



MANAGEMENT INFORMATION SYSTEMS



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LIST OF ABBREVIATIONS

ADM	Administration and Delivery Systems
AMTOS	Assisted Medical Orders
CMS	Case Management System
CPF	Child Protection Fund
CTM	Cash and Vouchers Manual
CT-OVC	Cash Transfer for Orphans and Vulnerable Children
DFAT	Department of Foreign Affairs and Trade
DFID	Department for International Development
DSD	Department of Social Development
HSCT	Harmonized Cash Transfer
ICT	Information and Communication Technology
ID	Identity
ILO	International Labour Organization
LEAP	Livelihood Empowerment Against Poverty
M&E	Monitoring and Evaluation
MIS	Management Information System
MoLSS	Ministry of Labour and Social Services
MoU	Memorandum of understanding
NADRA	National Database and Registration Authority
NGO	Non-Governmental Organization
NISIS	National Integrated Social Information System
NSNP	National Safety Net Program
NSPS	National Social Protection Strategy
OPCT	Older Persons Cash Transfer
OPM	Oxford Policy Management
OVC	Orphans and Vulnerable Children
PDA	Personal Digital Assistant
PERSAL	Pay-Roll System
PwSD	Persons with Severe Disabilities
SASSA	South Africa Social Security Agency
SITA	State Information Technology Agency
SOCPEN	Social Grants Payment and Administration system
SP	Social Protection
SSN	Social Safety Net
TOR	Terms of Reference
UCS	Universal Coverage Scheme
UFSP	Urban Food Security Programme
UNICEF	United Nations Children's Fund
WFP	World Food Programme
ZIMSTAT	Zimbabwe National Statistics Agency

1

INTRODUCTION

There is a growing recognition that Management Information Systems, or MIS, play a pivotal role in the implementation of social protection (SP) schemes. In fact, programme MIS are increasingly viewed as a central plank that holds together social protection schemes' core processes i.e. registration, determination of eligibility, payments, complaints and grievances, and monitoring and evaluation systems. In recent years this interest has expanded to encompass a new focus on integrated approaches to data and information management, capable of assisting decision-makers with more harmonized and systematic information across programmes to ensure coordinated responses to the multi-dimensional vulnerabilities of individuals across a life cycle, (UNICEF and World Bank, 2013).

This is in line with an increasing number of countries worldwide adopting national social protection strategies and implementing ILO Recommendation 202 (2012) concerning National Floors of Social Protection, seeking to coordinate interventions from different ministries and agencies (ILO 2015, Garcia and Moore, 2012, World Bank, 2015).

There is also an increasing recognition of the importance of embedding inclusive principles in integrated management information systems to enhance the overall outcomes for marginalized groups, including equitable access to and greater uptake of social protection schemes. However, there is no widely acceptable terminology in the context of SP, especially when considering integrated approaches to data and information management. The tendency is to (Barca, 2017):

- Use the same terms referring to systems that vary depending on their objective, focus, functionality, maturity, sophistication and level of integration and inclusion. For example, the acronym 'MIS' is used for systems that integrate data across several programmes, as well as systems for individual programmes.
- Use a variety of different terms when referring to systems that achieve broadly similar functions, with sometimes different methods. The most common 'synonyms' are: Social Registry, Single Registry, Unified Database, Consolidated Database and Unified Registry.

In all, countries have come up with their own definitions – all of which serve very well to describe tailored country solutions, but none of which easily compare to experiences elsewhere in terms of defining core characteristics. This terminological confusion is also exacerbated by inadequate practical and detailed documentation on the subject. Quite often, this leads to:

- i. confusion on the purpose, usage, objectives and evaluation of MIS in the SP sector; and
- ii. mis-procurement, for example, because suppliers may be biased towards a technical ICT-based perspective, strictly packaging them in hardware and software terms with insufficient consideration for appropriateness and cost/benefit analysis and institutional matters. In addition to a lack of clear terminology, policy makers and technocrats also lack adequate information and knowledge on programme MIS and integrated approaches to information. Moreover, common data collection and information management tools typically overlook the importance of gender, disability status and other socio-economic conditions, which exacerbate challenges for vulnerable people to register and access benefits. Therefore, integrating gender and disability-inclusive considerations within an MIS (at both programme and integrated levels) is critical to effectively identify, target and respond to the different needs these groups face, and enrol them into programmes. Administrative data generated by the system can be leveraged to support gender and disability-informed policy choices and programme development.

2

DEFINITIONS

2.1 OBJECTIVES

Having completed this section, the participant will gain an understanding of:

- The difference between a database, a registry, and an MIS
- The difference between a programme MIS and an integrated system for information management

There is no generally accepted terminology to describe data and information management in the context of SP. There are two main reasons for this confusion (Barca, 2017). First, the terms 'database, 'registry' and 'MIS' are often used interchangeably by social protection practitioners. However, as Box 1 clarifies, these have different meanings and functions. At both programme and integrated levels, data and information management can only be achieved by combining the static 'data repository' role of a database/registry (effectively synonyms) with the dynamic 'data interrogation' role of an MIS.

Box 1: Database, Registry, MIS, Interoperability: Definitions

This paper distinguishes between the following:

- Database – a system to organise, store and retrieve large amounts of data easily
- Register (nowadays referred to as registry) (a term of pre-ICT origin) – an official written record of names, events and/or transactions
- In a computerised environment, 'databases' and 'registries' are overlapping concepts (effectively synonyms); both are for storing and retrieving data.
- MIS¹ – a system that transforms retrieved data from a programme's database/register (or, in some cases, different databases linked to different modules) into information that can be used for efficient and effective programme management.
- In social protection literature, the term MIS is associated with programme-level information management. When discussing integrated solutions we use the generic term 'application software' or 'integrated MIS', referring to the tailored solution that allows for the input, processing, and output (e.g. display/presentation) of information.
- Interoperability: the ability of two or more systems (or components) to communicate by exchanging data, so the information is understood by the receiving agency and subsequently used for its own business purposes.

