

## What is RHVP?

The Regional Hunger and Vulnerability Programme (RHVP) supports improvements in policy and programme approaches to hunger and vulnerability in southern Africa with particular emphasis on the role of social protection.

## The Frontiers of Social Protection studies

The Frontiers of Social Protection (FoSP) studies aim to ensure that the knowledge from policy analysis on hunger and vulnerability that RHVP provides to policy makers remains relevant and reflects advances on a number of key social protection frontiers. The studies build on the research activities of RHVP's first phase (2005-08), in particular the Regional Evidence Building Agenda (REBA), which involved 20 commissioned case studies of social protection programmes in southern Africa and a series of cross-cutting thematic analyses (these are available at [www.wahenga.net](http://www.wahenga.net)).

Like the REBA, the FoSP work is demand-led, focusing on a number of 'hot topics' prioritised by stakeholders across the region and incorporating new evidence that is continually emerging on the practicalities and impacts of delivering large scale social protection. The FoSP studies have been designed and implemented by a core team of international researchers including Frank Ellis (International Development at the University of East Anglia), Stephen Devereux (IDS, University of Sussex) and Katharine Vincent (RHVP), under the overall coordination of Philip White (International Development at the University of East Anglia) and in collaboration with individual researchers and research institutions in Africa and elsewhere.

## The Frontiers of Social Protection briefs

This series of briefs has been prepared by Philip White, Frank Ellis, Stephen Devereux and Katharine Vincent. The briefs aim to summarise the main findings of the respective FoSP studies in a concise and accessible format that will be appreciated by policy makers and practitioners concerned with hunger, vulnerability and social protection in the Southern African Development Community (SADC) countries, and that will support RHVP's policy dialogue activities and other dissemination events.

## Electronic delivery of social cash transfers

Lessons learned and opportunities for Africa.

### Summary and policy lessons

- (1) The electronic delivery of cash can be achieved through a variety of mechanisms - debit card, smart card or cellphone, using a range of financial infrastructure - banks, automated teller machines (ATMs) and point-of-sale (POS) devices. This brief outlines recent experiences from across Africa, with a focus on Kenya, Malawi, Namibia and Swaziland.
- (2) The benefits of electronic delivery systems to both governments and recipients are well known in terms of improved cost efficiency and flexibility of access, so this brief emphasises issues that are relevant to private sector partners, who are vital to the introduction of such systems.
- (3) The rapid penetration of cellphones in Africa, including both signal coverage and handset ownership, makes distribution of cash transfers by cellphone an increasingly viable proposition, as shown in Kenya through the M-PESA mechanism. Additionally the availability of cellphone signal has been instrumental in facilitating use of offline smart cards for electronic delivery of cash transfers in Malawi and Namibia.
- (4) The growth of financial infrastructure and opportunity for banks to increase their market share has increased the favourability with which banks view potential participation in government-to-person cash transfers. Evidence from Malawi and Swaziland shows that cash transfer recipients who are provided with bank accounts to receive their cash transfers tend to then use them to save money and to receive person-to-person transfers (e.g. remittances) - thus making further use of financial infrastructure and services.
- (5) In terms of scalability of electronic delivery systems, the time- and cost-intensive nature of the payment mechanism setup relative to the operating costs means that the incentive for private sector partners to engage is much greater for long-term programmes than short-term pilots. Undertaking cash transfer programme registration formalities concurrently with private sector partner registration procedures (in terms of opening bank accounts or distributing SIM cards or

smart cards) thus makes sense, wherever possible. It is also imperative that contractual obligations for the government implementer and private sector partner be agreed upfront, defining respective roles and responsibilities, together with a grievance procedure in case of non-compliance.

- (6) As well as the growing base of evidence from projects and programmes in Kenya, Malawi, Namibia and Swaziland, other countries that have expressed interest in the use of electronic delivery systems include Ghana, Lesotho and Mozambique.

