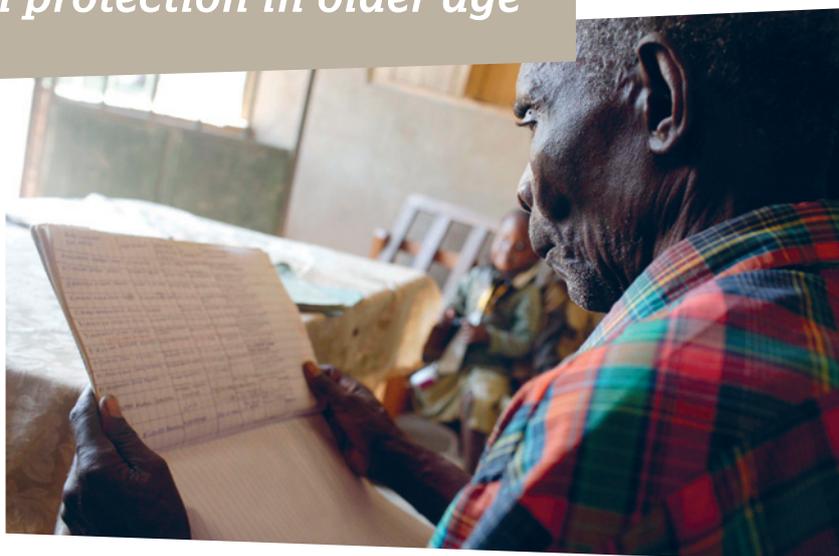


# Pension watch

*Briefings on social protection in older age*



Briefing no. 5

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## Good practice in the development of management information systems for social protection

### Key lessons

- Discussions on the design and implementation of social protection management information systems (MISs) should move away from the narrow view that they consist only of application software and computer hardware. Rather, MISs should be viewed more holistically as the systems that underpin the operations of social protection schemes.
- In the design of social protection schemes, it is common for insufficient attention to be paid to the development of MISs yet these have a major bearing on the costs and efficiency of schemes.
- Each piece of information collected by social protection schemes is an additional cost and makes running an MIS more expensive and complicated and increases stress on the system. MIS designers need to keep information requirements to a minimum.
- Technologies are changing fast and offer some innovative options for managing MISs at local levels; however, manual processes are likely to remain necessary in some areas and schemes should be kept simple to enhance their chances of success.
- The concept of a national Single Registry for all social protection schemes is somewhat misleading. In reality, countries usually have a number of social protection MISs and good practice aims to achieve good integration and sharing of information between them.
- There are benefits to integrating the MISs of different social protection schemes, including the mitigation of benefit fraud and timely reporting for policy makers.

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## 1. Introduction

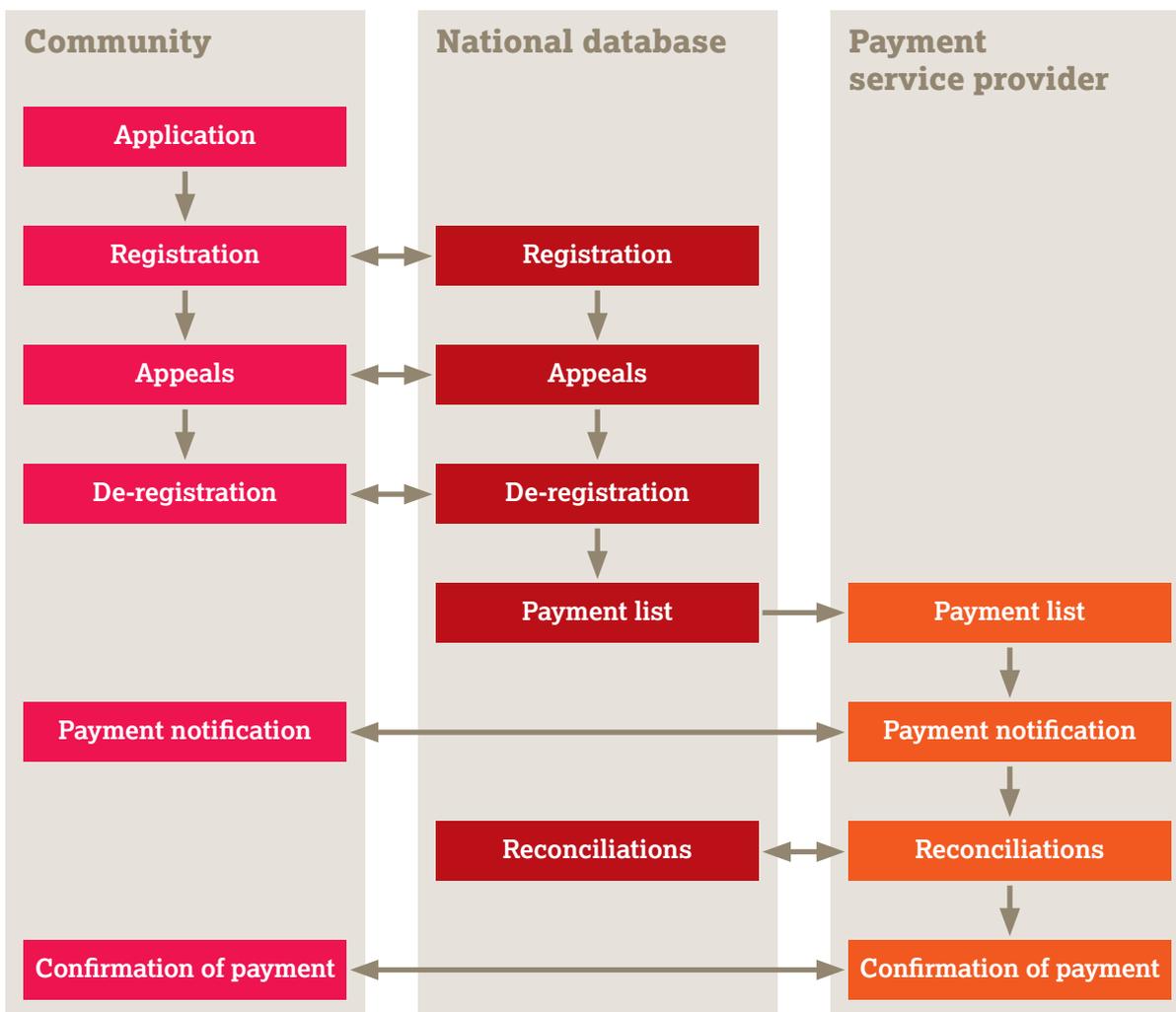
In recent years, social protection has moved rapidly up the policy agenda in developing countries. Debates on the design of social protection schemes, however, are often dominated by ideological discussions, such as whether to introduce conditions. Less attention is given to implementation challenges and the demands placed on countries' administrative systems.