Source: Barca, 2017





Second, similar terms are used to refer to programme-specific and integrated approaches. For this paper, we introduce a new term to address this confusion:

- **Integrated System for Information Management:** refers to the broader system that enables the flow and management of information within the Social Protection sector and sometimes to other sectors. These are also sometimes referred to as 'integrated social protection information systems'.

This is the area with the greatest confusion in the literature, primarily as the integration of information management in the Social Protection sector can be achieved in different ways – influenced by the main objectives pursued with integration, and by a country's context and trajectory.

In the following sections, we first untangle the role of a programme-level database and MIS (Section 3), then discuss approaches to integrating data across the sector to create an Integrated System for Information Management (Section 4). In either case, we invite readers never to trust the wording chosen by any given country to describe their data and information management solution but to always question what that solution offers and what functions it performs. What matters is not the official name, but what the system is set up to do: most importantly where the data is flowing from (e.g. where is it originally being collected and what other data sources is it drawing from) and to (e.g. who has access to the data and how). We also discuss how information systems – both at a programme-level and integrated level – can be designed in a way to support gender and disability-responsive outcomes, and discuss opportunities and risks in data management and integration.

¹ It should be noted that this term has been borrowed from the business world, where it is defined as a 'system that provides information that organisations require to manage themselves efficiently and effectively'.

3

PROGRAMME MANAGEMENT INFORMATION SYSTEMS

3.1 OBJECTIVES

Having completed this section, the participant will gain an understanding of:

- The objectives and core functions supported by a programme MIS
- The key components of a functional programme MIS
- The key considerations of embedding gender and disability-inclusive principles in a programme MIS

3.2 OBJECTIVES AND FUNCTIONS SUPPORTED

A programme MIS enables the flow and management of information to support key processes within social protection schemes including:

- **Identification and registration of applicants**, using either a census or an on-demand method² for data collection, see also MODULE S&I
- **Eligibility determination and enrolment** (i.e. determining recipients for the programme) – see also MODULES S&I and MODULE ADM
- **Continuous maintenance of Recipient Lists**: e.g. removal of those who are no longer eligible
- **Authentication and compliance monitoring** (if applicable, e.g. when conditionality is imposed) – see also MODULE ADM
- **Managing payments** (e.g. producing “payrolls”, monitoring payment receipts, amounts paid, etc.) – see also MODULE ADM
- **Managing a grievance/ appeals and redress system** – see also Module ADM
- **Managing on-going programme monitoring and evaluation** (e.g. producing lists of recipients who have enrolled, which benefits have been paid, level of payments, characteristics of recipients, etc.) – see also MODULE M&E
- **Supporting on-going management and planning** (e.g. notifying managers when a process should or has happened etc.) – see also MODULE M&E

² A census method means that the programme attempts to visit all households to undertake targeting; an on-demand method means that applicants are expected to visit specific registration points to apply for the programme.



An inclusive lens needs to be systematically built into an MIS to support these operational processes along the “delivery chain”.

Ultimately, programme MISs enable harmonized implementation and monitoring of programmes, while ensuring transparency and good governance of Social Protection systems and targeting in particular. In fact, several functionalities of modern social protection programmes – such as e-payments – cannot be set in place in the absence of a programme MIS.

Moreover, MIS depends critically on the quality of data on recipients, including proper disaggregation, and requires appropriate quality checks and controls. These can be performed by routine audits selecting random data or by statistical analysis of deviances on the lists of recipients followed by qualitative in-depth ‘spot checks’ of processes to determine the nature of the quality defaults. Weak, non-disaggregated or inaccurate information can result from weak controls resulting in inadequate information from the MIS and sub-optimal policy decisions (hence the popular adage ‘garbage in, garbage out’).

When putting in place MIS, it is important to be clear about the SP programme’s procedures, design parameters and operational processes from the outset as well as the extent to which programme design and delivery operations support the inclusion of marginalized groups. In fact, a programme MIS is a reflection of the operational manual of the programme, supported by appropriate technology. This implies that the MIS from one programme cannot be easily adapted for another programme unless they have a very similar business process.

Conversely, not all programme functions are always supported by programme MIS, depending on programme objectives, set-up and what ‘Modules’ are prioritised during the MIS design. However, processes and procedures are fixed in time, as Box 2 below testifies. MIS can be adapted to follow changing programme requirements – e.g. increasingly moving core processes from a paper-based to an electronic platform – **and are an important platform to support cost-effective programme expansion and a pre-requisite for cross-programme integration, as Section 1 further explores.**

Box 2: LEAP’s evolving approach to registration and payments - Ghana

The Livelihood Empowerment Against Poverty (LEAP) programme, the flagship cash transfer programme in Ghana, initially relied on paperwork for the completion of its data collection questionnaire as well as for the recording of payments processed (recipients confirmed receipt of the transfer via an ink thump-print on the hard copy of the pay-roll list). The data captured on the questionnaire was centrally entered into the database, the “poverty score” was calculated and eligibility determined. The MIS was used to electronically produce the payroll list before each payment. The Post Office used hard copies of the payroll list to deliver the payment in cash to the recipients on previously announced paydays. On the basis of the hard copies, the Post Office then produced payment reports that summarized the information of the payments made (number of recipients paid at each payment, amounts paid etc.). Discussions are now underway to record the data electronically when registering potential recipients and to introduce electronic payments:

- For data collection, this would require investing in hand-held devices and software that programme staff would use when conducting household interviews, and training the staff how to record the information. Data accuracy and speed of the overall process is expected to improve as a result.
- For electronic payments, LEAP is considering offering recipients the choice between mobile phone payments or cash. For either, payment confirmation would be issued electronically, allowing for instantaneous update of the payment information in the database and fully automated compilation of payment reports.

How can programme MIS be leveraged to support gender and disability-inclusiveness?