## Introduction

In April 2008, RHVP published a thematic brief on delivery systems for social transfers, reporting on the variety of delivery systems used in the 20 social protection programme case studies that were analysed as part of the Regional Evidence Building Agenda (REBA)<sup>1</sup>. With the growing popularity of cash transfers relative to other social transfers, emphasis has shifted to investigating innovative delivery mechanisms that increase effectiveness and efficiency. A number of public (government-to-person) cash transfer projects and programmes<sup>2</sup>, including some covered within the REBA, have experimented with the use of electronic delivery systems. There is a growing literature highlighting the benefits of electronic delivery of cash transfers (see, for example, Langhan et al, 2008; Bankable Frontier Associates, 2006) and the acceptability of high technology mechanisms to recipients<sup>3</sup>, so this brief concentrates on perspectives relevant to private sector partners. It elaborates changes in the business environment that have prompted an increase in the potential for electronic delivery systems (including those initially intended for private person-to-person transfers such as remittances), provides an update on the existing use of such systems in Kenya, Malawi, Namibia and Swaziland and outlines interest from Ghana, Lesotho and Mozambique.

## Why the interest in electronic delivery systems?

In recent debates about the relative merits of food and cash as alternative instruments for social protection interventions to reduce hunger and vulnerability, one of the arguments advanced in favour of cash was its lower delivery cost. Whilst cash is clearly less bulky than food, the liquid nature of the resource means that physical delivery entails the costs of hiring security (armoured vehicles for transport to discourage cash-in-transit heists, and security personnel at paypoints to discourage crime). In addition there are substantial risks of leakages in the system through theft and fraud as the cash has to pass through many sets of hands whilst being moved from national level (government offices and banks) down to the recipients at grassroots level. The labour-intensive nature of physical delivery further impedes implementation efficiency through the actual costs of hiring extra staff to oversee the process, or the opportunity cost of diverting existing staff from their core functions. Thus delivery costs can disproportionately burden programme budgets, and identifying more cost-efficient mechanisms is an important policy need (Devereux and Vincent, 2010).

As well as the costs to government, delivering cash also has costs for the recipients. The traditional system of “pulling” recipients to a paypoint to receive their transfer entails both actual and opportunity costs in terms of transport and lost labour time. Delivery of cash transfers typically involves a compromise between the cost of reaching recipients literally at the door of their homes, and the savings from providing them at a central point to which recipients must travel to receive their benefit. The former is sometimes referred to as a “push” mode of delivery, because the organiser pushes delivery right down to the individual recipient; the latter is called a “pull” mode of delivery, because individual recipients are pulled to a central point in order to receive their payment (Bankable Frontier Associates, 2006).

1 [http://www.wahenga.net/sites/default/files/briefs/REBA\\_Thematic\\_Brief\\_3.pdf](http://www.wahenga.net/sites/default/files/briefs/REBA_Thematic_Brief_3.pdf)

2 Throughout this brief a distinction is made between small projects (short-term initiatives that are typically led by NGOs) and programmes (longer term (permanent) initiatives that are typically led by government departments)

3 RHVP undertook a small scale study to assess how women in farming cooperatives with similar profiles to cash transfer recipients could cope with cellphone technology. Results are available at [http://www.wahenga.net/sites/default/files/briefs/Brief\\_16\\_-\\_Ever\\_upwardly\\_mobile.pdf](http://www.wahenga.net/sites/default/files/briefs/Brief_16_-_Ever_upwardly_mobile.pdf)

A typical “pull” mode of delivery is payment at a central point like a Post Office, to which individual recipients must travel to draw their payment. This has the serious disadvantage for recipients that they must be fit and well enough to make the journey to the paypoint, which for transfers to the most needy people in society is sometimes unrealistic since they are often in need precisely because they lack physical strength and mobility. Electronic transfers offer the potential to convert “pull” delivery systems into “push” systems, with all the benefits that this brings in terms of convenience and low access cost for cash transfer recipients. The solution is to deliver cash electronically, thus minimizing the fiduciary risk (through the stringent banking rules on reconciliation of accounts preventing the risk of cash going astray), reducing the demands on staff time, and ensuring convenience for recipients (who can access their transfers at a place and time of their own choosing) – thus reducing costs all around.

The electronic delivery of cash can be achieved through a variety of mechanisms - debit card, smart card or cellphone, using a range of financial infrastructure - banks, automated teller machines (ATMs) and point-of-sale (POS) devices. At the time of the REBA studies in 2006-07, only one of the

20 individual case studies had experimented with electronic delivery systems - the Dowa Emergency Cash Transfer (DECT) short-term project in Malawi<sup>4</sup>. Since then a number of other projects have used electronic delivery systems, generating valuable information on the opportunities and challenges posed by these schemes. Table 1 summarises a selection of projects and programmes in Africa that have used electronic delivery systems since 2006.