Management information systems (MISs) are core to the design of social protection schemes. Indeed, social protection schemes could be regarded as systems of information management. The various components of social protection schemes – such as “targeting”, “registration”, “conditions”, “payments”, “grievance systems” and “exit and graduation” – all require information to be captured, transferred, stored and analysed. Yet, little attention is paid to MISs in the social protection literature.<sup>1</sup>

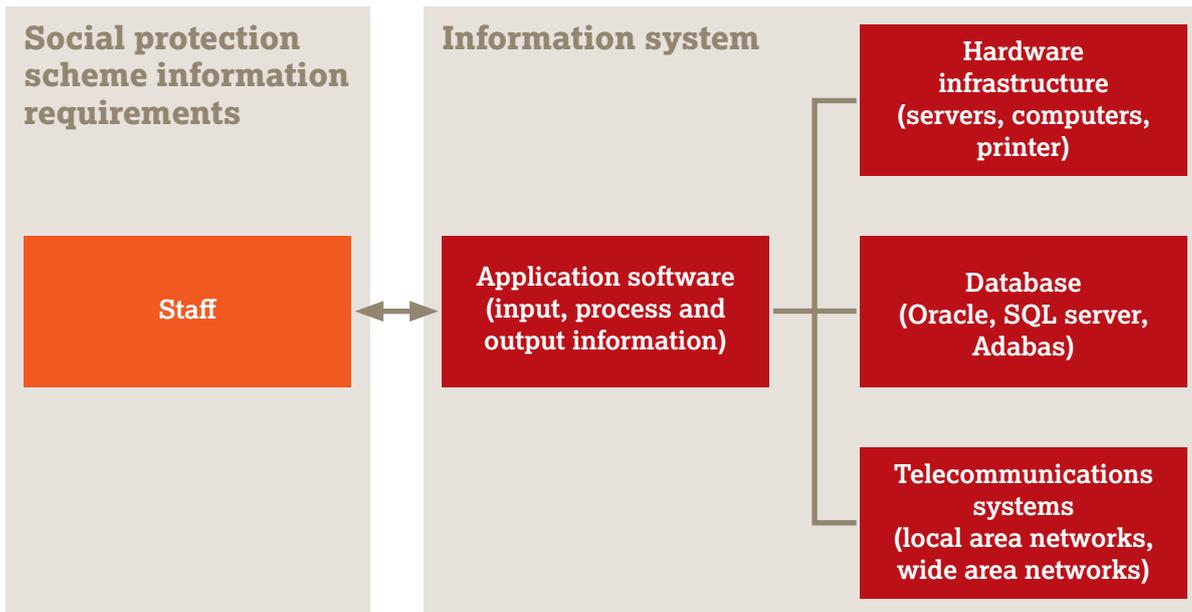
This paper, therefore, aims to fill a gap in the literature by examining good practice in the design of MISs for social protection. Section 2 will describe MISs, pointing out that they are more than systems of computer hardware and application software. Section 3 will discuss the type of information required by social protection MISs, and the challenges in capturing, transferring and processing this information. Section 4 will assess the potential for introducing new technologies into social protection MISs in developing countries. Section 5 will conclude by examining issues around the integration of MISs in countries with multiple social protection schemes, and the extent to which a national Single Registry is an appropriate model.

1. A literature review has only been able to provide limited information on MIS good practice in developing countries. It is interesting that even a core SP handbook like Grosh et al (2008) provides almost no information on MISs. The SP handbook by Samson et al (2006) provides more information but it is still limited. Baldeon and Arribas-Banos (2008) discuss key controls necessary for implementation of fiduciary risks in social safety nets management information systems. However, they do not provide insight into the MIS architecture and relative design parameters or best practices.

**Figure 1: Information flows within a social protection MIS**



**Figure 2: Components of an MIS**



## 2. Social protection MISs: a description

MISs perform a range of basic functions that enable the flow and management of information for key processes within social protection schemes including:

- Identification of applicants and beneficiaries through targeting and registration
- Compliance with conditions in conditional cash transfer (CCT) and public works schemes
- Management of appeals and grievance processes
- Exit and graduation of beneficiaries
- Production of payment lists
- Reconciliation of payments.

Figure 1 illustrates the key information that flows between communities, national databases and payment service providers to enable social protection schemes to function. MISs should not only keep a record of information but should also notify social protection scheme managers on when processes happen – or should happen – and produce reports on performance against each process to enable monitoring of operations.

As Figure 2 indicates, social protection MISs comprise five main component parts that, together, facilitate the capture, transfer, storage and processing of information:

- **Application software** which facilitates the electronic integration of multiple social protection scheme tasks
- **Database** which is a system to organise, store, and retrieve large amounts of data, typically in digital form
- **Computer hardware** needs to be appropriate for the functions that it will perform
- **Mechanisms for the transfer of data** from one part of the MIS to another
- **Staff** have a key role in any MIS, managing all functions and components of the system.

As technology develops, the potential for using electronic systems increases significantly. A fully electronic system can enable social protection schemes to run more efficiently and effectively by speeding up the capture, transfer, storage and processing of information.

### 3. Programme information requirements

A key factor in determining the design and effectiveness of an MIS is the amount of information managed. Often, little thought is put into the information to be collected by social protection schemes. Yet each piece of information collected is an additional cost to the scheme and makes running an MIS more complicated and, potentially, less effective.

#### Complexity of schemes and stresses on MISs

The complexity of a social protection scheme determines the amount of information to be collected. More complex schemes – such as those undertaking poverty targeting or monitoring compliance with conditions – will require more information and more frequent transfers of that information. This will demand more complex MISs which may well exceed the capacity of local administrations and, potentially, undermine initiatives to scale-up to national coverage.

Indeed, monitoring health and education compliance in CCT programmes requires even more complicated information flows. Information needs to pass between schools or health services, the social protection scheme and the payment service provider rapidly and efficiently, an immensely challenging task.