A well-designed MIS, which incorporates gender and disability-responsive features from the outset, supports programme delivery operations with important benefits for these population groups. These include the increased ability of a social protection programme to better identify eligible recipients and improve outreach and targeting to ensure more equitable coverage of schemes. High-quality data and improved data management also enable programmes to respond to the specific needs of these groups and provide them with comprehensive support tailored to their evolving circumstances (Barca et al., 2021). Finally, the MIS is an important tool for assisting staff in tracking programme performance for different populations enrolled in the scheme. Operational data can support the mid-course adjustments in programme design and implementation to strengthen inclusive outcomes.

Conversely, if a gender and disability lens is not intentionally built into MIS, there is a risk that information systems will likely reinforce the exclusion of women, girls, and people with disability, or miss key vulnerabilities and needs that the social protection programmes could be responding to (Wapling, Schjoedt, & Sibun, 2021). Therefore, the type of data collected and how data is collected, validated and shared through an MIS has important implications for women, girls, persons with disability, and other vulnerable groups in terms of their access and full enjoyment of benefits.

In Box 3, below we discuss key issues related to data collection and information management that need to be considered when developing an inclusive and responsive MIS. While the discussion focuses on the programme-specific MIS, these considerations also apply to information management systems across several programmes, as well as integrated approaches to information management discussed in chapter 4.

Box 3: Key issues to consider when designing an inclusive programme-level MIS

Ideally, an MIS should be designed with gender-responsive and disability-inclusive features from the outset to enhance overall positive outcomes for recipients and avoid the risk of exclusion from schemes, due to failures in administrative data collection and management. This applies both to programmes which explicitly address inclusion objectives, as well as those that adopt broader poverty-reduction goals. In both instances, MIS must be collecting the right type of data and the right amount of information for a proper assessment of gender and disability-specific needs, access to and uptake of benefits and coverage. There are several questions to consider when designing (or tweaking the existing) MIS to make it more inclusive:

Is data properly disaggregated? Collection of disaggregated data for all target populations (eg. by sex, age, disability or other socio-demographic criteria) is critical to (i) provide coverage information, including the number of recipients and sex/gender and disability status of direct recipients to identify gaps in access/coverage, (ii) to allow the system to assess gaps in programme operations and different groups' access to and enjoyment of benefits (due diligence), and (iii) to identify those households or individuals that require further support from other available programmes. Data on disability should be collected using validated, UNCRPD-aligned tools, such as the Washington Group questions.

Box 3: Continued

Is data collected at the individual or household level? When programmes target and therefore collect information at the household level, this approach overlooks important intra-household poverty and vulnerability dynamics, and how these create barriers for individual members to access and enjoy benefits. Collection and analysis of individual data related to all household members, even within household-targeted programmes, (rather than just a “household head”) can help programme planners identify those individuals that require further support from other available schemes (e.g. old age pension, maternity cash grant, disability allowance) or services (care support, health insurance), as well as understand gender, and disability-specific impacts of interventions, and barriers to inclusion, and address these risks in a timely fashion. For example, in Sri Lanka, the MIS of the key social welfare programmes was designed to hold information on the family structure (eg, presence of elderly women, gender of the household head, marital status) to improve the identification of vulnerable women and their selection in the programmes. In Kenya, a management information system supports the delivery of the Mother and Child Health cash transfer pilot in Kakamega county, by collecting and tracking information on women’s and children’s access to cash and complementary healthcare measures through case management. The system collects data on individuals’ registration and enrolment, maternal and child health status (e.g. pregnancy, child delivery), and case management (e.g. antenatal and postnatal visits, family planning). In Uganda, there are plans to add the Washington Group Questions to the Senior Citizens Grant MIS to track data on disability.

What type of data is collected and stored? The nature and size of the dataset depend on the programme objectives and the core functions that MIS is meant to support. Whenever possible, it is important to go beyond the initial data collection on registration, enrolment and payments to also include process and performance-related indicators that can indicate how different categories of recipients access and use benefits, and where the implementation bottlenecks are (e.g. in terms of access, delays, discrimination, etc). For instance, disaggregated administrative data systems can capture data on barriers to access among women and people with disability in terms of distance between the place of residence and the service delivery/payment centre, challenges with biometric authentication, trends in complaints mechanisms and case management, and refine these design components accordingly. Since data requirements will be more complex if an MIS is meant to support this broader set of functions, staff needs to be sufficiently incentivized, trained and resourced to enable proper data collection, and timely analysis and reporting.

How frequently is data collected and updated? Depending on the type of data collected, as well as the quality of monitoring and information systems, the data may be updated on an ongoing or periodic basis (every two to three years). Data should be updated as frequently as possible to allow for a more reliable assessment of gender and disability-specific vulnerabilities and changes in their conditions (e.g. due to exposure to lifecycle/covariate shocks). This would enable responses to be better designed and targeted, and more effective delivery of support.

Who is involved in data collection and how is data collected? Data should be collected in a way that caters to the specific barriers faced by women and people with disability (e.g. for some people with disability on demand home visits might be required to enable access to registration mechanisms). Staff collecting data should be trained in inclusive data collection methodologies to build the necessary trust and rapport with marginalized groups to collect good information, both in terms of quality and breadth.

