Paying Attention to Detail: How to Transfer Cash in Cash Transfers

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How to transfer cash to people has received relatively little attention in evaluations of cash transfer programmes, and most programmes are still experimenting with a range of approaches. The choice of payment system affects the costs and barriers faced by those receiving cash and the costs and risks of successful programme implementation. This paper presents qualitative and quantitative evidence on three different payment systems being used in cash transfer programmes in Kenya: payment to recipients' mobile phones that can be redeemed at various phone agents); payment through 'Smartcards' that can be redeemed at various banking agents using fingerprint technology for identification; and payment through post offices that recipients visit to collect their cash. We compare challenges in implementing these systems, difficulties recipients face in using them, and the effects these systems have on the impact of cash transfer programmes.

Keywords: social protection; vulnerability; evaluation; cash transfer; payment systems; Kenya

1 INTRODUCTION

Following a wave of pilot and expanded programmes in the early 1990s in Latin America, cash transfers have been highlighted in the international policy debate as potentially effective social interventions for tackling poverty in developing countries. There have been many evaluations and studies of cash transfers, whether integrated into national social protection systems or used in times of emergency. The bulk of evidence is positive in terms of effects on households' food security, on expenditure on health and education and on a safety net for vulnerable households (Barrientos and DeJong 2006; Farrington and Slater 2006). While cash transfers are not a panacea for poverty, they will continue to play an important role in social policy around the world.

In recent years, pilot cash transfers have been launched in an increasing number of Sub-Saharan African countries, adding new dimensions to the international evidence base. Part of the rationale for these projects was to facilitate a shift from food aid to cash aid in extremely vulnerable areas, following the argument that cash has the capacity to trigger a wider set of developmental outcomes, whilst also being easier and cheaper to deliver. There is extensive literature on various operational aspects of cash transfers, including the relative merits of conditionality versus non-conditionality of transfers (De Brauw and Hoddinott 2010), and the complexity of targeting the poorest and most vulnerable households (Coady et al. 2004).

The implications for programme impact and performance of different payment systems have traditionally received less attention than other operational aspects in the academic literature. Programme implementers are often under pressure to start disbursements as quickly as possible, usually leaving them little time to assess alternative options except in terms of their relative costs and feasibility[1] (Bankable Frontier Associates 2006, 2008). However, choices between different payment systems also affect recipients.[2]

As cash transfers are increasingly used in lower resource contexts outside Latin America, new payment modalities are needed and evidence on their comparative merits becomes more useful. Many target populations for cash transfer programmes do not live in easily accessible areas. There is now a range of innovative solutions to the problem of how to transfer cash in areas with low infrastructure capacity (with minimal electricity, mobile phone network, banks, post offices or roads) and high levels of insecurity. Many of these solutions experiment with recent technological developments, such as mobile phone banking, fingerprint technology, digital information storage on 'Smartcards', and point of sale (POS) devices that offer secure access to cash (such as ATMs).

Following these experiments, academics and practitioners have started to analyse the opportunities offered by these new technologies. This paper contributes to this nascent literature on payment systems for cash transfers. It proposes a framework to analyse the effect of payment systems on programme

impact and presents results from three types of cash transfer payment systems in Kenya (mobile phone, Smartcard, and post office systems) that are being or have been evaluated by Oxford Policy Management (OPM). The paper is not intended as a 'how-to' guide for cash transfers (for this see CALP 2010) or as an advocacy tool for one system or another (see, for example, Devereux and Vincent 2010). Instead, it argues that while the feasibility of many payment systems may appear determined by the existing supply of infrastructure or their cost, there is scope for innovation and the payment system chosen has important implications for the programme's impact.

The rest of the paper is structured as follows. Section 2 provides a brief introduction to the aims and operational context of the three cash transfer programmes under consideration. The theoretical framework for assessing the different payment systems is developed in section 3. Section 4 uses this framework to assess the three payment systems according to each of the categories identified in the framework. Section 5 summarises the results of section 4 separately for each payment system. Finally, section 6 concludes on the lessons that can be learnt from the three examples and how these lessons can be used to inform programme design for future cash transfer schemes.

2 OVERVIEW OF THE THREE PROGRAMMES: OBJECTIVES AND KEY DESIGN FEATURES

This paper draws on qualitative and quantitative evidence on three cash transfer programmes operating in Kenya:

- The **Hunger Safety Net Programme** (HSNP), which will distribute cash to 60,000 food insecure households by December 2010 and operates in four districts (Mandera, Marsabit, Turkana, and Wajir) in the drought- and conflict-prone north of the country, an area with low incomes and very limited infrastructure.
- The **Cash Transfer programme for Orphans and Vulnerable Children** (CT-OVC), which distributes cash to households containing orphans or vulnerable children (OVCs) and operates in four provinces (Nyanza, Western, Eastern, and Central Provinces) with payments being made to over 30,000 households in May 2009.
- The **Post Election Violence Recovery** (PEVR) cash transfer programme, run by Concern Kenya, which provided cash transfers to food insecure households in Nairobi, Nyanza, and Eldoret affected by the violence after the 2007 election.

2.1 Hunger Safety Net Programme (HSNP)

Over 1.5 million Kenyans, some 5 per cent of the population, are chronically food insecure and depend on emergency relief to meet their basic needs. These people are mainly located in the Arid and Semi Arid Lands (ASALs) that cover 80 per cent of Kenya. In partnership with the United Kingdom Department for International Development (DFID), the Hunger Safety Net Programme (HSNP) is being implemented as a core component of the Government of Kenya[3] strategy to address the long-term marginalisation of the ASAL districts[4] by delivering long-term, regular guaranteed cash transfers to such households. In phase 1 (2008–2012), the HSNP aims to deliver regular cash transfers to roughly 60,000 households (approximately 300,000 individuals) in approximately 13 districts within the greater Mandera, Marsabit, Turkana and Wajir districts in Northern Kenya.[5] Phase 2 is set to roll out the HSNP under a national social protection system.

The principal objective of Phase 1 (also called the 'HSNP Pilot') is to implement a cash transfer programme that will successfully target the poorest and most vulnerable households, will reduce food insecurity, and promote asset retention and accumulation.[6] Recipients are given Ksh 2,150 every two months, without conditions (i.e. without having to send children to school or health clinics). In keeping with a second objective to contribute to evidence on cash transfer programmes, three different targeting mechanisms are being employed and tested: community-based targeting (where communities select households to receive cash), dependency ratio (where households are selected based on the ratio between active members and dependents), and a social pension received by all individuals (not households) over 55.

Northern Kenya is characterised by very low levels of infrastructural development, with large areas without roads, mobile phone coverage, or electricity. Most rural people would have to travel for several days on foot through hot, arid areas made inhospitable by conflict or wild animals to reach a post office or bank. Poverty rates are higher than in the rest of the country, with many people reliant on food aid for much of the year, especially in drought years, and cash is used rarely, and in small volumes, by most people. Savings are largely made by buying livestock rather than banking. Many areas contain pastoralists – whose livelihood involves moving their animals from pasture to pasture – while other areas contain agriculturalists or a mixture of the two.

Designing and implementing a payment system in this context presented three major challenges. First, there are obvious infrastructural challenges. Second, there are challenges resulting from the low levels of liquidity and from the unfamiliarity of many people with cash and savings. Third, the payment system had to enable recipients to collect money without severe disruption to their livelihoods or danger. This was particularly important given the fragility of many of these livelihoods.