There is evidence from low-income countries such as Ghana and Kenya that the monitoring of compliance cannot be undertaken effectively, placing too great a burden on MISs.<sup>2</sup> A number of middle-income countries with CCT programmes do not monitor compliance, in part due to this complexity.<sup>3</sup>

In fact, the introduction of conditions and poverty targeting into schemes is likely to increase significantly the use of appeals systems. Poverty targeting is inherently inaccurate, which could give rise to many complaints from applicants.<sup>4</sup> And, in CCTs, it is important to include an appeals system since families may have legitimate reasons for their children not attending school. Any increase in appeals places further stresses on MISs, making failure more likely. Indeed, in the Kenya Orphans and Vulnerable Children Cash Transfer programme (OVC-CT), staff took the decision not to implement the appeals system as it would create too great a burden.<sup>5</sup>

Simpler social protection schemes – such as universal pensions – require minimal information and, as a result, their MISs can be less complex and easier to manage. Consequently, they are more likely to perform effectively in countries with weak administrative capacity.

Making pragmatic compromises that reduce the amount of information to be managed can reduce stresses on MISs in complex schemes. Once it is accepted that poverty targeting is inevitably inaccurate, policy-makers and programme managers may be more willing to make the pragmatic choice to re-certify households only rarely, perhaps every five years or more (although this will, inevitably, increase inaccuracies).<sup>6</sup> Or, if households with older people are accepted onto a poverty-targeted scheme, it makes sense not to subject them to further re-certification as they are unlikely ever to “graduate” out of poverty.

#### Information requirements for management and monitoring

Designers of social protection schemes should assess the amount of information that is to be captured from beneficiaries as each piece of information collected is an additional cost and places an increased burden on MISs. Each piece of information collected should become a field in the programme database; if not, then questions should be asked on whether it is really needed.

When designing MISs, a distinction should be made between the *core information* that is needed for managing the scheme, and monitoring its performance, and additional *information for monitoring recipient households*.

The main role of MISs is to enable the effective management of operations and performance monitoring. They are less reliable in providing monitoring information on recipients and their households as this is only accurate at the point of capture. Household composition and assets can change relatively quickly. The information held in MISs cannot be used to evaluate the impacts of schemes on recipient families.

2. Cf. Ward et al (2010) and Kidd and Calder (2011). Indeed, there is no credible evidence that conditions bring about positive changes in family behaviour and they may well impact negatively on children. See Fiszbein and Schady (2009), Baird et al (2010) and (Kidd and Calder 2011)

3. Cf. Kidd and Calder (2011)

4. Even the most advanced form of poverty targeting currently promoted in developing countries – the Proxy Means Test – has in-built inclusion and exclusion errors of around 60 per cent at 10 per cent coverage (Kidd and Wylde, forthcoming). See also Kidd et al (2011)

5. Ward et al (2010)

6. Such infrequent re-certification is, in fact, common in many large-scale safety net programmes, such as Mexico's Oportunidades and Jamaica's PATH programmes (Kidd and Wyle, forthcoming)

The *core information* required for the operational management and performance monitoring of a social protection scheme varies according to its design. Examples of the information required for each key operation of an unconditional social protection scheme are set out in Table 1.

**Table 1: Essential information required for a well-functioning social protection scheme MIS**

<b>Applicant/ recipient</b>	<b>Application process</b>	<b>Grievance process</b>	<b>Payment process</b>	<b>Exit process</b>
Name	Date applied	Date of submission of grievance	Size of grant	Date of re-certification
Date of birth/age	Status of application	Reason for complaint	Frequency of payment	Date due to exit programme
Sex	Date decision made	Stage in process (and date)	Expected dates of payment	Date exited programme
Address (with community/district, village, etc)	Result of decision (yes/no)	Date of resolution	Dates of actual payment	Reason for exiting programme
ID number	Date registered	Decision on initial appeal	Amount paid	
Photo (optional)	Reason for rejection	Date applicant informed	Reasons for difference between scheduled and paid amounts	
Biometrics (optional)		Confirmation of action taken	Name of proxy recipient	
		Date of submission of further appeal	Date of birth/age of proxy	
		Stage in process	Sex of proxy	
		Date of resolution	ID number of proxy	
		Decision on further appeal	Relationship of proxy to recipient	
		Date applicant informed of decision		
		Confirmation of action taken and date		

More complex schemes – such as CCTs – require further information to be included on databases to enable operations, and frequent updating of that information. If schemes want to monitor the provision of complementary programmes to recipients, this will also require further fields and information capture.

Effective MISs not only ensure that the information needed for monitoring the performance of operations is collected, they also generate reports on relevant aspects of operational performance. Designers of MISs should agree with scheme management the type of reports to be generated and their format.

To strengthen the efficiency of data collection, databases can be designed to enable the storage of background documents such as application forms, birth certificates, identity cards, and grievance process records by scanning them into the database.

**Table 2: Primary and Secondary Monitoring Information for MISs**

Primary Monitoring Information	Secondary Monitoring Information
<b>Additional information on applicant/recipient</b>	
Marital status	Occupational status
Educational attainment	Disability status
Additional address details (eg. family name, name known by)	
<b>Information on household members</b>	
Number of members	Disability status
Date of birth	Occupational status
Sex	Grade enrolled at school
ID number	Health status
Marital status	
Single/double orphan	
Relationship to beneficiary and/or household head	
Educational attainment	
<b>Information on dwelling and assets</b>	
Water source	Description of dwelling
Sanitation	Type and number of animals
Landholding size	Car
Land tenure	Bicycle
	Agricultural implements
	Etc.
<b>Accessibility of services</b>	
Distance to health clinic	
Distance to primary school	
Distance to secondary school	
Distance to pay-point	

In South Africa, for example, a document management system called *Livelink* is used to scan and manage all letters to beneficiaries. Alternatively, the forms themselves could be incorporated within the database and completed electronically by administrative staff during interviews with applicants and recipients.

In addition to the information necessary for the management of operations, MISs can collect further information with which to monitor recipients. Yet schemes need to assess the amount of information they require so as to reduce costs and not over-burden MISs.

As noted above, additional information on recipients degrades in accuracy as soon as it is collected. People may leave the household, children may be born and assets may be sold or purchased. For example, a study in Costa Rica indicated that 40 per cent of household heads changed their employment over three years, while the possession of assets such as televisions, refrigerators and washing machines also changed rapidly.<sup>7</sup>

Table 2 sets out potential additional monitoring information on beneficiaries that social protection schemes could collect. The Primary Monitoring Information refers to information that is easier to obtain and/or will change less frequently. The Secondary Monitoring Information is more difficult to collect and/or likely to degrade more rapidly in terms of its accuracy. The classification into Primary and Secondary Information should be considered indicative.