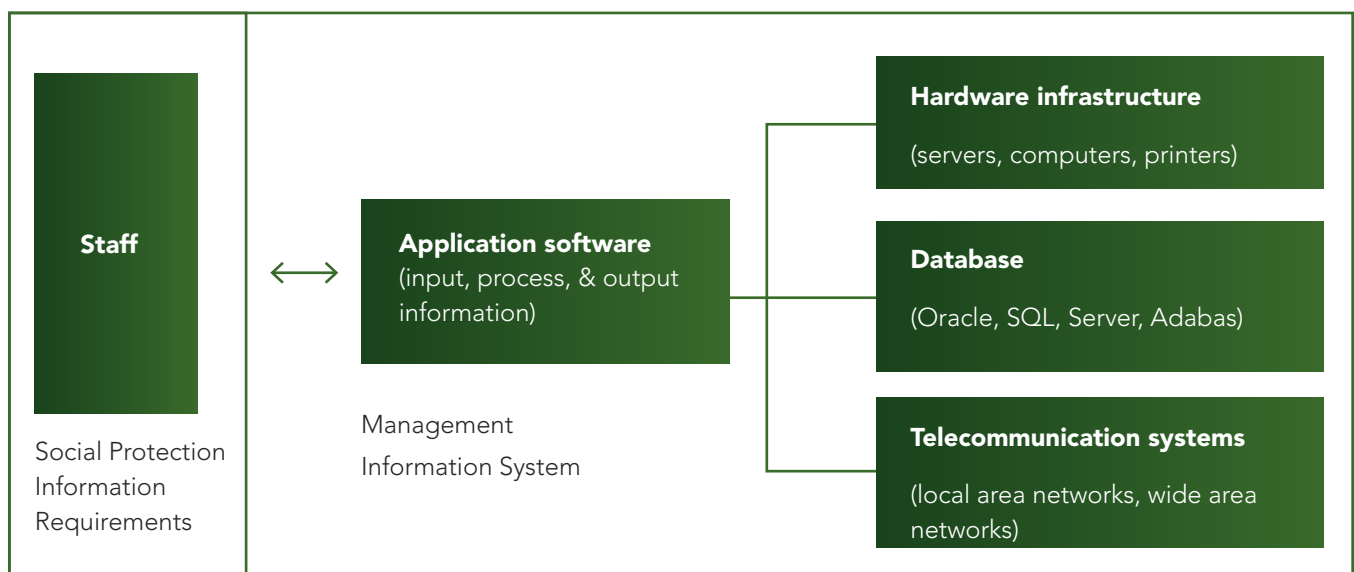
Source: Adapted by authors from Barca et al, 2021; FAO, 2018.

3.3 KEY COMPONENTS OF A FUNCTIONAL PROGRAMME MIS

Ultimately, a programme MIS is an application software that functions thanks to the interplay of several components that are tightly related (note that these apply to integrated systems too, see Section 1). We list and discuss these below, visualising their interplay in Figure 1 and further discussing good practices for each in Section 5.3 (Chirchir and Kidd, 2011 and Barca, 2017):

- a. **Information requirements:** i.e. what data needs to be stored and managed. These are defined by programme staff on the basis of programme objectives and the core functions that need to be supported. For example, an MIS supporting a complaints and appeals process or a comprehensive M&E system will have additional information requirements compared to a programme that uses an MIS only for registration, enrolment, and payment purposes.
- b. **Software application ('MIS'):** as defined in Section 2 "Definitions" (above), the software application transforms the data that is retrieved from a programme's database (or in some cases, different databases linked to different 'modules') into information that can be used for efficient and effective management. It can take many different forms depending on the information requirements and functions it is designed to perform (each operationalised within a different 'module'). Such software can either be developed using proprietary applications or Open Source software.
- c. **Database:** as defined in Section 2 "Definitions" (above). This is a system intended to easily organize, store, and retrieve large amounts of data. SP programmes can either use proprietary databases (Microsoft Access or Oracle) or Open Source.
- d. **Hardware infrastructure:** this refers to the necessary infrastructure to securely collect and store large amounts of data (computers, PDAs, servers, etc.). Options for hardware technology vary, depending on the size of schemes, the overall context (remoteness, power supply, etc.), levels of security guaranteed and the particular operations to be undertaken.
- e. **Telecommunications system:** this includes the network infrastructure – local area network and wide area network – that enables the necessary links between the software and the databases that feed into it. The choice of such a system depends on the local context (e.g. availability and reliability of the internet).

Figure 1: Key components of a functional programme MIS



Source: Adapted by authors from Chirchir, R. and Kidd, S. (2011) *Good Practice in the Development of Management Information systems for Social Protection*.

3.4 TAKE-AWAY LESSONS

- An MIS ('Programme MIS' in the context of social protection) is a system that transforms the data that is retrieved from a programme's database into information that can be used for efficient and effective management
- A programme MIS serves different functions, including: Identification and registration of applicants, eligibility determination and enrolment, authentication and compliance monitoring (if applicable), managing payments, complaints and appeals and M&E, and supporting on-going management and planning. Ultimately, programme MISs enable streamlined implementation and monitoring of programmes while ensuring transparency and good governance of Social Protection systems.
- Ultimately, a programme MIS is an application software that functions thanks to the interplay of several components that are tightly related. These include: SP programmes' information requirements, databases, hardware, and network infrastructure – all managed by an institution's staff.
- A well-designed MIS, which embeds gender and disability considerations from the outset, can support women's and people with disability's outcomes in social protection and poverty reduction. Inclusive MIS assists social protection programmes to identify eligible recipients, and improve outreach and targeting to ensure higher and more equitable coverage of schemes, as well as respond to the specific needs of these groups through a provision of comprehensive and tailored support.

4

INTEGRATED SYSTEMS FOR INFORMATION MANAGEMENT

4.1 OBJECTIVES

Having completed this section, the participant will have an understanding of:

- The three main approaches to developing an integrated system for information management in the social protection sector.
- The advantages and risks of data and information integration in the Social Protection sector
- What the main drivers of integration are and how these affect design choices
- How country context affects design choices
- The role and benefits of integrated systems for inclusive information management and social protection programming



4.2 DEFINITIONS: THREE APPROACHES TO DEVELOPING AN INTEGRATED SYSTEM FOR INFORMATION MANAGEMENT

The word 'single registry' has gradually become the main word used by social protection policy-makers and practitioners to describe integrated approaches to data and information management in the social protection sector. This word is misleading, as box 4 explains, and the challenge of this module is to unpack its meaning in different contexts.

Box 4: 'Single registries' – why is the word misleading?