The HSNP payments system[7] involves several innovative responses that adapted to but also altered this context. Programme recipients were issued with a Smartcard containing basic biometric information (fingerprints) and a photograph. Every two months, Ksh 2,150 is added to an account held on the Smartcard. The Smartcard stores value, so according to Kenyan banking regulations, the person whose photograph is on the card (the 'primary recipients') must have a national ID card. However, two sets of fingerprints can be stored on the card (for 'primary' and 'secondary' recipients), so if the recipient does not have a national ID card, they can still use the card as secondary recipient.

Recipients can (in theory) redeem any proportion of this cash (Ksh 0 up to Ksh 2,150) at any of 150 contracted Paypoint Agents (owners of small village shops, known as *dukas*) at any time in working hours. Moreover, Equity Bank opened five new bank branches in the previously unbanked programme areas, where money can also be collected. Cash is redeemed by inserting the Smartcard into a point of sale (POS) device that reads the card and scans the recipient's fingerprint, verifying the recipient's identity and authorising the Agent to hand over cash. Agents can then later reclaim the cash from Equity Bank, plus a small commission.

While the new bank branches were in towns with reasonably stable electricity and mobile phone connections, the *dukas* are in rural areas with neither. However, the payment system needs to use *dukas*, which are located throughout the programme districts, to ensure that recipients can collect cash without disrupting their livelihoods or travelling dangerously or for long periods (the HSNP requires that recipients live within 40 km of a Paypoint Agent). *Dukas* were therefore issued with solar chargers to charge their POS devices. The (lightweight) POS device stores the payment information until it can be moved into an area with mobile phone coverage, when it synchronises with Equity Bank's payment records and the Agent can be reimbursed.

The design of the payment system therefore alters the infrastructural context by constructing new banks; by turning local shops into what are essentially small banking franchises by distributing POS devices and solar power; and by providing recipients with a Smartcard that allows them to save (and could be used for other financial products). Second, the liquidity problem should be eased by the new bank branches and because Paypoint Agents have responsibility for obtaining the cash from these branches and taking it to rural areas. Third, recipients need not substantially alter their existing livelihoods to collect the cash. We discuss the success of this design in subsequent sections.

2.2 Cash Transfer programme for Orphans and Vulnerable Children (CT-OVC)

The development of CT-OVC programme has taken place over three phases with support from UNICEF and DFID. The programme is managed and implemented by the Ministry of Gender, Children and Social Development, and covers four provinces (Nyanza, Western, Eastern, and Central), making payments to 30,315 households in May 2009. The expansion plan envisages coverage of 100,000 households by 2012.

The CT-OVC has a simpler payments and targeting design than the HSNP, and operates in easier areas. The CT-OVC was developed to provide social protection through regular cash transfers to households living with OVCs. Recipient households receive Ksh 1,500 per month, distributed through government post offices every two months. The programme's main objective is to encourage fostering and retention of orphans within their families and communities, and to promote their human capital development through better school enrolment and attendance and better health centre attendance. Although therefore not designed specifically to reduce poverty, scarce resources meant that the programme was targeted towards the poorest OVC households. A household was classified as eligible for the programme if it satisfied all of the following conditions: the household contained at least one OVC;[8] the household was poor according to the programme's poverty criteria;[9] and the OVCs were not benefitting from other cash transfer programmes.

The CT-OVC differs from the HSNP in that programme recipients were encouraged to meet certain conditions,[10] intended to ensure that children are properly cared for. In some districts, the programme introduced a mechanism for systematically monitoring compliance with these conditions, penalising households by Ksh 500 per

infringement from the following payment. However, this was not fully implemented during the period of the evaluation (up to 2010).

The CT-OVC context differs substantially from that of the HSNP. First, the CT-OVC operates in different areas and a wider range of areas. While many recipients live in areas without mobile phone reception and electricity and which are distant from post offices and banks, in general the CT-OVC programme's areas are more densely populated and have better infrastructure than the HSNP areas. Second, the CT-OVC is implemented by the government rather than the private banks and NGOs who implement the HSNP.

The CT-OVC payment system therefore differs quite substantially. Recipients are given a laminated cardboard programme ID card with their photograph and national ID number printed on it. The benefit is paid every two months. Recipients must collect their payments in a specified period from government post offices. If their payments are left uncollected for three payment cycles, they are removed from the programme. Payment can be collected by a nominated 'secondary recipient', but whoever collects the payment must have a national ID card.

The design of this system uses the existing infrastructural context, which facilitates increasing the coverage of the programme across the country. However, it provides much less flexibility to recipients and does not attempt to deepen financial inclusion or access.

2.3 Post Election Violence Recovery programme

In the violence following the Kenyan national election in late 2007, thousands of people were killed, hundreds of thousands of households were displaced, businesses were destroyed, and in highly affected areas food supplies and markets were decimated. Those affected by this violence faced shocks both to their earning ability (as their business, market or employer was affected) and to their ability to procure food (as overall food supply declined). The Post Election Violence Recovery (PEVR) programme was an emergency response designed to mitigate the negative effects of the violence on livelihoods and consumption following the election. It aimed to ensure recipient households' food security by providing cash for four months. The value of the cash was indexed to local market prices and recipient household size. The programme also provided a targeted one-off livelihood grant to enable recipients to restore their pre-election livelihood.

The cash transfer for food security was indexed to local market prices to ensure that the transfer could supply a predictable equivalent calorific value in the context of highly volatile prices. This was achieved by partner organisations collecting prices in local markets every month. Livelihood grants for recipients were calculated by first classing the recipients by economic activity, and then providing them with the estimated value of capital required to restart their activity.

The PEVR programme was implemented between September 2008 and July 2009 in three main areas: Nairobi, rural Nyanza (near Kisumu and Lake Victoria), and the Rift Valley. The geographical scope of the programme thus included both urban and rural areas, although worst affected areas were often urban (e.g. Nairobi and Kisumu). A total of 6,522 households with a total of 37,683 people benefited from the programme. Geographically, this is distinct from the HSNP areas. Compared with the ASALs it is less remote, more fertile, hilly, and has better road and market infrastructure. However, most villages lack electricity and the roads are still quite poor and impassable at certain times of year. The OVC was also rolled out in similar areas to this.

As a short-term emergency cash transfer programme, the operational requirements and priorities of Concern Kenya's PEVR were different from those of the HSNP and OVC programmes. Working in an emergency situation in the context of forced displacement, uncertainty, and mistrust meant a need for flexibility, security, and, most importantly, disbursing the cash as quickly as possible.

The solution to these requirements was the use of a system that is available in Kenya, but in few other countries: mobile phone transfers through Safaricom's (a Vodafone subsidiary) 'M-PESA' system. With some 9.5 million people currently registered, M-PESA has had an impressive success in Kenya, allowing money to be sent via text messages to mobile phone users. Registered users may then go to any one of a wide range of M-PESA agents (currently 17,000) to reclaim the money in exchange for a small transaction charge. An M-PESA enabled mobile phone can also function as an electronic wallet and can hold up to Ksh 50,000.

Using this method of payment requires the recipient to have a mobile phone registered for M-PESA. Mobile phones were therefore given out to those recipients who needed them. However, registering for M-PESA also requires the ownership of an original national ID card. This, among other access problems, meant that those not able to use the M-PESA service were asked to choose a 'nominee' to receive the transfer on their behalf. It should also be noted that the urban focus of

Table 2.1 Programmes compared

	HSNP	CT-OVC	PEVR
Value transferred	Ksh 2,150	Ksh 3,000	Dependent on household size and local prices (Ksh 489–864 per person)
Periodicity	2 months	2 months	1 month
Duration	3 years	No fixed end	4 months
Context	Remote, low infrastructure	Mix of urban and remote rural	Mainly urban with some rural
Implementing agencies	NGOs, private bank	Government	NGOs
Payment method	Smartcard	Post office	M-PESA

the cash transfer crucially placed it in an area where M-PESA, mobile phone coverage, and electricity were largely present, leading to relatively low start-up costs. However, the programme also operated in Nairobi's rural surroundings without continuous coverage and electricity.