Many schemes collect excessive amounts of information on recipients, much of which is of little use and often inaccurate. Yet, as mentioned earlier, MISs cannot be used to measure the impact of schemes on recipients. There are alternative means of obtaining information on how recipients are responding to the programme and, in many cases, these may be preferable to over-loading MISs. Many schemes have separate evaluation processes and these may provide sufficient information on recipients for scheme managers, especially if surveys are undertaken annually. Alternatively, it may be possible to gain information on recipients of large-scale schemes from national household surveys, although these tend to happen relatively infrequently.

Even if a database has a large number of fields, not all information needs to be captured. The Kenya Hunger Safety Net Programme (HSNP), for example, has closed many of its fields, collecting information only on those regarded as essential.<sup>8</sup>

A helpful comparison can be made with the MISs of large-scale schemes in both developed and middle-income countries. Many only collect minimal information, focusing essentially on monitoring performance. For example, in Mauritius the social grant programmes maintain information on recipients' names, national identification numbers, dates of birth, addresses and levels of payment. Additional information is obtained for special grants such as the Invalidity Allowance. Paradoxically, therefore, while countries with greater capacity to process information minimise the information they capture, in countries with less capacity, more information is captured, in particular in small-scale pilot programmes.

#### **4. The potential of new technologies for social protection MISs**

In recent years, information and communication technologies (ICT) have evolved rapidly, enabling a potential revolution in the way social protection MISs can be designed and deployed. These changes have not yet had a significant impact on the social protection sector in low-income countries; while some MISs may be *computerised* they have not yet moved to fully-integrated electronic systems.

*Computerisation* is the transfer of manual processes into computer-based databases to facilitate the management of information. Many social protection schemes particularly small-scale pilots capture information on paper and transfer it by vehicles to the central offices of implementing institutions where it can be entered on to computers. In contrast, fully-integrated electronic systems involve using appropriate hardware, application software and telecommunication systems throughout the MIS to achieve greater efficiency and effectiveness in operations.

7. Viquez (2005)

8. Kidd and Chirchir (2011)

There is a range of options for moving to fully-integrated electronic systems, many of which could be introduced into low-income countries. However, the potential for introducing technological solutions is not consistent within all countries since, for example, access to electricity, the internet and mobile phone networks may vary between regions. Therefore, more than one technology option may need to run concurrently, including planning for offline or manual operations.

### **Hardware infrastructure**

Options for hardware technology vary, depending on the size of schemes and the particular operation to be undertaken. The main use for computer hardware in MISs is in capturing information and storing and processing it.

The possibilities of direct capture of information from beneficiaries onto electronic databases are growing. Personal Digital Assistants (PDAs) – essentially, small, portable computers with a long battery life – are one option, but are still to be fully tested. Similarly, mobile phones could be used. Although mobile phone technology is versatile, it should be limited to the capture of essential information, since many fields will increase the number of commands to be sent, thereby slowing down data capture. In Uganda, mobile phones have been used for birth and death registration.

If a higher processing capacity is needed in the field, laptops are an option. Their disadvantage is that they may not have a long battery life and are less rugged compared to PDAs and some mobile handsets.

Nonetheless, the type of computer technology employed for data capture depends on the type of targeting and registration approach used. With a census approach, in which all households are visited, more resilient technology is appropriate. But if applicants themselves visit registration centres, then laptops and desktop computers are a more appropriate option.

Designers of social protection schemes should not, however, assume that a technological option is always best. During design, an assessment needs to be made of the information that a programme needs to capture and the cost effectiveness of introducing advanced hardware.

In some programmes, it may still be cost effective to use paper capture and transfer the data onto computers in a location near to the community, such as a district centre. Mauritius, for example, despite a relatively advanced MIS, continues to use paper for benefit applications, which are then transferred to the nearby central office for inputting into the database. Indeed, legislation continues to require paper records to be kept.<sup>9</sup>

In CCT programmes, in which teachers are asked to monitor school attendance, it may be unrealistic to expect them to use computers to capture the information. Paper may be more appropriate, with data entry taking place elsewhere, but this is a costly and time-consuming process, especially as it may have to happen every month.

Once new technologies are introduced for data capture, further innovations can be introduced to facilitate operations. For example, the security of payments can be enhanced by using digital readers to capture beneficiary fingerprints during registration. Similarly, digital photos can be taken of beneficiaries and stored on to databases.

Whenever data is captured from applicants and recipients, care needs to be taken when entering it into databases. Schemes should put in place safeguards to ensure that data is captured accurately and with adequate supervision of enumerators or, potentially, by using double entry onto the database, although this will increase human resource costs. An effective appeals system for applicants and recipients may also pick up problems with data entry.

9. In Mauritius, there are ongoing initiatives to review the MIS for enhancements to allow electronic documents management and integrate new requirements in the face of changing user needs.

The hardware requirements for data storage and processing depend, to a large extent, on the size of the scheme. Social protection schemes with a small number of recipients may find a desktop computer sufficient. But, large national schemes will require servers or, in other words, high-capacity computers. Servers continue to evolve and now employ advanced technology that can compact data and ensure more functionality.

The potential is also growing to store data remotely, on huge servers held by third parties, using “cloud” technology. Social protection schemes would require a minimum operating system and web browser and would hire the remote cloud technology storage facility as a service. There may be issues on data confidentiality and country-specific legislation on data management but cloud technology would obviate the need for social protection schemes to expend resources on their own servers.

### **Application software**

Developing application software to run databases is not particularly problematic. The level of sophistication and complexity in the application software is determined by the size of the scheme. A small programme – such as the Kenya Urban Food Subsidy, with only around 5,000 beneficiaries – can function well with Microsoft Access. However, larger schemes require more powerful databases: Mauritius uses Oracle, South Africa uses Adabas while the HSNP and OVC-CT programmes in Kenya use Microsoft’s SQL Server database.

In designing pilot programmes, an assessment needs to be made of the likelihood of the programme being scaled up. While less complex application software may be adequate for a small pilot it may not be able to cope when a programme is scaled up.