Countries' approaches to integrated data and information management in the social protection sector have often been referred to as 'Single Registries'. Here, we explicitly choose to avoid the use of this terminology. Why?

- It was born as a literal translation of Brazil's 'Cadastro Unico'. In recent years Cadastro Unico is no longer translated as Single Registry but as 'Unified Registry'.
- It has been used to refer to very different approaches to integration in different countries, so it does not ensure clarity. For example, Kenya's solution is called a 'Single Registry' but has a different set-up and functionality compared to Brazil's Cadastro Unico.
- Key stakeholders are rapidly moving away from the term (World Bank, ILO, etc.) – though it has stuck in describing country solutions to integration (e.g. Kenya).
- 'Single registries' are not necessarily 'single' since they often do not comprehend all social protection programmes in a country and are not a substitute for individual MISs.
- 'Single registries' do not necessarily entail a 'single' process for targeting or unifying operations across programmes.
- The word 'registry' alone does not cover the full functionality of data and information management in the social protection sector.

Source: Barca, 2017

Depending on the country context and objectives pursued (see Section 1), there are two main approaches to developing a database/ registry supporting an Integrated System for Information Management within the Social Protection sector. As defined by Barca, 2017, these are:

1. **Integrated Recipient Registry:** A database/registry which is created by integrating programme MISs of several different existing schemes, meaning integration is only achieved across data and information on recipients (programme recipients).³ The main objective of such integration is to provide coordination and oversight (e.g. M&E) and integrate selected operations and services across programmes. In practice, Integrated Recipient Registries decentralise the process of data collection (individual programmes are in charge of this) but centralise selected services by consolidating existing data. Examples include Kenya ('Single Registry', see Case Study), Mauritius and Seychelles.

Integrated recipient registries are important for managing inclusive and responsive outcomes in two main ways. First, by centralizing data integration, unified registries can address issues around duplication or exclusion errors and reduce gaps in coverage. Second, by keeping track of who is receiving what, they also allow recipients of one programme to be linked to complementary programmes and services, such as health, education, insurance or livelihoods, for which they are eligible. Linkages to additional benefits are particularly important to women and girls and persons with disability as they often experience multidimensional vulnerabilities across the life course and need comprehensive support (Mello, 2017).

³ Note this is not necessarily the case, as data on applicants or anybody registered could also be integrated. But this case has not been encountered within country practice.

2. **Social Registry:** A database/registry which collects and houses comprehensive (i.e. not programme-specific) information on potential recipients within the country. Contrary to integrated recipient registries, they front-end and centralise data integration by collecting data for a national database/register that is then drawn upon by specific programmes⁴ (see Figure 2). Their primary function is to support and consolidate the initial social protection implementation phases of intake and registration. They can also support the assessment of needs and conditions to determine potential eligibility for enrolment in selected social programmes. Examples are Brazil's 'Cadastro Unico' and Indonesia's 'Unified Database'.

Designing social registries from a gender or disability perspective can improve the ability of the social protection system to identify, reach and serve these vulnerable individuals more accurately. For example, many countries have relied on social registries (as well as alternative data sources) to extend the safety nets rapidly to the uncovered populations during the onset of the COVID-19 crisis. In the Dominican Republic, for instance, the "Unique System of Recipients" (SIUBEN) was redesigned to include disability-related questions in routine data collection to enable quick identification of families with children with disability to provide them with cash transfers (Heinneman and Beegle, 2021). Similarly, registries have been used to identify people with disability requiring additional support, such as during natural disasters and other emergencies.

Box 5: Integrated recipient registry – what it is and is not

What it is:

- It is a registry of recipients across several programmes
- It integrates data from the MISs of several programmes, adopting a 'service integration' approach
- It supports integrated M&E and planning, and can be designed to support integration of delivery systems (e.g. payments and grievances)
- It is a building block that helps achieve integration. Its full potential as an 'Information System' is only unleashed when used together with a software application ('Integrated MIS') which enables dynamic links into other databases, systematically transforms data into information and analyses and uses the information
- It enables collection and management of relevant data associated with gender and disability-related aspects and outcomes across the programmes.
- Linking an integrated recipient registry with other types of registries and sources of data (eg. social registry, disability registry) is important for reaching vulnerable populations at scale and achieving equitable coverage.

What it is not:⁵

- It is not necessarily comprehensive (i.e. ensuring 100 per cent coverage of population) as it only includes existing programme recipients.⁶
- It cannot be used for 'targeting' or determination of (potential) eligibility for programmes, because it only contains information on people or households who have already been deemed eligible by existing programmes (recipients and not potential recipients)
- It does not necessarily include data from all social assistance programmes in a country (some programmes may not have been integrated)
- It does not necessarily include data from social insurance recipients (as this data may not have been linked)
- It is not necessarily highly integrated with other government databases (e.g. civil registry, tax authority, disability registry etc.).
- It is not necessarily a substitute for individual programme databases and MISs (unless specifically designed to do so, it cannot support programme-specific delivery systems).
- It is not necessarily 'national' since social protection programmes (and data collected for registration) are sometimes targeted geographically.

Source: Barca, 2017

⁴ In our 2014 report, we discussed this in Section 2.3.2 as the 'Centralised Model' (Barca and Chirchir, 2014).

⁵ For all the statements below where we state 'not necessarily' we mean this can be achieved if explicitly pursued.

⁶ It could be if 100% of the population were recipients (e.g. universal guaranteed minimum income).

Box 6. Considerations for including people with disability in integrated recipient registries

Integrated Recipient Registries should collect data on disability across programmes. However, relying only on official designations of disability (e.g. having a disability card or certificate, being enrolled in a disability-targeted cash transfer programme) is likely to greatly underestimate the number of recipients with disabilities. People with disability may not have official certifications for many reasons, such as barriers to applying, stigma and discrimination or if it would provide them with little benefits (e.g. if they wouldn't be eligible for disability-targeted social protection). For example, in the Maldives, 87% of older adults with disability – as measured using the Washington Group Questions – received the Old Age Pension. However, less than 8% had a certification of disability. As such, relying only on official certifications within an MIS for this programme or Integrated Recipient Registry would have drastically underestimated the number of people with disability enrolled in the Old Age Pension.