3 FRAMEWORK FOR ASSESSING ALTERNATIVE PAYMENT SYSTEMS: KEY ISSUES TO CONSIDER

According to Grosh et al. (2007: 156), 'the goal of a payment system is to successfully distribute the correct amount of benefits to the right people at the right time and frequency whilst minimising costs to both the programme and the beneficiary'. HSNP, CT-OVC and PEVR each have very different payment systems, which reflect different needs, constraints and opportunities. The considerable variations in these payment systems allow a comparative analysis to pinpoint key issues in the choice and design of a payment system, given the specific objectives and context of a particular cash transfer programme. To do so, this paper sets out a framework for the comparative analysis of payment systems. This framework takes into account both programme-level issues and issues for recipients.

This section begins with a brief overview of the programme-level considerations that affect the set of available payment choices faced by implementers;[11] it then focuses on the less-debated issue of impact on recipients, including the ease with which they can access their payments. The two concurrent objectives of 'minimising costs' both to the programme and to recipients often present trade-offs.

3.1 Programme considerations

As reflected in the description of the three programmes, the choice between different mechanisms for transferring cash to people is informed by a series of practical constraints and opportunities which determine overall operational feasibility. In order to assess a payment system, it is therefore important to clearly establish these programme-level criteria, assess which aspects are amenable to change given the scale of the programme (e.g. mobile phone coverage), and then map out the set of feasible payment systems in that context. CALP (2010), for example, lists a useful series of criteria to be used. Among others, we would like to highlight those linked to suitability for programme objectives, existing infrastructure and options, costs, resilience and flexibility, and minimisation of the risk of fraud and corruption.

First, *programme objectives* define the scope and required speed of the payment system. For example, emergency relief requires a flexible and reliable system that allows transferring money immediately, avoiding unnecessary delays in providing relief support as well as burdensome 'start-up' costs.

Second, a careful consideration of *available delivery options* in a given context, including an analysis of how households currently transfer money through remittances, is also essential. Remote areas with no access to power, telephone networks, or formal institutions such as post offices and banks, and with low liquidity may require the creation of ad-hoc systems, while highly serviced urban areas could take advantage of existing financial institutions and other money transferring arrangements (such as mobile phones). Possible constraints to delivery options may also include the availability and skills of human resources to be used locally. Hand distribution of cash in envelopes, frequently used for emergency cash transfers, is staff intensive but requires relatively low training and skills. The creation of a network of Paypoint Agents (as in the HSNP) requires long-term commitment from and training of both recipients and Agents.

Third, a major barrier to the development of adequate payment systems is their *cost*. Evidence from other countries has shown that for governments implementing cash-transfer programmes, delivery costs are typically an estimated 2–4 per cent of the total grant value, and almost half of total administrative costs (Bankable Frontier Associates 2006). The amount that is spent will be linked to three major considerations: resources available, length and scale of the project, and the value to be transferred. Projects that have guaranteed sources of funding because of government and donor backing are more likely to invest money in efficient payment systems that are linked to Management Information Systems (MIS), allowing expenditure tracking and catering to recipients' needs. Moreover, long-term and large-scale programmes can sustain the burden of high start-up costs and investments in technology as these are amortized over the years, generating significant economies of scale (Devereux 2008).

Fourth, depending on the context, objectives and length of the programme, payment systems should be *able to respond* to shocks and new demands, such as changing amounts and times, as the context changes. For example, a sudden collapse in livelihoods (through e.g. a drought) may require the transfer to be scaled up with larger values to more recipients. Rigid payment systems will not be to respond to this, except at large costs.

Finally, the payment system must take into account the risk of *fraud and corruption*. Different choices of payment system features have very different implications for both the scope and incidence of potential corruption. For example, in payments systems where the transfer is delivered in cash, for example face-to-face in an envelope, at the post office, etc., there is significant scope for the administrative agent delivering the cash to take advantage of this transaction and demand some portion of the transfer in order for the recipient to receive the cash to which they are entitled. On the other hand, electronic-based delivery systems, such as smart-cards and mobile phone transfers, have the potential to reduce corrupt behaviour at this level of the system. Although there is still scope for the bank representative or M-PESA agent to demand some payment in order to cooperate, the risk is likely to be lower because, unlike the administrator handing out cash or working in the post office, the bank or M-PESA agent tends not hold a monopoly over the transfer transaction. As such the recipient can respond to demands for corrupt payments by switching agents, thus theoretically reducing the potential for corruption at the end-recipient level of the system.

The key risk in terms of fraud is payment to large numbers of unknowing, non-existent, or ineligible recipients. This can be small-scale but widespread at the 'bottom' end of the system, or more systematic and concentrated at the centre of the system. Clearly the latter is more worrying since it implies the collusion of at least some programme managers, whereas the former can in theory be reduced by a combination of robust targeting and enrolment systems together with effective monitoring systems. In any case, this type of fraud can be made harder by having a payment system that is integrated with a reliable and secure Management Information System (MIS) and robust case management and monitoring. In this way a list of recipients for whom payments are currently being made can be extracted from the MIS and can be spot-checked as part of on-going case management or programme monitoring activities to ensure that all households that are reported to be receiving transfers do in fact exist and are actually receiving their transfers.

3.2 Recipient considerations

Payment systems can have an important impact on whether programme objectives are achieved and whether recipients can engage with programmes with dignity and at what cost. This section sets out the key issues to be considered in the comparative analysis of payment systems from the recipient point of view. It will be organised along four major themes: physical barriers, administrative barriers, financial barriers and issues of ownership.

3.2.1 Physical barriers

Physical barriers are barriers to access that determine a physical difficulty or impossibility of collecting the cash transfer. The emerging writing on payment systems distinguishes between 'pull' and 'push' mechanisms. 'Pull mechanisms' require recipients to report to a specified location at a specified date and time. 'Push mechanisms', more common in high income countries such as the UK and US in which transfers made to recipients, usually electronically, can be accessed at any time (Bankable Frontier Associates 2006; Devereux and Vincent 2010). The dimensions below should be seen in the light of this distinction.

A first major barrier is the *distance* and *accessibility* of the selected paypoint. Targeted households may live in remote and marginalised areas with little access to cheap transportation. The time and cost of walking for hours to collect money can often be prohibitive, especially when transport costs are high relative to the transfer value or opportunity costs are high – when that time could be used for another productive activity

or to take care of household members.[12] Physical accessibility is also be affected by other factors, including the status of roads and seasonal disruptions (for example, inaccessibility during the rainy season).

Second, the possibility of *queues* and *congestion* at the paypoint itself. When payments in a particular area are all made on the same date, recipients may be required to wait for their turn – possibly exposed to harsh weather conditions or without sustenance. Queues and congestion can lead to higher costs for recipients if they have to stay overnight.

Third, recipients can become targets for thieves, especially when information on payment dates is made publicly available, with a risk of personal attacks and other forms of violence. *Security* issues can be most significant when recipients need to spend the night at a paypoint location or when they face a long journey with their cash, and when the value of the transfer is high relative to average incomes.

Fourth, *physical vulnerability* of recipients themselves acts as a barrier to access cash transfers. While cash transfers often target older people, children, and people suffering from disease and living disability, age, illness and disability can make it difficult for recipients to collect their transfer. More distant paypoints can be particularly challenging, especially where transport connections are poor. Solutions that involve nominating an alternative recipient can be effective but may be open to abuse in many cases.