In the Ghana LEAP programme, although it is only three years old, the original software application – Visual FoxPRO against a FoxPRO 3.0 database – is no longer appropriate for a programme with just over 30,000 beneficiaries. A recent review has indicated that the database should, in the short term, be migrated to a higher capacity server while in the longer term, the application software should be replaced.<sup>10</sup>

A key decision on application software relates to procurement. There are three options: open-source software; proprietary options; and the use of government ICT services.

An increasing number of schemes, such as Kenya’s HSNP and Uganda’s SAGE, use open-source software. This is a relatively cheap option, provides programmes with the source codes so that they can easily adapt the software and, with competent programmers, is robust.

Other programmes, such as the Kenya OVC-CT and Fiji Family Assistance Programme, have chosen a proprietary option, which means that the ownership of the application software remains with the company that designed it. While this can provide good-quality software, disadvantages are that it is a more expensive option – the use of open-source software in the Kenya HSNP resulted in a 90 per cent saving<sup>11</sup> – and schemes cannot access the source codes. As a result, they have to pay the owner to make modifications.

A third option is for schemes to use government or para-statal institutions to develop and maintain application software. Mauritius, for example, uses a limited company – State Informatics Limited (SIL) – in which the state has a shareholding while South Africa employs a state-owned organisation, the South Africa Information Technology Agency (SITA).

The advantage of using para-statal or government agencies is that social protection schemes have greater negotiating power on the cost of developing and customising software. However, some para-statal and government suppliers do face the challenge of retaining competent developers, which can lead to inadequate service and poor value for money.

10. Sam (2011)

11. Chirchir (2007)

## Telecommunication technologies

Telecommunication technologies have undergone a revolution in developing countries in recent years. Traditional telephone systems using copper wires are being replaced by fibre optic cables that significantly increase capacity to transmit data. Mobile phone networks now reach most areas and open the possibility for wireless transmission of information.

Telecommunications systems have greater bandwidth and can transmit significant amounts of multi-media information, including audio, still images or full-motion video. For example, SEACOM – as at September 2009 – completed broadband cable connection to countries in East Africa.<sup>12</sup> Within Africa, South Africa, Mozambique, Tanzania and Kenya are inter-connected. Additionally, a second link is provided from South Africa to Kenya.

Even in Nepal, with its challenging terrain, a recent study has indicated the potential for transferring data electronically even in mountainous, remote areas, which would revolutionise the current social protection MIS which is almost entirely paper-based.<sup>13</sup>

The use of new transmission technologies should mean that it is possible to send data directly from communities or districts to databases held in the capital city. The use of paper and vehicles in the Kenya OVC-CT and Ghana LEAP schemes means that 25 data entry clerks have to be employed in Nairobi and 20 in Accra, despite the relatively small number of recipients on both schemes. Both schemes were designed as pilots, with insufficient thought being given to the implications of scaling-up.

As a result, both schemes have large amounts of paper piling up in their central offices. If new technologies are not introduced, the number of data-entry clerks will expand exponentially as the schemes expand.

Alternatively, the introduction of electronic transfers of information would enable data entry to be decentralised, potentially to the location where recipients are registered. However, as indicated earlier, connectivity across countries will not be uniform. Therefore, plans for operating in an offline environment should be put in place. And, since social protection schemes with simpler designs reduce the amount of information to be transferred, they are more likely to function well in an online environment with weak or intermittent coverage.

Uganda is currently implementing a web-based MIS that will be linked to a mobile Virtual Reality Service (VRS),<sup>14</sup> a system for registration. In this model, a virtual private network will be used to connect the SAGE<sup>15</sup> cash transfer scheme's head office in Kampala with districts. This will allow functions such as change management and grievances to be captured at either the district or sub-county level.

## Ensuring the security of MISs

Security should be built into the design of social protection MIS systems for the following purposes:

- To safeguard the confidentiality and integrity of information
- To protect information from theft, abuse and any form of damage
- To establish responsibilities and accountability for information security by establishing clearly segregated roles in the management of resources.

There are four security elements that need to be tied together to secure social protection MIS systems. These elements are security policy, personnel security, physical security and logical security. The security standards that should be in place are set out in Table 3.

12. SEACOM is a privately funded and over three-quarters African-owned undersea fibre optic cable that is assisting communication carriers in south and east Africa through the sale of wholesale international capacity to global networks via India and Europe.

13. Chirchir (2010)

14. VRS is a technology that makes the presence and presentation of the sounds and sights of an actual physical environment virtually available everywhere in real time through the use of mobile telecommunication devices and networks.

15. Social Assistance Grant for Empowerment – a cash transfer pilot in Uganda including a universal pension and a household grant.

**Table 3: Summary of guidelines on security standards**

Component	Security standards
Security policy	<ul style="list-style-type: none"> <li>• An information security guideline should be set up during the design and implementation of a Management Information System.</li> <li>• The policy should define the commitment and the support of the management and should be communicated to all MIS users.</li> </ul>
Personnel security	<ul style="list-style-type: none"> <li>• Personnel should be inducted and trained on security.</li> <li>• Adequate controls for personnel screening should be put in place so as to increase users' security awareness.</li> <li>• The process of reporting security incidents, weaknesses and software malfunctions should be defined in the security policy guidelines.</li> </ul>
Physical security	<ul style="list-style-type: none"> <li>• Servers should be installed only within a secure area, where adequate access controls and damage prevention are implemented. These areas include offices, rooms and facilities.</li> <li>• Power supplies, an adequate level of cabling security and correct maintenance of the equipment should be in place.</li> </ul>
Logical security	<ul style="list-style-type: none"> <li>• Access to information should be granted in accordance with programme and security requirements.</li> <li>• A formal access control policy should be in place.</li> <li>• Access control rules should be specified.</li> <li>• User access management (registration, privilege management, password management and review of user access rights) should follow a formal process.</li> <li>• Responsibilities of users should be clearly defined.</li> <li>• Networked services, operating systems and applications should be protected appropriately.</li> <li>• Onsite and offsite backup and recovery procedures should be put in place.</li> </ul>

### **Staff capacity and technical support**

MISs ultimately depend on the quality of the staff who engage with the system. Therefore, social protection schemes need to ensure that they have capable staff in place to fulfil all necessary roles, such as data capture, data entry, repairs and system supervision and management. Staff also need to be adequately trained to fulfil their tasks, so social protection schemes should include MIS training in their broader capacity building. Certain tasks such as data capture and entry could, however, be contracted out to specialised institutions.