Table 1 demonstrates that one vital prerequisite of introducing an electronic delivery mechanism is the need for a private sector partner to facilitate the payment arrangements.

## Opportunities: the rapid penetration of cellphones in Africa

By the end of 2008 there were over 246 million mobile subscriptions in Africa (out of a population of just under 700 million), and between 2003 and 2008 the rate of growth was more than double that in the rest of the world<sup>5</sup>. In 2008, 58.5% of the population was covered by a cellphone signal, with some countries approaching 100% coverage of inhabited areas, including South Africa,

**Table 1: Cash transfer projects and programmes that have used or are using electronic delivery systems**

Project name	Country	Delivery mechanism	Financial Infrastructure	Period of operation
Concern Worldwide's Dowa Emergency Cash Transfer	Malawi	Biometric smart card	Mobile POS (Opportunity International Bank of Malawi (OIBM))	December 2006-April 2007
Save the Children's Emergency Drought Response	Swaziland	Optional debit card/post office cash	Bank/ATM (Standard Bank)	November 2007-April 2008
Old Age Grant	Swaziland	Debit card	Bank/ATM (any of Swaziland's 5 major banks)	Pilot began in 2009
Concern's Kerio Valley Cash Transfer Pilot	Kenya	Cellphone (SIM card)	POS devices at M-PESA agent outlets	April-June 2008
Hunger Safety Net Programme	Kenya	Biometric smart card	Bank/ATM/POS (Equity Bank)	2009-2012 (first 3 year pilot)
Basic Income Grant Pilot	Namibia	Biometric smart card	POS at NamPost post office	January 2008-December 2009
Old Age Pension	Namibia	Biometric smart card	POS at NamPost post office	2006-current

4 [http://www.wahenga.net/sites/default/files/briefs/REBA\\_Case\\_Study\\_Brief\\_1.pdf](http://www.wahenga.net/sites/default/files/briefs/REBA_Case_Study_Brief_1.pdf)

5 This trend is explicable partly in terms of the increasing popularity of cellphones among rural population (Figure 1).



**Figure 1: Woman farmer with a cellphone round her neck in Limpopo province, South Africa** (photo by K. Vincent, 2004)

Botswana, Mauritius and the Seychelles (ITU, 2009). A number of governments, including South Africa, Kenya and Uganda, have obliged cellphone operators to provide a certain population coverage as part of their license conditions and/or require them to install community service telephones, thus ensuring that coverage is not solely restricted to urban areas (Gray, 2006). The rapid growth in cellphone ownership and signal coverage has paved the way for consideration of cellphones as a mechanism for electronic delivery, partly prompted by promising evidence for their adoption in private person-to-person transfers.

Arguably the most promising example of the potential for cellphones in delivering cash transfers is the phenomenal success of Kenya's M-PESA scheme, operated by Safaricom (a local subsidiary of Vodafone). M-PESA is a service that allows e-money to be transferred by cellphone (with instructions originated from the SIM tool kit that results in an encrypted SMS (short message service or "text") recording the transfer). Users must register at an authorised M-PESA agent by providing their Safaricom cellphone number and their national identification card. Once registered,

they can buy electronic funds at any agent and send them by SMS to any other cellphone user in Kenya (even if they are not on the Safaricom network). Electronic funds can then be redeemed for cash at M-PESA agents, or exchanged for Safaricom airtime, or used to pay bills. An M-PESA registered cellphone can also hold funds up to USD500. Just two years after its introduction, M-PESA had over 7 million registered users, and 10,000 agents, reflecting the faith that consumers place in the safety and convenience of the product (Camnar et al, 2009).

The wide accessibility and uptake of M-PESA amongst Kenyans of a variety of ages and technological abilities prompted Concern Worldwide to pioneer use of the platform as an electronic delivery mechanism for a short-term emergency cash transfer in 2008 – the Kerio Valley Cash Transfer (KVCT) project. Kerio Valley is a remote area of Kenya that suffered post-election violence, and lost a lot of livestock to cattle rustling, threatening the livelihoods of the population. Cash transfers delivered by M-PESA were considered a more cost-effective and secure option than providing food aid. Some challenges did have to be overcome: in this remote area, only about 40% of targeted beneficiaries had access to cellphones, so they were provided with SIM cards and grouped into clusters, with each cluster having access to at least one handset<sup>6</sup>. As there was no M-PESA agent within 80km, a temporary one had to be established at the local police station, with Safaricom ensuring that enough cash was on hand at payment times (Datta et al, 2008). In total USD53,000 was disbursed in two instalments to 570 households. The evaluation showed this to be a secure, cost-effective and rapid emergency response that respected people's choices and empowered the communities by providing them with access to communications technology (Brewin, 2008). This project provides further evidence that cellphones are an appropriate electronic delivery mechanism for cash transfers.