Other measures of disability should be used either instead of or in addition to data on official certifications of disability within MISs and Integrated Recipient Registries. For example, the Washington Group Questions are widely used and recommended by the United Nations and others for providing a quick screening of disability. These questions have been added to MISs for non-targeted programmes, such as the Senior Citizens Grant in Uganda. Questions on disability should be used consistently across different programmes within Integrated Recipient Systems, to assess access of people with disability to non-targeted programmes and track barriers and impact of these non-targeted programmes amongst people with disability.

Source: Authors.

Box 6. Considerations for including people with disability in integrated recipient registries

What it is:

- It is a registry/database of all people and households registered (the percentage and profile of the population registered will depend on the data collection approach and the user programme needs). A social registry, with its wide reach of potential recipients, increases the likelihood that women and girls and people with disability will be captured, particularly if tailored efforts are adopted to identify and register these “hard-to-reach” population groups.
- Its primary function is to support the initial implementation phases of intake and registration, and assessment of needs and conditions to determine potential eligibility for enrolment in selected social programmes and/or horizontal scale-up of the existing programmes during shocks and emergencies (“targeting”).
- It aims to collect, record and store updated and historical information on individual and household characteristics and circumstances, and verifies and checks information consistency
- It adopts a ‘data integration’ approach (through a shared master data system)
- It is a building block that helps achieve integration. Its full potential as an ‘Information System’ is only unleashed when used together with a software application which enables dynamic links to other databases, systematically transforms data into information, analyses and uses the information (see Section 4.5)

What it is not:⁷

- It is not necessarily comprehensive (i.e. ensuring 100 per cent coverage of the population) unless a national census survey is conducted covering the whole population.
- It is not just a list of recipients (eligible people who have been selected for social protection programmes)
 - i.e. it includes data on potential eligible households or individuals too
- It does not necessarily enable an integrated overview of who is receiving what across different programmes, as the main data flow is from the social registry to programme MISs, not back again.
- It does not necessarily provide data for all social assistance programmes in a country (some programmes may retain their own registration and data collection)
- It is not necessarily highly integrated with other government databases (e.g. civil registry, tax authority, disability registry etc).
- It does not necessarily offer a current snapshot of poverty and vulnerability across the lifecycle unless data is kept sufficiently up to date
- It does not necessarily entail integrating operations across programmes and is not a substitute for individual programme registries and MISs
- It is not necessarily ‘national’ since social protection programmes (and therefore data collected by the social registry) are sometimes targeted geographically

Source: Barca, 2017

Box 8: Indonesia’s ‘Unified Database’, a Social Registry

Indonesia’s Unified Database (UDB) – the Basis Data Terpadu (BDT) – was designed to improve the targeting system of Indonesia’s main poverty alleviation programmes. The objective of establishing the registry was to reduce poverty targeting by 8-10% by 2014. The UDB now covers 24 million households (93 million individuals or 40 per cent of population) located in over 77,000 villages nationwide – making it one of the largest databases in the world. The UDB data collection approach is a census survey of households pre-identified as poor, but the country may be moving towards an on-demand system. The database acts as a social registry and integrates data collection and eligibility determination across selected social assistance programmes and community health insurance scheme, but data from these schemes is not shared back with UDB, so comprehensive overview of recipients across programmes is not possible. The UDB has also recently been interated with the country’s national ID database, which is primarily used for data verification purposes.

Source: Barca, 2017

⁷ For all the statements below where we state ‘not necessarily’ we mean this can be achieved if explicitly pursued.



Box 9: World Bank's efforts to engender a 'Unified Social Registry', in Sri Lanka

In Sri Lanka, the World Bank supports the government to strengthen the national social safety net system, which includes the establishment of a gender-responsive **unified social registry** that will collect information on all current and former recipients as well as new applicants. The project foresees the establishment of gender-disaggregated indicators related to programme implementation, including caseload, the number of recipients registered and the gender of recipients (World Bank 2016).

Source: Barca et al, 2021

It is important to note that even registries are unlikely to identify all people with disability in a country or area. The coverage of registries will be particularly low if they are limited to people who are officially registered as having a disability (or a specific type of disability): as highlighted in the S&I Module, many people with disability may not seek certification due to fear of stigma in self-identifying as a person with a disability or in some instances families may not report having people with disability due to fear of stigma, difficulties in the application process and/or registration tools designed with a narrow conceptualisation of disability, or because they do not think receiving certification will be beneficial to them. For example, in Azerbaijan and other countries, official national statistics on disability capture data only from people who have a disability certification, which is likely to only represent a small portion of the country's population of people with disability.

The coverage of people with disability in social registries can be improved by using UNCRPD-aligned and validated questions on disability, such as the Washington Group questions, in data collection methods. National censuses are a good starting point for building social registries, but particularly for disability, additional pathways are needed to add new individuals or update their disability status, including facilitation of interoperability with disability registers and better training of enumerators in disability-sensitive data collection.

One technical approach to developing a social registry is to source data through interoperability of existing government databases i.e. ensuring that these can 'talk to each other' (share data) effectively. We define this as a 'virtual social registry', an approach that can be used by countries wishing to have a comprehensive (100 per cent population), cross-sector and proactive (linked to life-cycle events) overview of their population. The amount of information consolidated based on this virtual integration is sufficient to determine eligibility for universal social assistance programmes, as for Argentina's child allowance and Thailand's health insurance recipient registry schemes (see Box 10), but not for poverty-targeted programmes. When this is the case, information from several sources is consolidated and further data is then collected to determine (targeted) eligibility for social programmes (Barca, 2017).