3.2.2 Administrative barriers

Administrative barriers are linked to programme administrative requirements that may hinder access for certain population groups.

One extremely important issue to be considered here is the frequent requirement of providing a *national identity card* in order to become a programme recipient. This requirement may be intended to prevent fraud,[13] or may be a legal requirement given the payment mechanism (as is the case in the HSNP where the Smartcard is a store of value and in the PEVR where M-PESA owners must have national ID). In some cases, it is linked to a national political priority such as improving civil registration. However, it excludes or at best complicates access for households who do not own or have access to such ID cards, often among the poorest and most vulnerable (consider child-headed households, migrants and the politically marginalised). Obtaining a national ID card often involves significant expense including travel to a district centre, compiling necessary documentation and the cost of registration itself. A programme's capacity to find flexible and innovative ways to solve such problems is an important indicator of their success in reducing recipients' barriers to access.

Second, high *technological requirements* can obstruct access. For example, direct distribution of cash by programme staff in sealed envelopes, however costly, requires the recipient only to arrive at the distribution point and count the money, and runs limited risk of technological failure. However, other more hi-tech solutions may make greater demands of recipients and the technology. In order to provide cash transfers on mobile phones, for example, recipients not only need to own a phone, and have access to power and network coverage, but they also need a basic knowledge of how to use mobile phones – a new technology to many, which is particularly challenging for those who are illiterate. In the case of Smartcards, recipients need only to provide their biometric (fingerprint) information during the targeting phase of the programme and then swiping their card and fingerprint in the POS when collecting their cash. However, in this case, complications arise due to the complexity of the technology used. Not only is there a risk of Smartcard micro-chips not working or not having recorded information correctly, but fingerprint scanners are often inadequate to distinguish fingerprints roughened by a lifetime of work.

While some of these problems are difficult to prevent, it is essential that an adequate *link to programme staff* is provided for recipients to address their concerns and complaints, as well as to solve practical problems such as loss or damage of phone/ Smartcard/ etc., and obtaining a national ID card. Moreover, the role of programme staff is also fundamental for the creation of *awareness* around the exact mechanism of a specific payment system, including details of when, where and how to collect the transfer and how long the payment is available to be collected. Recipients should also be aware of the consequences of either not collecting the full transfer (does the cash accumulate or is it lost?) or not collecting the transfer at all (some programmes only allow for a certain number of missed collections before automatically dropping beneficiaries out of the programme). However, such awareness creation is also subject to possible drawbacks. For example, warning households publicly of the dates when cash is available to be collected leads to issues of security, while informing other community members of which households have been targeted may lead to problems of stigma, social exclusion, and pressure to share the money.

Two further issues should be considered when discussing administrative barriers: the *predictability* of

the transfer and its *flexibility*. A predictable transfer aids recipients considerably as it allows for household budgeting – an essential issue for the poorest and most vulnerable households who often only have access to unreliable income sources (Collins et al. 2009). Predictable and regular transfers are obviously useful for households with regular outgoings (such as needing to buy food regularly). Even where households have irregular outgoings (consider subsistence producers facing health shocks), predictability is important if households can save. Flexibility, on the other hand, relates to the capacity of a transfer to cater to a recipient's space, time and budget needs. Mobile pastoralist households or truck drivers, to take two different examples, benefit from the possibility of collecting cash interchangeably in a set of different paypoints along their migration or transport routes. Time constraints affect most households, who benefit from being allowed to collect their transfer at a time which is most convenient to them rather than during a pre-set 'window'. Recipients also benefit from being able to collect only the cash that they actually need, as many times as needed, and to save the rest without additional transaction costs. This kind of saving facility will only be used if recipients trust the payment system.

3.2.3 Financial barriers

Financial barriers to access include, in brief, the transport cost to collect the transfer, the cost of overnight accommodation if it is necessary, the cost of unofficial cash or in-kind payments (to the agent transferring the money, an alternate recipient or to other members of the community) and the cost of acquiring necessary documentation/ equipment to access the system (national ID cards, mobile phones).

3.2.4 Ownership

'Ownership' refers here to a set of issues around the degree of control recipients can exercise over collecting transfers, the secrecy with which they can collect transfers, and the dignity afforded to them by different payment systems. Clearly these are not 'barriers' to access, and so this set of issues is a little different to those considered above. However, the degree to which a payment system delivers ownership as well as cash is important, particularly in light of many cash transfer programmes' objectives to empower recipients. Indeed, dignity and empowerment are often benefits claimed of providing cash, rather than goods or services, because recipients are able to choose what they spend the cash on.

Ownership is related to many issues discussed above. A payment system can be said to confer more 'ownership' if it provides more flexibility to recipients (e.g. it does not force them to come on a set day to obtain a set amount), if recipients can choose to inform others that they are receiving the transfer (i.e. transfers are not made publicly), if recipients receive the transfer directly (so that they need not depend on the favour of others to obtain the cash), and if conditions on its use are not imposed.

4 HSNP, CT-OVC, AND PEVR PROGRAMMES COMPARED

This section uses the framework set out above to compare the three case study programmes.

4.1 Programme considerations

The HSNP objectives are to reduce food insecurity and promote asset retention and accumulation in the arid areas of the north of Kenya. The programme is envisaged to be scaled up and become an integral part of a long term strategy to support vulnerable households in these areas (which include mobile pastoralists) which are characterised by low availability of key infrastructure such as roads, power and mobile networks, and services such as banks and post offices. Translating these facilities into an adequate payment system has implied the need to set up a network of paypoints from scratch, requiring major fixed investments for identifying and training partners who guarantee some level of liquidity (*duka* owners), providing adequate technology (POS charged by solar energy and Smartcards), recording recipient information for authentication (fingerprint technology on the Smartcard micro-chips) and ensuring the presence of permanent staff to support the whole system (including the opening of new Equity Bank branch offices). These major investments were made possible because of the long-term and large-scale nature of the project and, indirectly, because of reliable funding from DFID. The role of the FSD in leading the tendering process for the payments components, allowing for a strong focus on issues of financial inclusion (and advocating the need for a value storage facility on Smartcards) should also not be underestimated.

The CT-OVC programme shares the large-scale, long-term and donor-funded characteristics of HSNP and was similarly able to make large up-front investments in programme design. Because the CT-OVC programme predominantly operates in areas where an existing network of post offices could be used to disburse the benefit, a large investment in developing a unique payment system was not required as it was in HSNP. As for HSNP, investments were made in developing a large and complex Management Information System (MIS) which enabled the

programme to monitor the benefit disbursement through post offices as well as monitor conditions to enable the appropriate deduction of penalties for any infringements. During enrolment into the programme, each recipient household was assigned to the nearest post office where they would collect their benefit every two months. The MIS was instrumental in ensuring that each post office receives the list of recipients within its vicinity as well as the funds for the cash transfer prior to payment period in which recipients would arrive for collection. Although the monitoring of conditions was not completely set up during the evaluation of the CT-OVC programme, the MIS was also responsible for capturing information on the ability of recipients to meet programme conditions (the availability of schools for example) as well as their actual compliance (child enrolment and regular attendance in school). Should a particular household be found to be non-compliant to the conditions, a penalty amount of Ksh 500 per infringement was deducted from the overall benefit. The nature of such a payment system closely integrated into a complex MIS enabled the programme to support families as well as monitor and enforce conditions across programme areas.