More important than project evidence are the broader changes brought about by M-PESA's success, namely the growth in consumer support for electronic money, and the concurrent development of infrastructure (signal coverage and number of M-PESA agents). Safaricom took the lead with the innovation, but the rapid uptake of the M-PESA

<sup>6</sup> This case study also exemplifies the fact that, despite the growth in infrastructure, further hardware inputs may still be required where cash transfers are implemented in order to ensure feasibility.

service has paved the way for other private sector partners to expand their infrastructure to take advantage. The number of M-PESA authorised agents has grown dramatically since consumer demand for their services increased, and this typically benefits small-scale retailers. In addition, Paynet, a private network of ATMs, has gone into partnership with M-PESA to allow the use of their ATMs to access electronic funds held in cellphone accounts. M-PESA has since been launched in Tanzania by another Vodafone subsidiary, Vodacom. Following on from M-PESA's success, another East African-based cellphone operator – Zain - launched a rival SMS-based cash transfer system known as Zap in early 2009, which allows cash to be transferred between customers in Kenya, Tanzania and Uganda. As a result of this, the limitation of poor signal coverage and access to handsets can no longer be used as an excuse to exclude the possibility of cellphone-based delivery mechanisms for social (government-to-person) cash transfers, particularly in East Africa.

In 2009 it was reported that nearly half (47%) of all money transfers in Kenya took place by cellphone. Factors contributing to this rapid growth include the wider penetration of cellphones amongst the unbanked population, the low cost of transfers relative to the formal banking sector, and the convenience – which includes the ability to remit money more safely and securely. However, one of the reasons for the slow introduction to date of similar cellphone-based cash transfer platforms in southern Africa is the existence of more stringent financial regulations. In South Africa, for example, the SA Reserve Bank limits the provision and management of electronic money to banks – and prevents cellphone operators from offering these services<sup>7</sup>. That said, there are still opportunities to be seized by financial institutions, typically banks, in the electronic delivery of cash transfers.

## **Opportunities: development of financial infrastructure and opportunities for banks to increase their market access and share**

The banking sector is an integral partner in the electronic transfer of cash, and thus has a key role

to play in the electronic delivery of cash transfers in Africa, as is commonplace in Europe and North America. Increasingly, banks are recognizing the commercial opportunities in facilitating the electronic delivery of social cash transfers. In addition to the potential revenue gained (typical cash transfer programmes pay a transaction fee per transfer), there are significant incremental benefits to banks. Government programmes typically have nationally-dispersed recipients, meaning that sufficient critical mass may be reached in areas to make the deployment of new infrastructure viable where it may previously have been inappropriate. In addition, whilst under normal circumstances recipients of social cash transfers would not fit the profile of typical customers, the regular and guaranteed income, albeit small, provided by longer term cash transfer schemes makes the recipients an ideal market for banks, and a lesser risk than working-age members of the population whose informal sector income is likely to be variable and/or seasonal.

There is evidence to show that recipients of cash transfers in pilot projects who have received their transfers electronically do indeed make use of the financial infrastructure functionality above and beyond the basic provision for accessing their cash. DECT recipients in 2006-07 in Malawi were paid by biometric smart card accessed through mobile POS devices (provided and operated by Opportunity International Bank of Malawi-OIBM) that toured the Dowa district on set days. Although the target unit was the household, the implementing NGO (Concern Worldwide Malawi) made the decision for women to receive the money. During the evaluation, chiefs and elders in one community reported "For the majority of women, this was their first time to experience banking, something that only their husbands knew before. They have since learned an important skill of banking and wish to save their earnings from soya beans at the bank." (Focus group discussion, chiefs and elders, Mwavu village, reported in Devereux et al, 2007). Further information on recipient experiences of electronic delivery systems is provided in Box 1.

However, in many parts of southern Africa the high costs associated with the physical infrastructure required for banking, in contrast to cellphone signals, has restricted the reach of formal banking outside of the densely populated urban areas.