Box 10: Thailand's national health insurance registry: a virtual social registry

- Built on a partnership between Thailand's Ministry of Interior and social health protection schemes, the country's national health insurance recipient registry facilitates access to health care for all.
- Launched in 2001, the Universal Coverage Scheme (UCS) covers the 76 per cent of the population who are not covered by existing social health protection schemes. UCS recipients are identified by extracting data from the national population database maintained by the Ministry of Interior and – using the country's 13-digit national ID number⁸ as a 'unique ID' (see also Section 4.7.1) – removing individuals who already benefit from other schemes. The National Health Security Office – an autonomous institution – was created and designated to compile and maintain the resulting registry.
- Beyond helping to verify eligibility, the national ID number is also used by health-care providers to track delivered services, settle claims, and build a shared medical record for each patient.

Source: ILO (2015) *Building Social Protection Brief: 'A national health insurance recipient registry based on national identification numbers: Thailand'.*⁹

⁸ This unique 13-digit identification number is generated for each Thai citizen at the time that their birth is registered in the national civil registration database. National ID cards are issued to citizens when they reach seven years of age. Non-Thai residents and foreigners can also be issued with ad hoc ID numbers.

⁹ Available at socialprotection.org

Box 11: The role of disability registry in the inclusive targeting of social protection: Example of North Macedonia and Senegal

North Macedonia has been streamlining the process for disability assessment across the country, as this is currently conducted separately for different programmes. The plan envisages the establishment of a 'unified disability assessment system' and Central Disability Certification Coordination Unit (CDCCU) sitting within the Ministry of Labour and Social Policy, feeding into a consolidated Disability Registry that is linked to the social assistance information system.

In response to COVID-19, the Senegalese government announced links between the equal opportunity card (disability) registry and the unified social registry to ensure that people with disability would have access to in-kind relief.

Source: Adapted from Barca et al, 2021

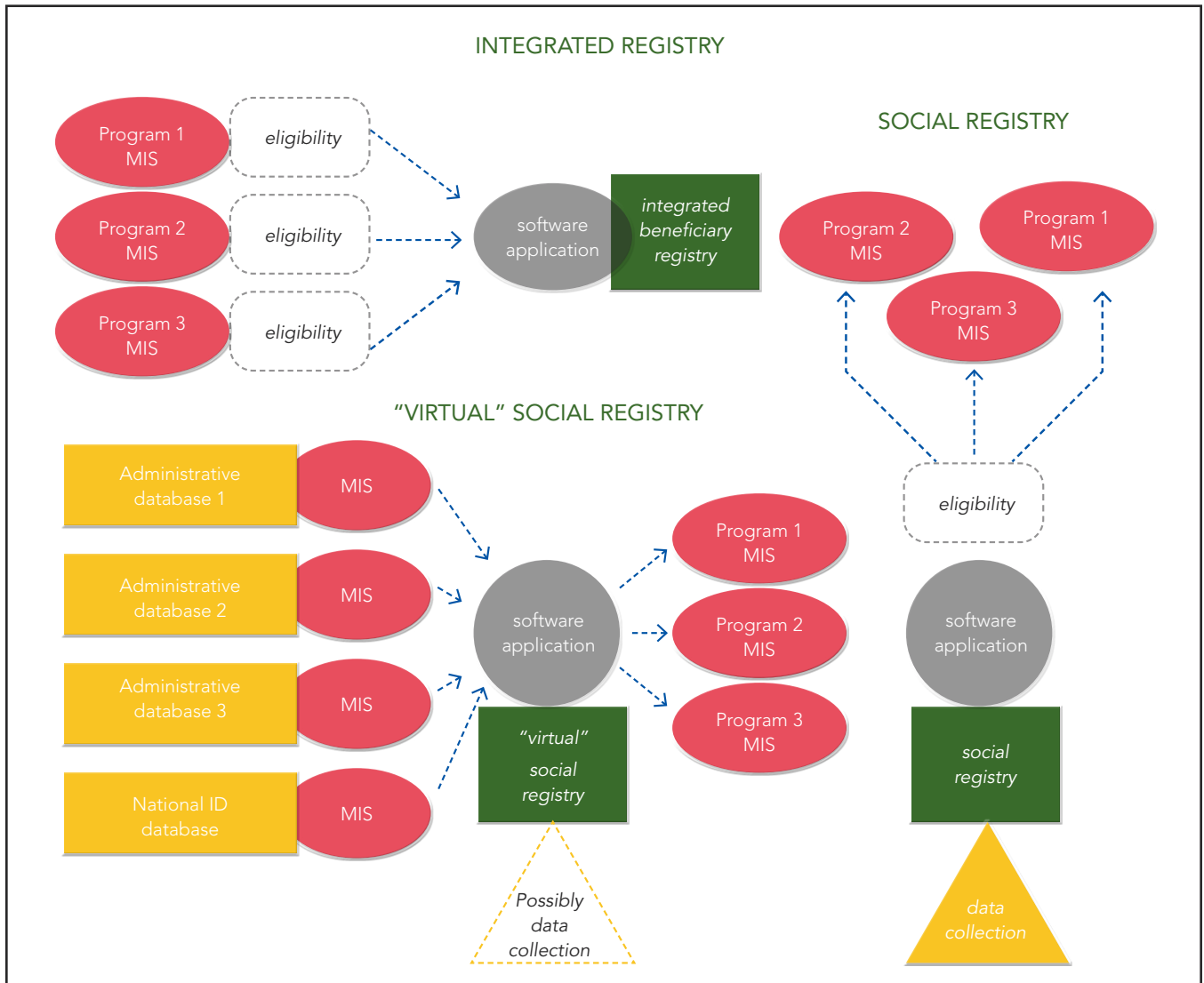
4.3 HOW THESE APPROACHES RELATE TO EACH OTHER

As briefly mentioned above, these approaches to developing an Integrated System for Information Management within the Social Protection sector are not mutually exclusive, and can evolve. For example, a country consolidating information from existing programmes using an integrated recipient registry approach may decide to coordinate data collection activities and move towards a social registry approach. This approach may then increase its level of interoperability with other government databases and take on features of a virtual social registry, as has been the case in Chile, where the majority of data for the 'Registro Social de Hogares' is now sourced through existing administrative databases.