The PEVR cash transfer differs from the other two considered in this paper, as it is intended as an ad hoc, short-term programme to provide relief for households that were affected by the post-electoral violence. Being an emergency cash transfer, the most important requirement of the payment mechanism was that it could be set-up quickly. Funds available were also lower, meaning that high start-up costs needed to be avoided. M-PESA satisfied both of these requirements as it was a system already in place in the programme operating areas. Mobile phones were distributed to those who did not have them already. Given the variable nature of the transfer and the volatile operating conditions, the system also needed to be flexible. This is another positive feature of the M-PESA system, as it enables a flexible amount of credit to be sent directly to an individual instantly, regardless of where they are, and they may collect the money from any M-PESA agent in the country. Moreover, the PEVR programme operated in many urban areas, where most recipients had access to electricity, were covered by mobile phone reception, and had easy access to M-PESA agents. Without these key prerequisites it would have been more complex and costly to use the M-PESA system. In rural areas without network coverage and electricity, and where few people therefore had or were familiar with mobile phones, and where there were fewer M-PESA agents, the programme opted in some cases to distribute cash manually instead. This was feasible due to the relatively small size of the programme, which permitted a more flexible delivery system, and because the transfer was implemented through a range of partner organisations.

For the remote areas covered by these programmes, one major challenge for programmers was finding a system to transfer the cash to the point of distribution. The CT-OVC programme overcame this fairly easily by using the government network of post offices, but this increased the burden on recipients. The HSNP requires paypoint agents to travel to district centres to collect the cash, which puts the security risk on them and raises the risk that paypoint agents will not have sufficient cash to transfer to each recipient. The HSNP evolved mechanisms to address this that reduced the flexibility of the transfer system. The PEVR also requires M-PESA agents to collect cash from larger centres. In this case, however, this is part of their normal business routine, so the programme simply added to the volume of cash they required. Nevertheless, the uncertainty as to where the recipient would collect the cash made cash management more difficult for the agents, as in the HSNP, and this difficulty would be compounded if the programme operated in remote areas.

4.2 Recipient considerations

4.2.1 Physical barriers

Physical barriers, linked first and foremost to the distance from the paypoint, played an important part in all three programmes. In HSNP a large effort was made to guarantee a maximum distance of 40 km from the nearest paypoint. Preliminary research showed that this target appears to have been met, with average walking time to and from the paypoint being 92 minutes. Some 8.3 per cent of households reported walking more than 4 hours. While this result is relatively high, it is based on large distances in one location in Turkana district that is particularly remote.

The infrastructure context also affected the CT-OVC. As described above, the CT-OVC programme predominantly operates in relatively less-remote areas compared to HSNP. However, it does operate in one northern district, Garissa, which offers a unique contrast compared to recipients living in other less-remote districts. In other areas recipients could usually walk to the post offices in 2–3 hours maximum, or were able to obtain transport at a small fraction of the transfer value, and generally felt reasonably safe collecting their payments from the post office and returning home.[14] In Garissa, however, recipients could spend up to a day walking to collect their transfers, across harsh terrain, under a hot sun and with a higher risk of theft or attack by wild animals. Transport was largely unavailable, and so recipients

tended to evolve sharing mechanisms, where a single person would be nominated as everyone's secondary recipient, and would collect all the transfers. This tended to reduce ownership. Finally, waiting times at the post offices were fairly substantial in all areas, but highest in Garissa (as there was only one post office for most of the district).

Lengthy travel and waiting times increase cost (money spent on transport) and opportunity cost (time that could be spent elsewhere – looking after children, earning an income). They also increase vulnerability to security threats, particularly when payment at post offices is announced publicly. In parts of Homa Bay, for instance, recipients were informed about the transfer being ready for collection either in the marketplace or by radio, meaning that everyone was aware that the money would be coming and making recipients feel less secure as a result.

In Concern Kenya's PEVR, time taken to collect payment was generally low, as M-PESA agents are fairly widespread in programme areas. Walking distances were however an issue in some of the more remote locations where M-PESA agents did not exist. Agents were occasionally deployed in remote areas especially for the programme, but this would only be on certain days, and walking distances could still be far.

The infrastructural context also determined queues and congestion at the paypoint. As M-PESA recipients could claim their transfer from a wide network of M-PESA agents at a time of their choosing, waiting times were generally minimal. In the rural areas where the PEVR programme relied on manual distribution, waiting times were higher. For HSNP, on the other hand, preliminary research indicates relatively high waiting times at an average of 79 minutes, with households in some cases waiting under the sun without access to food or water so as not to miss their turn. Schemes introduced to reduce waiting times tend also to reduce flexibility, since they require recipients to arrive at particular times. For example, to solve the problem of over-congestion (and liquidity) HSNP and Equity Bank staff decided to implement a 'sticker system', allowing households to access the paypoint in alternate groups only on specific days according to the colour of a sticker on the Smartcard. While this reduced the queuing problem, it also reduced households' flexibility to access the transfer.

The problem of congestion and queues in the CT-OVC programme was anticipated in the original design of the programme and it was therefore decided to set up a payment system where the payment could be collected at any point within a two week 'payment window'. This system allowed recipients a certain amount of flexibility in deciding when was most convenient for them, within the window, to collect their benefit. However, many programme recipients were not aware of the 'payment window' and often perceived it necessary to collect their benefit either on the first day the benefit was available for collection or within 3–4 days. On this particular programme design feature, the CT-OVC programme also faced some difficulty in uniform implementation across programme areas. Since the programme in practice relies on an informal network of volunteers for village-level information sharing, information on the payment window may not always have been accurately conveyed to recipients. In some cases, post offices themselves limited the benefit disbursement period in an effort to limit disruption to normal post office business.

The comparative *security risks* of the three programmes may be strongly affected by local conditions in the programme areas and should be interpreted in that light. For example, although very little evidence has been reported of HSNP recipients being robbed while they collected their money, only 59.6 per cent felt safe walking home from the paypoint. As noted above, high transport and waiting times increased a feeling of insecurity for CT-OVC programme recipients, although no incidents were reported. In the PEVR, security was improved by the 'discreet' nature of the transfer. When recipients received the money, they would often keep it secret. M-PESA's ability to work as a virtual wallet also meant that money could be stored on the mobiles until required, so that recipients did not need to store large amounts of cash. However, concerns were still voiced by some about needing to travel large distances with the money upon collection.

Physical vulnerability of recipients and its impact on the ability to collect transfers is relatively difficult to measure, requiring extensive qualitative research. A relevant issue to be considered, however, relates to the arrangements each programme has for alternate recipients, as detailed later in the section 'ownership'.

4.2.2 Administrative barriers

The first barrier, previously mentioned, is the requirement of providing a *national identity card* in order to receive the cash transfer. In HSNP, the need for a national ID card is linked to the possibility of storing value on the Smartcard because of anti money laundering banking laws. The problem was solved by allowing for two recipients for each Smartcard: a 'primary' recipient with an ID card (not necessarily the person or household selected for the programme) and a 'secondary' recipient who only required biometric

information to access the money.[15] In CT-OVC, requiring national ID cards from programme recipients was part of a broader Government of Kenya drive to improve civil registration. This was explicitly stated in the objectives of the programme and remained an important factor in programme registration of a primary and secondary recipient. In the PEVR, individuals also needed national ID cards to register for M-PESA. In the PEVR and CT-OVC, as in HSNP, households without ID cards could nominate somebody else with an ID card to receive the benefit on their behalf. However, this created scope for abuse, where nominees could hand over less than the full value without telling the recipient. This was a particular risk in the PEVR, where the varying value of the cash transfer (as market prices changed) made it difficult for recipients to know what value they should be receiving.

The second barrier, linked to *technological requirements*, highlights some interesting issues in the three programmes. While CT-OVC opted for a relatively traditional approach through the use of an existing network of post offices, both HSNP and Concern Kenya have adopted new technologies and innovative solutions.