<sup>7</sup> An exception is a joint venture between MTN Banking and Standard Bank, which has earned the approval of regulators through the backing of a bank.

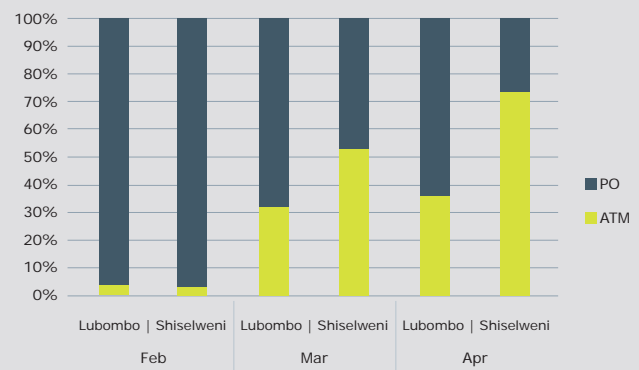
## Box 1: Benefits to cash transfer recipients of access to financial infrastructure

The use of electronic delivery mechanisms has been mooted as an example of an “enhanced payment arrangement” (EPA), which offers both *add in* and *add on* benefits (Bankable Frontier Associates, 2006). Add in benefits provide recipients with a new basic bank account into which the grant can be electronically transferred; thus enabling flexibility of access to the cash at a time and place convenient to the recipient. Add on benefits make available additional financial services, such as micro-credit and savings, after the cash has been transferred. Cash transfer recipients, by virtue of their profile, have typically been excluded from accessing both types of benefits. There is widespread evidence of positive developmental impacts from providing poorer members of the population with access to micro-credit. One example of this is the celebrated case of the Grameen Bank in Bangladesh<sup>8</sup>, whose founder Mohammed Yunus was honoured with a Nobel Peace Prize in 2006.

Concerns that previously unbanked cash transfer recipients will be unable to understand the banking infrastructure, and will be too intimidated to use the technology required, have been proven unfounded through various pilot projects and programmes. The evaluation of Save the Children’s Emergency Drought Response programme in Swaziland, where recipients were given the choice to access their transfer through a bank account

or the post office, showed that the use of ATMs increased throughout the three month duration of the project, as confidence among the recipients grew (see Figure 2 below). Similar results were shown in DECT in Malawi. For the majority of women recipients, this was their first exposure to banking, and after five consecutive months of accessing their cash through their smart cards at the mobile OIBM POS their confidence in the benefits and security of using banks to manage money had grown, and raised their interest in making use of other financial services (Devereux et al, 2007; Devereux and Vincent, 2010).

**Figure 2: Delivery mechanism used to access cash disbursed under the Emergency Drought Response in Swaziland (% of beneficiaries)**



**Source:** based on data from Devereux and Jere, 2008

Swaziland is a good case in point. In 2007, after a highly publicized and politically embarrassing debacle concerning the delivery of the recently-introduced Old Age Grant<sup>9</sup>, the government put out a tender seeking private sector partners. Several institutions expressed interest, including two major banks. Standard Bank was shortlisted. During the proposal stage, however, concern was expressed by the selection committee over the extent of Standard Bank’s financial infrastructure in Swaziland. At the time, Standard Bank had

12 branches and agencies<sup>10</sup> and 20 ATMs, all concentrated in major urban areas, and it was deemed unsatisfactory to expect rural pensioners to travel relatively long distances to collect their grants. To address the inadequacies of the financial infrastructure, an interim solution was implemented that gave pensioners the choice of electronic disbursement through bank accounts or physical delivery through the post office, depending on their location.

8 [www.grameen-info.org](http://www.grameen-info.org)

9 The agency charged with disbursing the Old Age Grant – the SwaziPost post office – was unable to manage the payments. Recipients complained to their MPs and the matter was brought to parliament, where a task team was established to investigate alternative delivery mechanisms. In the meantime the Department of Social Welfare assumed responsibility for the quarterly payments.