Social protection schemes should also establish MIS support services to provide them with technical assistance in case problems arise. For example, in Ghana's LEAP, problems arise on average once a month, impacting negatively on programme operations.<sup>16</sup>

Technical support can be provided by the programme itself employing technical expertise; contracting a local information technology company or using broader government IT services. In the case of proprietary application software, governments may be tied in to using the services of the company owning the software.

16. Sam (2011)

## 5. Integration of a national social protection system

While the paper has, so far, focused on individual social protection schemes, many countries have multiple schemes, each with their own MIS. Increasingly it is recognised that these MISs should be integrated together to build efficiencies across the entire national social protection system.

To date, debates on integrating MISs have focused on promoting the development of a Single Registry.<sup>17</sup> Yet the concept of a national Single Registry encompassing all social protection schemes in a country is somewhat misleading.

Proponents of the Single Registry derive their inspiration from Brazil's *Cadastro Unico* which aims to build a database of the entire poor population of Brazil so that programmes can use it to target poor households. The *Cadastro Unico* now holds data on the declared incomes of 16 million households and uses an unverified means test for targeting.<sup>18</sup> The main user of the *Cadastro Unico* is the *Bolsa Familia* scheme, but it has also been adopted by nine other schemes.

The term "Single Registry" is a misnomer even in the case of the *Cadastro Unico* as it is not the "Only Registry" in Brazil. Other major social protection schemes in Brazil, such as the Rural Pension and the Continuous Cash Benefit, have their own databases and do not buy into the *Cadastro Unico's* targeting mechanism, largely because they use different targeting criteria. The Rural Pension, for example, is, essentially, a universal pension scheme. Indeed, even those programmes using the *Cadastro Unico* have their own independent MISs into which the recipients identified by the *Cadastro Unico* are incorporated.

Internationally, the promotion of a Single Registry is closely linked to initiatives by proponents of poverty targeting to develop single national targeting mechanisms for all social protection programmes. Ghana, for example, is designing a common targeting mechanism to be used by the Social Welfare, Education, Health and Agriculture Ministries.

There are, however, concerns with the push towards single targeting mechanisms for the poor. As in Brazil, social protection schemes can have very different target populations, which require distinct targeting mechanisms. Furthermore, given the high errors associated with poverty targeting – the exclusion errors in *Bolsa Familia* and Mexico's *Oportunidades* scheme are 59 and 70 per cent respectively<sup>19</sup> – a single targeting mechanism is likely to mean that the majority of the poor will be permanently excluded from all poverty-targeted programmes.

The Brazilian national social protection MIS is typical of most developing countries with multiple national social protection schemes. Rather than bringing schemes together under one database, it is common for each scheme to have its own MIS. In a number of countries, which include Mauritius and South Africa, mechanisms have been put in place to enable these MISs to communicate with each other.

A potential model for effective integration can be found in Figure 3. Such a model would enable each social protection scheme to maintain distinct MISs which would communicate with each other and share information. In countries with a clear institutional lead on social protection – such as a "Secretariat" – it would be possible for each scheme to deliver common information, for instance on the number of recipients or size of payments, to the Secretariat which would maintain its own database.

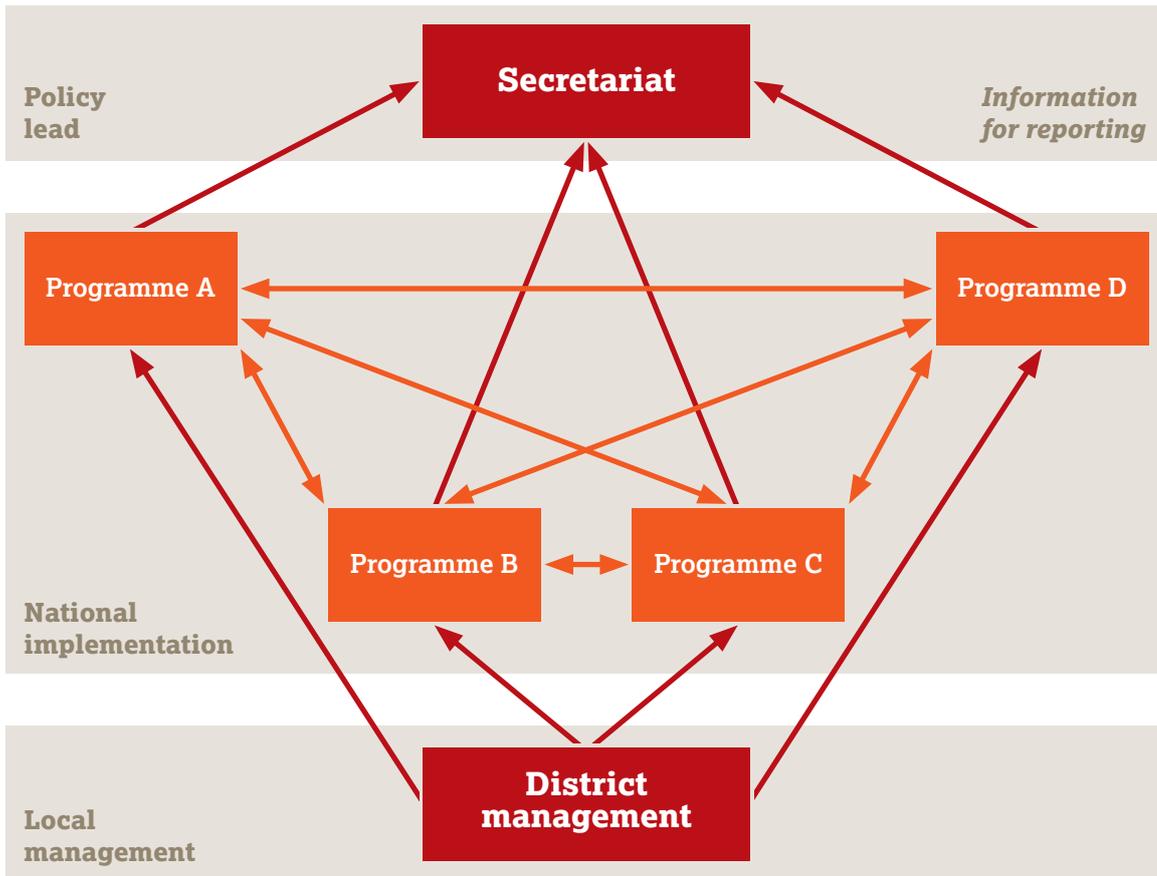
But, integration needs to take place at more than just national level. Rather, instead of each scheme maintaining separate staff at local level, countries should look at the potential for having single social protection teams at local level that work across a range of schemes. They could be responsible for taking forward key processes for all social protection schemes – such as targeting and registration – by entering information from each programme into the MISs.