HSNP, for example, has tackled the issue of lack of power in remote rural areas by providing solar powered POS. Fingerprint technology stored on Smartcard microchips has also allowed to prevent identity fraud, as well as enabling people with no national id card to be registered as secondary recipients for the cash transfer. Preliminary evidence from the programme has shown that the Smartcard payment system has experienced some difficulty with reading about 5 per cent of fingerprints, due to problems that are sometimes related to having old or worn-down finger pads (CALP 2010). However, all in all, beneficiaries have not reported major problems with using the Smartcard technology which they consider simple and intuitive.

In the PEVR, as in the HSNP, the problem of electricity in rural areas was solved using solar power, specifically by providing solar powered rechargers for mobile phones. However this was an expensive solution and proved difficult to implement due to distribution problems. The programme also distributed mobile phones to recipients who didn't have them, which had other benefits beyond receiving programme cash (using the mobile phones to connect with friends, family and to obtain information, and for other M-PESA uses), but again led to high per-individual costs which could be excessively high were the scheme to be scaled-up.

Third, issues around permanent *presence of programme staff* and *awareness* creation around the precise functioning of the payment system varied across the three programmes. In HSNP, for example, permanent programme staff are available in district centres, while 'rights committees' were set up in each community to facilitate complaints processes and general communications. However, the general feeling was that most communication around payment mechanisms occurred during the initial targeting phase and there are reports of households not knowing who to go to in cases of lost, damaged or malfunctioning Smartcards. Encouragingly, preliminary monitoring analysis indicates some positive signals regarding awareness of payment mechanisms. Some 70.7 per cent of individuals were informed about payments by a programme representative. The proportion of households with correct knowledge of the payment amount is very high (97.8 per cent), while the proportion with correct knowledge of the payment cycle is slightly lower at 85.1 per cent. One worrying result, however, was the extremely low proportion that was aware that money could be saved on the card, a mere 13.1 per cent. This meant that a vast majority of households accessed their full transfer amount of Ksh 2,150 during every payment cycle, rather than taking advantage of the storage of value option which is supposedly a key feature of the Smartcard system. This trend highlights how recipient perceptions, due to lack of adequate communication, can significantly affect the outcome of a programme.[16]

In the CT-OVC programme, the presence of programme staff was variable across programme areas. During the initial phases of the programme in a community, the programme formed a 'Location OVC Committee' (LOC) that assisted other programme components in identifying and enrolling beneficiaries into the programme. LOC members were initially paid and actively participated in programme-related activities. However, after this initial phase, responsibilities of the programme representative was typically undertaken by a LOC member, chief or other concerned person, in each case acting voluntarily. These individuals often devote substantial time and resources to this work, without formal remuneration, and their activity has a substantial impact on the effectiveness of the programme. The reliance on individuals and the absence of clear responsibilities for them means that the implementation of the programme varies substantially across different areas in practice. In some cases, this can cause problems for recipients with urgent problems – such as non-payment or a need to change a secondary recipient – or because recipients often do not know the rules around exit (after three consecutive failures to collect

payments or three consecutive deductions for non-compliance with conditions).

The PEVR operated through a range of Concern Kenya's partner organisations, who normally worked closely with the communities where the programme operated. This meant that their staff, or at least the organisation, was usually known to communities, which improved the access of recipients (and non-recipients) to staff. Usually, these staff and organisations were reasonably responsive. However, these organisations often had a previous client-base or constituency and there were some reports that they were more responsive to this base than others. In rural areas, access to programme staff was more problematic due to the larger distances involved. Partner organisations relied on a network of volunteers that improved access but suffered similar problems to the CT-OVC programme.

Lastly, regarding the issues of *predictability* and *flexibility* of the transfer, a few problems were encountered by the programmes, as the two concepts present a slight trade-off. For example, in HSNP, the need to secure predictable transfers – guaranteeing the availability of sufficient cash at the paypoint – led to an important modification of the payment modalities. While it had been originally planned that HSNP cash would be flexibly distributed from any of the network of Agents on any day, catering to the need of local pastoralist populations, many locations chose to enforce a 'sticker system' which restricted access to one day and one paypoint (see above). Preliminary data from M&E shows that some 74.3 per cent of recipients were told to go to only one paypoint to collect their payment, while 33.9 per cent believe that they can only collect payment on one specific day. Once again, perceptions (in this case due to active communication on behalf of programme staff) proved to be more important than de facto possibilities.

In the case of OVC, on the other hand, predictability of the transfer was chosen over flexibility. Recipients are required to collect their benefit every two months from a designated post office that was assigned during enrolment into the programme. Recipients could not switch post offices designated for collection if, for example, a new post office branch opened up closer to their household or if the household moved to another programme area. The benefit can only be collected during a specific two-week window in which their payment would be available for collection at the post office. However, an element of flexibility is built into this system: where a benefit is not collected during the specified time window it is recorded by the MIS and carried over to be made available to the recipient in the next payment cycle. For example, if a recipient missed the collection of Ksh 3,000 this month, they would be entitled to collect Ksh 6,000 in the next payment cycle (assuming no deductions from non-compliance to conditions).

In terms of the robustness of the payment system to external shocks, the CT-OVC programme was tested in late 2007 when after the presidential elections, conflict and riots erupted in many parts of Kenya, particularly (of programme areas) Nyanza and Nairobi. There was considerable concern that the functions of the CT-OVC programme would be disrupted thus diluting its impact. Qualitative evidence suggests that the post-election violence did not significantly disrupt the programme operations, but price spikes diluted its impact temporarily. From the view of programme operations, payments were scheduled in December and February, so disruption to payment cycles was quite minimal. In Kisumu and Homa Bay (both in Nyanza, where the post-election problems were severe), respondents noted that the programme delayed one payment cycle, but they still accessed these payments. Aside from this, respondents noted no programme problems related to the election.

For Concern Kenya's M-PESA cash transfer, the trade-off between predictability and flexibility is even more apparent. The M-PESA system is very flexible, capable of transferring varying amounts with little extra cost. Not only can recipients access their cash at any time and at any of a large network of M-PESA agents around the country (11,000 of them at the time of the programme), the amounts they receive are also flexible, based on constantly updated indexing of local market prices. As such, recipients often did not know how much they should be receiving, creating some mistrust and confusion (which would however have had worse consequences were the money distributed via an agent instead of directly to the recipient's phone, ensuring privacy).

4.2.3 Financial barriers

Financial barriers to all three programmes appear to be relatively low. Transport was rarely used to reach the paypoint destination (most respondents walked, despite the distances), with little evidence of bribes. In HSNP, the average total cost of collecting payments was Ksh 12, with 1.5 per cent of households reporting having paid a fee to the agent and 4.5 per cent paying a fee to the person who collected the money.

As described in the section on physical barriers above, CT-OVC recipients in Garissa (a relatively remote district) almost exclusively relied on motorised or shared transport to collect the cash benefit from the one post office in the district (located in the district

centre) and often had to pay for accommodation. To compensate for costs that were up to 50 per cent of the transfer, a Ksh 1,000 'top-up' was added to each cash transfer payment in Garissa district to mitigate such financial barriers. Financial barriers in the PEVR were minimal, but this was principally because the transfer took place in urban areas where M-PESA agents were easily available. In the PEVR rural areas, recipients did not have to travel large distances to agents, since these rural areas were more densely populated than for the HSNP or CT-OVC.