10 An agency is a small branch that performs a limited number of services.

## Moving on from pilots: scalability of electronic delivery systems

Rapid progress is certainly being made with regard to electronic delivery systems. At the time of the REBA research in 2006-07, poor infrastructure and the challenge of the magnitude of the unbanked population meant that private sector partners were wary of participation, despite the conceptual and theoretical future benefits. More recently, however, the profusion of pilot projects experimenting with electronic delivery highlights the fact that the enabling environment is becoming more conducive. Of course, the more positive evidence exists, the more likely private sector partners are to engage with such programmes. However, and importantly, the costing data derived from pilot projects of limited duration and restricted spatial extent do not give an accurate reflection of the true cost-efficiency gains of using electronic delivery mechanisms. They are inevitably skewed because the major costs of electronic delivery systems occur at the introduction of the programme, when recipients typically have to be registered and provided with access to the mechanism and the infrastructure i.e. a debit card, smart card, or SIM card, and/or a bank account. Transaction costs thereafter are minimal, but with limited duration projects the cost calculations rarely factor this in.

As a result of the time- and cost-intensive nature of the payment mechanism setup relative to the operating costs, the incentive for private sector partners to engage is much greater for long-term programmes than short-term pilots. Indeed, Standard Bank stated at the evaluation of the Save the Children Emergency Drought Response that the short duration of the project made it unusually expensive and time consuming for them to open bank accounts for all the recipients – but they saw their participation as a useful practice for potential involvement in long-term electronic delivery of a government-run social cash transfer at a later date. Swaziland is now in the second phase of piloting an Electronic Disbursement Programme, whereby its 60,000 Old Age Grant recipients can choose to open an account at a bank of their choice (from the 5 major banks operating in the country), and have their cash paid electronically on a monthly basis, as opposed to a quarterly physical payment.

This is a precursor to the government launching a tender (for the second time) for a private sector partner to deliver the Old Age Grant in its entirety. Similarly M-PESA now has valuable experience with partnering with an NGO on the electronic delivery of a cash transfer, as shown in the KVCT example, which would stand it in good stead if it were to engage in any future projects or programmes.

As well as the skewed costs, there are other limitations of pilots that restrict the lessons that can be learned for scaling up to national programmes. The short duration of pilot projects means that any concerns arising with the delivery mechanism are rarely addressed, as no sooner do they arise than the project finishes. This was noticed by Concern Worldwide with their cellphone delivery in the Kerio Valley, which provided only two transfers. For example, a number of recipients had lost their SIM cards by the time of the second payment, and the cellphones were not suitably robust to cope with the frequent inserting and removing of SIM cards, as often one piece of hardware was shared within a cluster. As this project was of limited length, there was no scope for addressing these concerns – but if the approach were to be scaled-up, there would certainly be a need to find workable solutions.

So far only one government-led programme in Africa has embraced an electronic delivery mechanism from inception, and that is the recently launched Hunger Safety Net Programme (HSNP) in Kenya. HSNP is a phased programme that is targeting 300,000 households in the first three years, with a plan to increase to 1.5 million in the second phase. All are located in the arid and semi-arid lands (ASAL) of northern Kenya. Bi-monthly cash transfers of KSH2,300 (USD33) are delivered electronically into bank accounts, with private sector partner Equity Bank<sup>11</sup>. All recipients receive a biometric smart card which they can use to access their cash through POS devices. In contrast to magstripe cards (the typical format of debit cards), smart cards contain a chip that stores the account information (balance, transactions etc.) on the card itself, rather than just in a central database. Thus the POS devices do not need to be online at all times, but rather to dial in occasionally to a central server to upload information from the cards. Box 2 contains further information on the HSNP smart cards.

11 For more information on the scoping that occurred prior to the selection of Equity Bank, see FSD Kenya (2007)

## Box 2: Biometric smart cards in Kenya's Hunger Safety Net Programme

In order to comply with Kenyan banking law on "Know Your Customer", bank accounts and biometric smart cards can only be supplied to people who hold a Kenyan identification card. However, to cater for circumstances where the beneficiary does not have an ID card (due to loss, or age, infirmity or remoteness having prevented them from receiving one), or where the beneficiary wishes that a designated person is eligible to collect the cash on their behalf, the private sector partner Equity Bank has set up a procedure that caters for 'beneficiaries' (those eligible to receive the transfer) and 'recipients' (those eligible to collect it). When the beneficiary has an ID card and is willing to collect the cash themselves, they are also the recipient (for backup they are also required to nominate an alternate recipient who must be over 18 years of age and capable of travelling to the paypoint). When the beneficiary either has no ID, or does not wish to collect their cash in person, they must nominate

a primary recipient, who will be issued with the smart card (and an alternate who must be over 18 years of age and capable of travelling to the paypoint). A biometric smart card – as shown in the sample below – is issued to the primary recipient. The card shows the primary recipient's name, photo, and their household number (which becomes the account number). The chip contains biometric data (fingerprint records) for both the primary and alternate recipients.



