likely to experience some of the challenges around SCT disbursement. The age and education of respondents was not used for stratification, and is therefore representative of that in our sample. A wide range of ages and education are captured, with the exception of the programmes aimed at elderly Kenyans, which are naturally skewed to those over 70.

Kenya	County	Interviews	Gender split
	Nairobi	67	Female 119
	Nakuru	67	
	Nyeri	66	Male 81

Malawi	District	Interviews	Gender split
	Balaka	100	Female 123
	Chikwawa	100	
			Male 77



Appendix 2: Additional case studies⁷⁴

Kenya (1)

Benjamin, a labourer who lives with his two children, has been a household representative of the CT-OVC programme for seven years. He learned about the programme from announcements in church. He had to fill out a form and provide his national ID card for registration. The form was returned after a year and he was notified of his successful enrolment.

Registration (data mismatch) challenge: While Benjamin made no direct comment on how he felt about this delay, he noted that the registration process was more stressful for some.

“For some people the names didn’t match, the ID numbers didn’t match, having three names in the ID but two on the card automatically got you disqualified.”

Benjamin collects his cash transfers from a bank agent whose stall is a 10-minute walk from his home. For payment collection, he must go in person and present his NSNP card. He is happy about the introduction of SCT bank accounts, as it has helped in his financial planning and enabled him to save money for school fees.

Payment collection challenge: Benjamin is notified of payments by his community chief, but on a few occasions he has been unable to collect his payment, which he believes is a result of management errors in the disbursement process. Consequently, he has little confidence in the existing mode of disbursement.

“This money is not guaranteed. You could go to the agent and find that your account had no money... in this area we are 300 beneficiaries and when the money was released, it was released for 300 people. So why was it that some people would be told their money hadn’t come yet. Why?”

Benjamin has two phones: a low-end Samsung smartphone for internet and a basic phone to make calls and withdraw funds via M-Pesa, his mobile money account, which he uses often. Benjamin would prefer to receive cash transfers via mobile money because of the flexibility it would give him to collect his payment.

Benjamin is also familiar with voice recognition, based on his experience with Safaricom’s Jitambulishe. He is open to using this to receive his cash transfers, largely because he believes the unique signature of his voice provides more security. In contrast, he is not familiar with facial recognition and is averse to using it for verification given that he feels his facial appearance changes.

“I don’t think I can trust facial verification. What will happen when I shave my beard or when I get old and wrinkly, because I will.”

⁷⁴ Please note that the names and identifying details provided in these case studies are fictional to protect the identities of the beneficiaries



Kenya (2)

Jane, a subsistence farmer who lives with her two sons, has been a beneficiary of the OPCT programme for four years. She learned about the programme when an NSNP representative visited her home and recorded her personal and household information. Two months later, she was called to collect her NSNP card and have photos taken. She received her first payment the following month. Jane used to collect her cash transfer from a KCB bank agent whose stall was about a 35-minute walk from her house. Upon arrival at the stall, she was required to provide her national ID and NSNP card to verify her identity before the cash was given to her.

Disbursement (possible data mismatch) challenge:

Over the past few months, Jane has been unable to receive payments as she was not provided with an account number when other beneficiaries were, following the recent introduction of bank accounts among beneficiaries in her community.

“When they were being given account numbers, my name was found missing from the list. And so, I never got an account number.”

She feels powerless to resolve this and has been waiting to hear whether it has been resolved by the programme.

When Jane was receiving her payments, she always withdrew all of it due to household expenses, and spent the money on food, medicine, books and clothes.

Payment collection challenge: She occasionally found the withdrawal process stressful, especially when she was ill, as there was no flexibility for a third party to collect her payment for her. She would have liked to send her son on her behalf. Despite trusting her son, she would want the bank to request her authorisation when he is collecting the payment on her behalf, so she is able to provide consent.

Jane has a basic phone that she uses for calls and to withdraw funds via M-Pesa, her mobile money account. Jane is comfortable receiving her payments into a bank account because she is familiar with the bank agent she withdraws from, however, she would prefer to receive the payment via mobile money as the bank agent is also an M-Pesa agent, and she would prefer to have it in her mobile money account.

Jane found voice recognition unfamiliar and preferred to use a PIN as she is familiar with this. However, facial recognition was slightly more appealing.

“I can trust facial recognition because I don't think there is anybody else out there with my face or looks like me. Even though I have kids, none of them look like me. Each of us has our own identity.”



Malawi (1)

Juliet, a farmer with a family of seven, lives in Balaka and has been a beneficiary of SCTP for six years. She was registered by agents who went door to door to identify potential beneficiaries. Her selection for the programme was due to her socio-economic circumstances. Despite the lengthy registration process, she was relatively satisfied with the process overall.

Juliet receives her SCTP disbursements through a mobile bank van that brings a mobile ATM to the school ground every month or so. She appreciates the bank van as it saves her transportation costs that she incurred when she had to go to the previous payment collection point. When the bank vans come, she presents her ATM card, her SCT card and the paper with her PIN number, for verification and withdrawal. She withdraws what she needs to meet her basic requirements and saves the rest in her SCT account.

Disbursement (data mismatch) challenge: While Juliet has been largely satisfied with the payment process, she was unable to withdraw her funds at the start of the programme due to a name mismatch between her ID card and the SCT records. However, this was resolved after a few months without her having to do anything.

“My name was wrongly recorded so when I presented my ID, I was denied because the names were different, but later the problem was resolved on its own.”

She does not currently have a phone, but has a SIM card registered in her name that she uses in her relative’s phone to make calls. She also has a mobile money account, but does not actively use it because she does not have a phone.

Juliet would like it to be easier to collect her payment, but is largely averse to receiving it in a mobile money account due to the service charge on withdrawals. Nevertheless, she likes the idea of voice recognition as a verification option because she believes it will simplify the process and enable her to make withdrawals without her ID card.

“This process is the best. I would not be required to present my ID. It will make things simple. If my ID is lost, I can still withdraw the money.”



Malawi (2)

Peter, a farmer with a family of five, lives in Chikwawa and has been a beneficiary of SCTP for five years. He learned of the programme from community members who visited his house.

“To be registered in the SCT programme, I offered nothing to the team that was doing the registrations. I only saw a team of teachers and chiefs who were working on this project coming to my home asking me how I live and how I manage my home. When they saw that I am a needy person, they registered me.”

Peter collects his money from a school that is relatively close to his house and presents his SCT card for verification during payment. Although the next payment collection date is often announced by Social Protection Committee members, he would prefer direct notification.

“If there may be messages sent to us to show the transactions in our account, it can be a good idea. The message should specifically be notifying us on the next day to collect the money.”

Flexible payment collection challenge: Peter is not happy that only his witness is eligible to collect funds on his behalf, as he would like his son to be eligible to collect them.

“The programme does not allow me to send anyone apart from my witness. If there is a chance for me to send someone else to collect the money for me, I can also send my son. I will be happy with that process.”

Peter has a feature phone that he bought for about \$10 and an unregistered SIM card, which he says he uses to receive calls and SMS. He thinks voice recognition is a secure means of verification although he is wary of the potential threat of an attempt to mimic his voice.

“It is a good process because the uniqueness of voices makes it more secure. The only challenge is that someone may imitate my voice and then steal the money from me.”

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