4.2.4 Ownership

One important element of ownership relates to the relationship between the intended recipient and the person who actually collects the money. As we have discussed previously, the three case study programmes all have provisions for 'alternate recipients' which has a number of advantages in terms of improving access and flexibility accessing the payment system while introducing a potential risk of service-fees for the provision of 'alternate recipient' services. The de facto requirement for national ID in each programme generates the same pressures for alternative recipients in each payment system, as does the difficulty faced by people who are less mobile.

A second element to be considered relates to the level of secrecy/ privacy guaranteed by the transfer. In the HSNP and CT-OVC programmes, because transfers have to be collected at specified times, secrecy is low. In the PEVR, on the other hand, individuals received notification via their mobile phone when they received the cash transfer. This allowed them to keep it secret and contributed to the popularity of this payment mechanism. As one recipient explained, 'M-PESA is the best means of collecting money since it is a secret that you do not share with someone else. No one knows when you have money on your phone, therefore it is very secure'.

One last element of ownership is recipients' ability to store their transfer money and access it only when it was needed rather than when the programme required it. This option was made available by HSNP and Concern Kenya, with varying levels of success. In the case of HSNP, as previously highlighted, most households in the early stages of the programme were not aware of the possibility of storing their money on the Smartcard. This is an important missed opportunity of the programme, which should be addressed through improved communication with programme recipients. As for Concern Kenya, the fact that M-PESA was widely used before they adopted it for its transfers guaranteed a good knowledge of the system by most recipients, who appreciated the possibility of accessing the money only when it was actually needed.

5 COMPARISON OF DIFFERENT PAYMENT SYSTEMS

Building on the previous analysis, this section briefly sets out the main advantages and disadvantages of the three case study payment systems: Smartcards, post offices, and M-PESA.

5.1 Smartcards

The use of Smartcards and POS devices to deliver cash in remote rural areas through the HSNP pilot programme has proved to be successful to date, despite the high start-up costs that this system entailed and the complications it faced due to the complex conditions of the drylands of Northern Kenya.

Smartcards have several advantages. First of all, they are extremely easy to use as they do not require any specific know-how or training. Second of all, their technology is appropriate for local conditions in remote areas with no access to power or network coverage – allowing for the ongoing delivery of cash in locations where it would have previously been impossible. Third, they are designed to be flexible, allowing for the collection of cash from any one of a network of paypoints – an important asset for mobile pastoralist households.[17] The amount paid to recipients can also be flexible (for example, adjusted for inflation) thanks to Smartcards, as long as the information can easily be communicated. Fourth, they allow for the provision of a predictable transfer, aiding households in their monthly budgeting. Fifth, they are a fundamental step in providing financial services to previously excluded sections of the population. Not only do Smartcards currently offer the option of keeping a store of value on the card as savings, they are also designed to increase the range of financial services available to these households during a second phase of the project. Moreover, Equity Bank's effort to set up five new branches in the four northern districts of Kenya and its investment in POS devices throughout the programme areas, are expected to have a wider series of ripple effects on all households living in targeted communities, including 'non-beneficiaries'.

As useful as they are, Smartcards also have their disadvantages. As mentioned, they require large initial set-up costs that would not be possible for a short-term relief programme if no scale-up was envisioned. Second, they are at risk of technological failure, including possible problems linked to the use of fingerprints as a verification system. Third, Smartcards

can quite easily be lost or damaged, leading to a lengthy process to re-issue a new one. A fourth important problem – which is not directly linked to the use of Smartcards specifically, but to their adoption in remote rural areas – relates to the lack of liquidity available at paypoints, as cash turnover is generally quite low.[18] Because of this problem, in some programme areas HSNP has lowered the flexibility of its system by enforcing cash collection at a specific paypoint on a specific day – a considerable hindrance for collection, especially in the case of mobile pastoralist households. This draw-back has led to a system that was designed to favour a 'push' approach to adopt many 'pull' characteristics – a set-back that was probably inevitable given the limited levels of financial development in HSNP areas.

5.2 Post offices

The CT-OVC programme is an example of a programme that has successfully adapted its overall design to fit around the infrastructure of an existing network of post offices to deliver cash payments to recipients. As detailed above, the development of a large and complex MIS allowed the programme to closely monitor cash disbursements through post offices as well as integrate/ implement unique payment system features such as the monitoring of conditions, deducting penalties for infringements, carrying-forward missed payment collections and automatic exit protocols for consecutive conditionally infringement or missed collections.

Among the main advantages of the CT-OVC programme, having used the network of post office to deliver cash transfers to its recipients, is the minimal investment in developing infrastructure required to deliver/ disburse the cash transfer. By using a relatively familiar method and 'structure', the programme does not have to invest in training of its programme staff and its recipients in the use of the payment system, as it would have done had the programme opted for a more technologically advanced payment system such as the disbursement of cash through mobile phones, POS devices or ATM machines (this has been piloted in Kenya).

Second, the use of post offices to disburse cash transfers may have positive implications for the programme's sustainability in the long term. The CT-OVC programme provides the National Postal Authority with the recipient list (for each post office) and the necessary funds to be disbursed before recipients arrive at post offices to collect their payment. In this manner, any financial or liquidity burden on the post office is avoided. This contrasts against the HSNP model where the *duka* agent is required to pay recipients 'up-front' and then claim back funds from the programme after payments have been collected. This model depends entirely on the financial stability and long-term sustainability of the *duka* agent's business whereas the CT-OVC model of pre-payment to the disbursement agent faces less risk and is perhaps more sustainable in the long term.

The CT-OVC payment system model is only possible because of the integrated MIS which, in theory, means that recipient households have the flexibility to move from receiving their cash transfer from one post office to another so long as the new post office is already in the MIS system and disbursing cash to other beneficiaries. This feature, however, has not been developed thus far by the CT-OVC programme.

The use of an existing network of post offices as the basis of a payment system does have its limitations. As described above, coverage of the post office network may not be adequate across all programme areas, leading to significant barriers to access as is the case in Garissa district. Second, because the number of post offices in a given area is unlikely to expand as rapidly as the number of recipients of the programme, line-ups and congestion are inevitable unless a more complex and flexible system of 'payment windows' is set up. Third, the use of a post office, a public space, to disburse cash can lead to the explicit identification of programme recipients, especially when there are long queues of recipients collecting their payment on the same day. This could have serious implications on safety and security as well as stigma within a community. Finally, the use of an external institution to deliver payments presumably means that the dates of the 'payment window' are not necessarily known in advance or are predictable. To accommodate this, the CT-OVC programme relies on an informal network of village chiefs, community elders and volunteers to inform programme recipients when their payment is ready for collection. As described above, announcement through this network has taken many forms and it not necessarily always appropriate or sensitive to the needs and concerns of programme recipients.

5.3 M-PESA

In the emergency setting of the Concern Kenya PEVR cash transfer the M-PESA system was deemed to be very successful. No significant problems with M-PESA were reported and recipients were very clear in their preference for M-PESA, even in rural areas where network was patchy and amongst people who are not confident in using phones.

The major project requirements for the PEVR cash transfer were for a distribution system which could be rolled out very quickly and with low start-up costs. Given that the programme operated mainly in areas where mobile telephone and electricity networks already existed, using M-PESA was a natural choice, as no other distribution scheme is able to achieve these objectives so well. The overall cost effectiveness of the system is less clear cut. The pilot phase had to distribute phones to over 60 per cent of households and solar chargers to those without electricity, leading to significant marginal costs. However, once equipment costs were excluded, the transfer costs in the pilot were only 2 per cent of the project total. As mobile phone use increases in developing areas the feasibility and cost effectiveness of the system should improve further.[19]

At the beneficiary level, several benefits of the system are easily identifiable. The flexibility of the system and the wide availability of M-PESA agents (there are currently around 17,000 agents in Kenya) means that individuals are free to collect their money when and where they wish to, without having long distances to travel in order to do so. This has an important impact on security, as does the fact that receiving money via a text message is very inconspicuous. Recipients also need only draw down money required, safeguarding the rest for future needs. This was particularly important for the livelihood transfer, which could be up to Ksh 6,000 and might not be spent immediately. The flexibility of M-PESA also allowed transfers to be indexed to local market prices, as amounts transferred did not need to be known in advance.