**Source:** Presentation by Equity Bank, 2008

The HSNP is in its early stages. The first disbursement was postponed due to delays in the setting up of appropriate administration and implementation infrastructure. Where delivery is concerned, this included the need to establish POS devices with agents (typically storekeepers and traders) in this remote area. Although it is too early for an evaluation of this programme, early indications highlighted some teething problems with ensuring appropriate levels of cash availability around payment days – given that the mobile populations are free to choose any paypoint, predicting where and when cash will be required can be difficult. This extra effort required by Equity Bank is unusual and would not be the case if electronic delivery mechanisms were employed to their full capability.

To date, the failure to use electronic delivery systems at their full capacity is a key observation from all the pilots and programmes. In the HSNP, Equity Bank has had to ensure that enough cash is available on payday as under normal circumstances inadequate amounts are in circulation in the local economy; in the KVCT project, a new M-PESA agency had to be set up at the local police station; and in the DECT in

Malawi, OIBM had to provide a mobile POS (whereas the smart cards issued could have been used in POS devices, had any been available in the district). The only projects where the electronic delivery worked without further infrastructural support are the Basic Income Grant (BIG) in Namibia, and the Emergency Drought Response in Swaziland. In the BIG project, cash is disbursed into bank accounts held with NamPost, which already issues biometric smart cards as standard to its banking customers, and has a branch within the Otjivero pilot location (see box 3).

In Swaziland when Emergency Drought Response recipients were issued with bank accounts they were then able to access their cash through debit cards at the ATM. Figure 3 shows the scene at the start of the scheme, when understanding of, and confidence in, the banking system was low, and thus recipients tended to queue to withdraw their cash on the day of disbursement – although as time went on there was growing faith in the security of their electronic cash, and thus they would access it as convenient to them, spreading out the demand. Again, to a certain extent this is a feature of pilots:



## Box 3: Biometric smart cards in Namibia's Basic Income Grant Project

The Basic Income Grant pilot project provides a universal cash transfer of N\$100 per month to 930 individuals under the age of 60 (at which age they are eligible for a state pension) in the settlement of Otjivero-Omitara, 100km to the east of Windhoek. In line with the existing state pension, delivery of the Basic Income Grant is made through the use of smart card-based savings accounts issued by the state post office, NamPost. NamPost opened accounts for all the recipients, and waived the standard N\$50 smart card fee.

Accounts are credited with the N\$100 transfer on the 15th day of every month, after which recipients can access their funds through the local NamPost in Otjivero by presenting their card (for insertion into a POS) and having their fingerprint verified against the one stored on the smart card's chip. One free transaction is provided to recipients per month, and NamPost takes responsibility for ensuring cash to cover all payments is transported securely to the Otjivero branch on the 15th day of each month, and providing 2 extra staff from Windhoek at no extra cost. A shelter has also

been erected outside the post office. This is done because many recipients go to the post office to check that the transfer has been made into their account, even if they choose not to withdraw the money on that day. They also have the freedom to access their transfer through any of NamPost's 122 branches throughout Namibia, at a time convenient to them.



**Source:** field notes and Basic Income Grant coalition, 2009 (photo by K. Vincent, 2009)

when, in contrast, programmes exist at the national level they are likely to create the demand so that the infrastructural needs are soon met.



**Figure 3: Emergency Drought Response recipients in Swaziland queue at the ATM to access the cash that has been disbursed into their bank accounts** (photo by S. Devereux, 2008)

## Planned future use of electronic delivery systems

The growing opportunities for electronic delivery systems, and the increasing body of evidence from pilot projects and programmes, means that a number of other national cash transfer schemes are considering following in the steps of HSNP. As mentioned above, Swaziland has already entered the second phase of its Electronic Disbursement Programme, which aims to have all 60,000 Old Age Grant recipients banked (at a bank of their choice) by the end of the third phase.