17. Cf. Samson et al. (2006)

18. Mostafa and Silva (2007)

19. Veras et al (2007)

**Figure 3: Social protection MIS model enabling both integration and centralisation**



To facilitate integration between MISs, it would be helpful for each scheme to use the same application software and share a common set of fields that could be used for reporting to the secretariat. It is also important that each recipient has a unique identifier, which is used across all social protection schemes. Mauritius uses national identity numbers as identifiers.

There are a number of advantages to be derived from strengthening integration between social protection schemes, without necessarily moving to a single national MIS. These include:

- **Oversight of schemes:** while social protection schemes are often managed by different ministries, countries may have one body with oversight of both policy and implementation. An integrated MIS would enable such a secretariat to monitor the progress and performance of various schemes.
- **Reporting to policy-makers:** a secretariat could use information from an integrated MIS to report to policy-makers and other relevant bodies – such as parliament – on national progress with social protection.
- **A common payment system:** an integrated MIS could enable government to use a common payment system across all schemes, increasing efficiencies and saving costs.<sup>20</sup>
- **Avoiding double dipping:** when countries have multiple social protection schemes, isolated MISs increase the chances that individuals can illegitimately benefit from more than one scheme. But, when MISs communicate with each other it increases the chances of identifying “double-dipping” and benefit fraud. In situations where individuals legitimately receive more than one benefit – such as, in South Africa, where older people caring for children can receive both the old age pension and child support grant – then countries can track who is receiving what.

20. A common payment system does not imply that only one Payment Service Provider (PSPs) would be used; multiple PSPs could be divided geographically, rather than by programme. It would be relatively simple for a centralised MIS to provide lists of payees for PSPs.

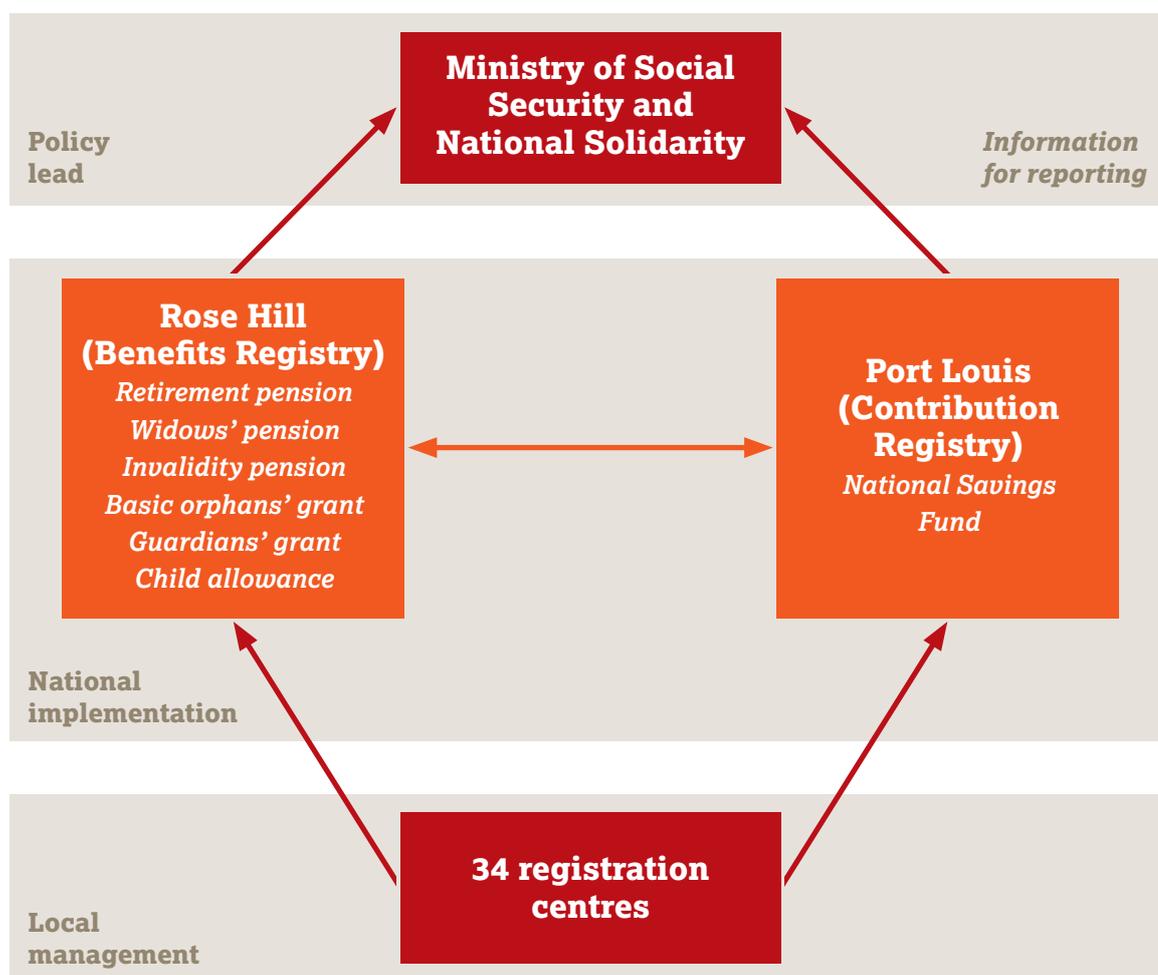
- **Enabling the movement of beneficiaries between schemes:** as countries expand their social protection systems, multiple schemes will be established for different target groups. An integrated MIS will enable people to transition from one scheme to another as their circumstances change. For example, in South Africa, those on the disability benefit can be automatically transferred to the old age grant at age 60.
- **More effective emergency responses:** a common database with a common payment system could help countries deliver an improved humanitarian response during emergencies. It would be relatively simple to direct additional payments to all social protection recipients in areas affected by an emergency for a limited period.

South Africa and Mauritius – both countries with multiple social protection schemes – have already integrated their programmes both nationally and at local level.