Providing cash directly into the hands of the beneficiary reduces the possibility of fraud, and it could also reduce the issue of people feeling cheated by agency staff if they receive less than they expect. Finally, the system empowers poor communities through Information technology. Communities saw advantages in using their mobile phones to develop early warning and security alarm systems to prevent cattle-rustling and women saw income generating opportunities by offering informal payphone services to other members of the community.

The M-PESA system also has disadvantages which should not be forgotten. The first consideration when determining whether or not the system should be used is arguably the existence of the required infrastructure. Phone networks do not have universal coverage, electricity may be hard to come by and the M-PESA system is currently limited in geographical coverage. Some of these issues can be solved, but often only with expensive intervention (e.g. distributing mobile phones to those without them and solar chargers to those without electricity). Even when available, the system does have disadvantages over the other methods discussed. Correct use of M-PESA requires training, while illiteracy makes it difficult for beneficiaries to be certain as to how much has been transferred over the phone. The system does not necessarily solve the problem of distance, as some beneficiaries may be a long distance from the M-PESA agent. M-PESA registration requires an ID card, which some individuals may not have, especially in emergency situations where households have been displaced. Finally, withdrawal fees can be as high as 55 per cent depending on the amount being transferred (the bigger the withdrawal the lower the percentage fee).

6 CONCLUSIONS

In this paper we have shown that the type of payment system used can have a large effect on recipients' experience of the programme. In addition, we have seen that some of the more innovative systems can have secondary benefits (such as increasing coverage of M-PESA and technological literacy in the case of the PEVR transfer).

Although operating constraints often restrict the choice of available payment mechanisms, they need not dictate it. Recipient considerations should play a more prominent role in the design stage of cash transfer schemes, and the question of which payment system to use is worthy of serious consideration. Given the wide range of options now available, programmers need guidance and evidence on the merits and shortcomings of the various payment systems in order to make informed decision. In this paper we have developed a framework for evaluating payment systems and then used this framework to analyse three different payment systems in three different programmes in Kenya: Smartcards for the HSNP; post offices for the CT-OVC programme; and M-PESA mobile banking transfers for the PEVR.

A common theme of the analysis was a trade-off between different aspects of the payment system. Flexibility often comes at the expense of predictability, security at the expense of information, and reducing the cost to recipients is costly to the programme.

Each scheme has advantages and disadvantages. The flexibility of Smartcards is advantageous but it is hard to manage their use in contexts with limited liquidity such as northern Kenya. Mobile transfers essentially rely on a similar system of private liquidity flows (to agents rather than *dukas*), so they may not deal any better with liquidity problems. They provide

privacy and security, yet they need not only a (reliable) mobile network, but also power in villages to charge phones, and also a network of agents. Post offices provide reliability but limited flexibility. Further, extremely poor coverage of post offices in some areas impose high access costs on recipients who have to travel long distances.

If their problems can be overcome, mobile transfers provide exciting possibilities, since they are at the forefront of a banking change in Kenya and the region more generally, and because recipients' reports of M-PESA transfers were largely very positive. The mobile network infrastructure is much easier to provide (e.g. investment in new aerials) than the electricity needed to charge phones or the agent's POS device, but there is scope for investment in longer-term projects (distributing phones, building aerials, incentivising businesses to charge mobiles/solar chargers, and providing loans to agents).

Another issue discussed is the importance of awareness creation and communication. Often recipients' understanding of the cash transfer scheme is limited, and this can result in positive aspects of the programme being neutralised (for instance in HSNP where very few recipients were aware that they could store money on their smartcards). Payment systems can have an important role to play here, as the payment process is a natural point of contact with the recipient, and the community presence that can be provided by the payment system should be valued.

Above all, it is important that a flexible approach to the payment system is adapted in the early stages of design of cash transfer programmes. The available technology is improving rapidly, and there are likely to be benefits in introducing measures to make adoption of new technology easier later. Cash transfers can provide a great catalyst to the adoption of financial services in developing countries, and large win-win opportunities are often available with financial partners who have an interest in expanding their presence in programme areas. However such 'push' mechanisms often require 'pull' components during start up, especially where financial infrastructure is scarce.

ENDNOTES

[1] Note also that the cost of a payment mechanism versus another is the easiest variable to measure, and that agencies often choose to outsource delivery of the transfer (lack of capacity, easily standardisable process).

[2] Throughout the paper, we will be using the word 'recipients' rather than beneficiaries to indicate the people who were selected by the programme to receive the money.

[3] Specifically, the programme is being run by the Ministry of State for Development of Northern Kenya and Other Arid Lands in collaboration with a Steering Committee (as yet still to be established) of external actors, including international donors.

[4] Other key components of the strategy are:
(i) Increasing service and infrastructure provision through a 15-year investment plan, costing £1.7 billion (Ksh 229.5 billion); (ii) A £4 million (Ksh 540 million) National Drought Contingency Fund to strengthen risk reduction and improve disaster management capacity.

[5] Since the HSNP was designed, these districts have been sub-divided into a total of 13. Hence, the four original districts are referred to as the 'greater' districts in this paper.

[6] It is anticipated that the HSNP will also have positive impacts on a range of indicators of well-being and wealth, such as resilience to shocks, health and education uptake, and access to financial services.

[7] Run by a private bank, Equity Bank, and a DFID-funded organisation mandated to improve financial inclusion, the Financial Sector Deepening Trust, Kenya (FSD).

[8] A child under 18 years old is defined as an OVC if he/she is an orphan (single, with one parent dead, or double, with both dead), is chronically ill, or is looked after by a carer who is chronically ill.

[9] A household was considered to be poor by the programme if it was observed to exhibit at least 8 out of 17 specific poverty characteristics. Where there were insufficient financial resources to provide support to all those eligible, households were prioritised by the age of the caregiver (priority to the youngest for child caregivers, and the oldest for adults).

[10] These included attending health facilities for immunisations, growth monitoring and vitamin A supplements (0–1 year olds) and enrolment in school (6–17 year olds).

[11] This first section builds on a recent paper by the Cash Learning Partnership (CALP 2010).

[12] Note that this issue is particularly important in the case of single mothers with children or carers of old or disabled household members – two particularly vulnerable population groups.

[13] Risks include identity fraud, duplicate beneficiaries and – in cases where the cash transfer is linked to a bank account with savings capacity – money laundering and other illicit activities.

[14] Comments on the OVC programme in this paper draw upon OPM's OVC Evaluation Qualitative Baseline Report finalised in June 2009.

[15] Details of the functioning and consequences of this system are analysed in the section on 'ownership'.

[16] It should be noted that raising awareness will not necessarily increase the degree to which recipients take advantage of the store of value facility offered by the Smartcard. Recipients also take out the full value of the transfer because (i) it's too far to walk back to the paypoint and queue again to pick up small amounts, (ii) people don't trust the system to keep some cash on the card and give it to them later, and (iii) people don't feel they can walk all the way to the paypoint if there is an emergency.

[17] During programme implementation, this theoretical advantage was dropped because of problems with cash liquidity. See the next paragraph.

[18] Note that a related problem could occur in areas where commodities are not widely available for purchase, reducing the advantages of cash based interventions in general.

[19] Assuming more countries adopt an MPESA-style system.

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