The government department with responsibility for Mozambique's *Programa de Subsidio de Alimentos* (PSA<sup>12</sup>), the Ministry for Women and Social Action (MMAS), in 2008 commissioned RHVP to undertake a study looking into the potential for alternative delivery of the PSA, which currently delivers using

12 PSA translates as food subsidy programme, although it is actually a cash transfer to vulnerable groups. For more information see [http://www.wahenga.net/sites/default/files/briefs/REBA\\_Case\\_Study\\_Brief\\_7.pdf](http://www.wahenga.net/sites/default/files/briefs/REBA_Case_Study_Brief_7.pdf)

a time- and resource-intensive “pull” mechanism that costs up to 40% of the value of the transfer. Private sector partners considered include the banks Barclays and *Banco Oportunidade de Moçambique* (a sister company to Opportunity International Bank of Malawi) and Payshop, a smart card and POS operator.

In Lesotho, the Lesotho PostBank has recently received a commitment for funds from the Millennium Challenge account to proceed with smart card-based transactions systems, which would be a potential electronic delivery mechanism for the Old Age Pension (and, potentially, the recently announced Child Grant Cash Transfer programme).

Ghana currently uses a “pull” mechanism involving physical delivery of cash through the Post Office in its Livelihood Empowerment Against Poverty (LEAP). LEAP is a government-run and funded programme that began in March 2008, and is due to reach 164,000 households (equivalent to almost 20% of Ghana’s extremely poor households) when the national rollout period ends in 2012. Programme officials expressed interest in the consideration of electronic delivery systems, and there are several options, with the likelihood that the recently-launched “e-zwich” platform operated by the Ghana Inter-Bank Payment Settlement System (Figure 4) that facilitates smart card use will have ironed out any teething problems come the time that a decision is made by the Department of Social Welfare.



**Figure 4: Billboard advertising the e-zwich smart card and POS system in Ghana** (photo by K. Vincent, 2009)

## Lessons learned for electronic delivery systems

Systems of delivery, whether physical or electronic, are only as good as the registration system on which they depend. Registration is a vital (albeit time-consuming and cumbersome) part of any cash transfer programme, with the bulk of input required prior to programme introduction. If a private sector partner is involved, it makes sense for the recipient to undertake the procedures for both programme registration and bank account/cellphone account registration concurrently. However, whilst electronic delivery systems can be more secure, if the registration procedure is inadequate and allows for type 2 errors (inclusion of recipients who should not be benefiting from the transfer), there is a danger that the electronic delivery system may “lock in” the inaccuracies. Close collaboration between the programme implementer and its private sector partner is vital, particularly in the integration of registration of recipients in the scheme, and the payment system(s). Kenya’s HSNP is using an open source web-based Management Information System (MIS) that is accessible to all implementing partners, including the Government of Kenya and Equity Bank. This has been facilitated by introducing electronic delivery at the start of the programme. Retrofitting this to an existing transfer scheme is much more difficult, due to the varied experiences, needs and preferences of the various partners, who may all prefer their own system over another. Given the need for regular updating of the system(s) (for example as new recipients enter the programme and others depart), provision needs to be made to ensure adequate capacity (in terms of time and labour) on both sides.

Partly reflecting the above, it is imperative that comprehensive terms of reference are agreed prior to the commencement of the partnership (Beswick, 2008). These should delineate the various roles and responsibilities between the programme implementer and private sector partner, together with service standards (for example relating to the timeliness of disbursement to recipients), and penalty for non-compliance. As well as detailing commitments relating to timing of the bulk transfer of funds from the implementer to the private sector partner, and the provision of a recipient list (if not using a common MIS) prior to each transfer, such an agreement should also consider a procedure for grievance handling, so that recipients do not end

up caught in a situation of not knowing who to contact in case of complaint. If due attention is paid to these administration and implementation arrangements upfront, there is great potential for electronic delivery systems to become the norm in Africa.

## Conclusion

There is much promising evidence for the use of electronic delivery systems in cash transfer programmes, with experiments having taken place in pilots across Africa, and recent introduction and consideration in a number of national programmes. The major benefit of electronic delivery systems is the increased cost-efficiency (lower transaction cost per transfer than traditional “pull” systems involving physical delivery of cash), not to mention the increased convenience both to the programme implementer and the transfer recipient. Electronic delivery systems lend themselves to private sector participation, where a private sector company – typically a bank, smart card platform, or cellphone operator – partners with the programme implementer. A combination of improved availability of infrastructure in Africa, together with increasing interest in the opportunities from such private sector partners, has paved the way for the increased number of projects and programmes using electronic delivery mechanisms. But electronic delivery systems are not a panacea for a successful and efficient cash transfer programme, and the lessons learned from existing experiences need to be borne in mind to ensure that they work well.

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