As indicated by Figure 4, Mauritius runs all its social protection schemes through 34 local offices of the Ministry of Social Security and National Solidarity. Data is held on two separate servers based at Rose Hill and Port Louis. The former manages the collection of contributions and the latter administers grants to beneficiaries. The two servers are connected using a high-speed cable connection.

Similarly, South Africa administers all its social protection programmes across 540 local offices of the South African Social Security Agency (SASSA). The information on its main MIS – SOCPEN – is centrally managed on mainframe computers located in South Africa Information Technology Agency (SITA).

**Figure 4: The Mauritius national social protection MIS**



Countries could also link their social protection MISs to other government databases. For example, South Africa's social protection database can share information with the tax system, and check for potential fraud. In Mauritius, medical units and the industrial injury branch are also linked to the benefit management database.

Uganda is one country that is taking steps to building something similar to a Single Registry. As part of the development of the SAGE cash transfer scheme, it is collecting information on all households with the aim of building a national household database. The database is linked to the birth and death registration process and will provide each individual with unique personal and household numbers.

However, only basic demographic data will be collected and used as the foundation of the MIS, and it is hoped that limiting the amount of information will enhance the chances of the scheme functioning well. Indeed, the SAGE cash transfer scheme will use simple forms of targeting to facilitate management and increase the likelihood of success.

It is expected that each social protection scheme in Uganda and other public services will use the common household database as the foundation of their own MISs. But this is an ambitious initiative and the jury is out on whether it will be successful since, even with limited information requirements, the database will require frequent updating and much of the technology has still to be tested.

South Africa's Department of Social Development is exploring something similar to the Ugandan initiative, known as a National Integration Social Information System (NISIS). The aim of the NISIS will be to provide a single picture of each citizen in order to improve the coordinated planning, tracking and delivery of social protection services. Data is to be sourced from existing operational systems, cleaned and integrated.

## **Conclusion**

Discussions on the design and implementation of social protection MISs should move away from the narrow view that they consist only of software and hardware. Rather, MISs need to be viewed more holistically as the systems that underpin the operations of social protection schemes.

Much can be done to improve social protection MISs in developing countries. The information integrated within the system should be carefully assessed as more information implies greater costs and will place stresses on MISs, particularly in countries with weak administrative capacity.

Furthermore, the development of social protection MISs should be based on appropriate technology. Technology is evolving rapidly in developing countries and many options for innovations are opening up. However, enthusiasm for all things new should be tempered by the need to ensure that the MIS infrastructure established is secure, sufficiently robust to handle social protection programmes at national scale and cost-effective.

Finally, while there is understandable enthusiasm for building a single MIS for all social protection in a country, this is an unlikely scenario when programmes have different purposes and target groups and are run by different agencies. In fact, no country builds one MIS for its social protection programmes; it is more important to ensure integration between separate social protection MISs and gain efficiencies from that.

**HelpAge International helps older people claim their rights, challenge discrimination and overcome poverty, so that they can lead dignified, secure, active and healthy lives.**

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## **Bibliography**

- Baird S, McIntosh C and Ozler B, *Cash or Conditions: Evidence from a Randomized Cash Transfer Programme*, Policy Research Working Paper, Impact Evaluation Working Series No. 45. World Bank Development Research Group, Poverty and Inequality Team, Washington D.C., World Bank, 2010
- Baldeon C and Arribas-Banos M, *Strengthening the MIS in Social Protection Programs: A Toolkit*, Washington D.C., World Bank, 2007
- Chirchir R, 'Towards Design of HSNP MIS: Feasibility Report', unpublished report for DFID Kenya, 2007
- Chirchir R, 'Brazilian Single Registry: Lessons Learned from the Brazilian Delegation', unpublished report for DFID Kenya, 2009
- Chirchir R, 'Feasibility and Social Security MIS Design Report: Ministry of Local Development, Social Protection Pilot Programme', unpublished work, DFID Nepal, 2010
- Kidd SW and Calder R, *Conditional Cash Transfer Programmes: their relevance for Nepal*, discussion paper, DFID Nepal, 2011
- Kidd SW, Calder R and Wylde E, *Assessing Targeting Options for Nepal's Social Grants: what does the evidence tell us?* discussion paper, DFID Nepal, 2011
- Kidd SW and Chirchir R, 'Scoping Study for a "Single Registry" MIS for Kenya's Social Protection Programmes', unpublished work, DFID Kenya, 2011
- Kidd SW and Wylde E, *Like Winning the Lottery: an assessment of the proxy means testing methodology*, AusAID (forthcoming)
- Fiszbein A and Schady N, *Conditional Cash Transfers: Reducing Present and Future Poverty*, Washington D.C., World Bank, 2009
- Grosh M, del Ninno C, Tesliuc E and Ouerghi A, *For Protection and Promotion: The Design and Implementation of Effective Safety Nets*, Washington, D.C., International Bank for Reconstruction and Development/World Bank, 2008
- Mostafa J and Silva KC, 'Brazil's Single Registry Experience: A tool for pro-poor social policies', Ministry of Social Development and Fight Against Hunger, 2007
- Sam WE, 'Rapid Assessment of Leaps Database: Towards the Design of a Management Information System', unpublished work, UNICEF Ghana, 2011
- Samson M. et al, *Designing and Implementing Social Transfer Programmes*, Economic Policy Research Institute, Cape Town, South Africa, 2006
- South Africa Information Technology Agency (SITA), *Establishment of a Social Security Information Center: The comprehensive Social Security and Retirement Reform implications for IT*, Government of South Africa, 2010
- Veras F, Peres R and Guerreiro R, *Evaluating the Impact of Brazil's Bolsa Família: Cash Transfer Programmes in Comparative Perspective*, IPC Evaluation Note, 1: International Poverty Centre, Brasilia, 2007
- Viquez R, *Sistema de Identificación de la Población Objetivo: SIPO en Costa Rica*, Serie de Documentos de Discusión sobre la Protección Social No. 0531, Unidad de la Protección Social, Red de Desarrollo Humano, El Banco Mundial, Washington D.C., 2005
- Ward P, Hurrell A, Visram A, Riemenschneider N, Pellarano L, O'Brien C, MacAuslan I and Willis J, 'Cash transfer programme for orphans and vulnerable children (CT-OVC), Kenya operational and impact evaluation, 2007-2009. Final report', prepared by Oxford Policy Management, 2010

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