- High levels of interoperability can be achieved within all of three approaches.

The different development of integrated recipient registries, social registries and virtual social registries are represented visually in Figure 2.

Figure 2: Integrated recipient registry, social registry and virtual social registry



Source: Barca, 2017 Note: Boxes indicate databases; circles indicate MIS. All arrows have been portrayed as monodirectional here (one-way data flow), though this is not necessarily the case.

Moreover, the extent and type of integration ultimately achieved depends on the number and type of linkages established with other databases – see the Table below for important examples.

Table 1: What type of integration can be achieved? Comparing Social Registries, Integrated Recipient Registries and Virtual Social Registries

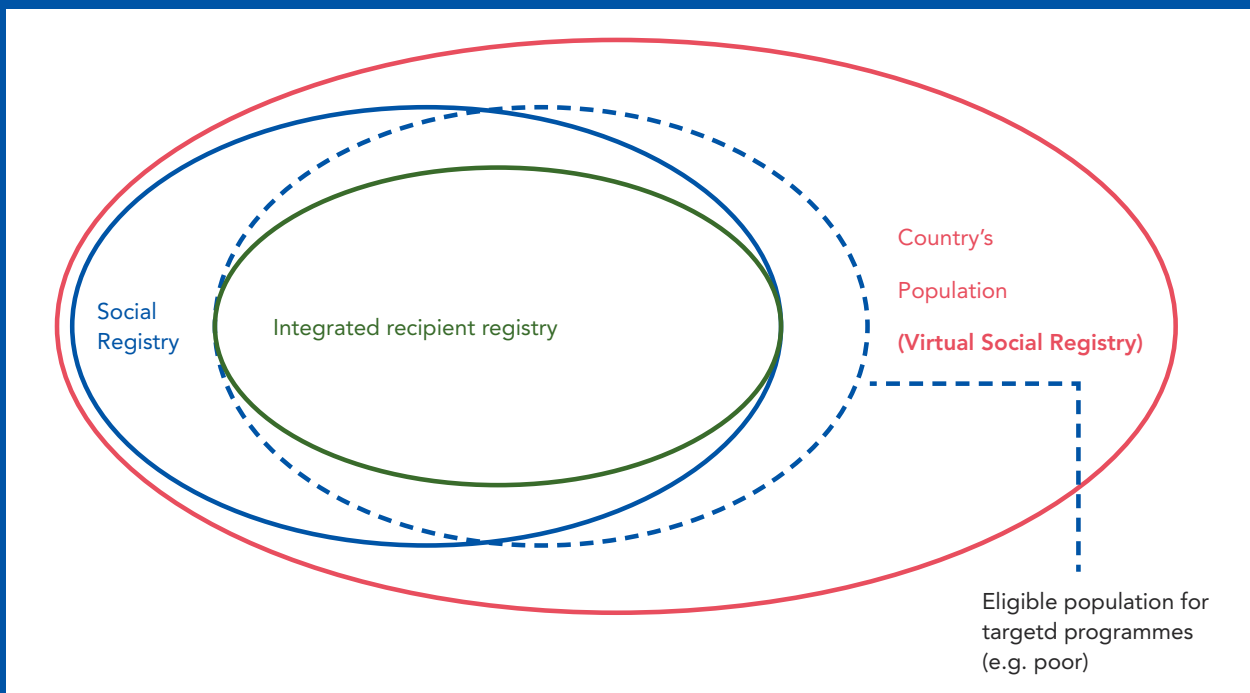
	INTEGRATED RECIPIENT REGISTRIES	SOCIAL REGISTRIES	VIRTUAL SOCIAL REGISTRIES
Overview of recipients across programmes and integrated M&E	Yes	Only if the Registry receives data from programme MISs	Only if the Virtual Social Registry also receives data from programme MISs
Integrated process for eligibility determination across programmes	No (eligibility is determined at the programme level, then integrated)	Yes	Yes for universal programmes. Additional info needed for means testing
Integrating operations and services across existing programmes (e.g. payments, grievances)	Yes (if pursued as a policy objective)	Only if Registry receives data from programme MISs	Only if Registry also receives data from programme MISs
Integrating policy across the Social Protection sector	Only if the Registry is linked to all social assistance programmes and Social Insurance registries, etc.	Only if the Registry is linked to all social assistance programmes and Social Insurance, etc.	Only if the Registry is linked to all social assistance programmes and Social Insurance, etc.
Integration with other sector MISs	Only if Integrated MIS enables this	Only if Integrated MIS enables this	Yes (depth will depend on what MISs are made interoperable)
Integration for achieving inclusive outcomes	Yes, only if programme MIS collects gender and disability-relevant data.	Yes, only if women, girls and people with disability are accurately registered and enrolled into social registries.	Yes, only if it allows the integration of hard-to-reach populations in other databases (eg. girls may be not registered at birth).

Source: Barca, 2017

Box 12: Comparison to a country's population

- To better understand the relationship between social registries, integrated recipient registries and virtual social registries, it can be useful to represent them against the wider population (which can be potentially reached by virtual social registries). In Figure 3:
 - The widest red circle is a country's whole population (rich and poor). Any interoperable system ensuring the creation of a virtual social registry could potentially reach 100 per cent of this population by linking to a country's national ID and/or civil registry
 - The next blue circle is the population included in a country's social registry. This is 100 per cent of the total population in a few cases (red and blue circles overlap) – notably where comprehensive census surveys are completed – but most often focuses on the sub-population of those who are relatively poorer and primarily eligible for means-tested social assistance programmes
 - The smallest green circle represents the population included in a country's integrated recipient registry: the sum of all the recipients of the social protection programmes whose MISs have been integrated
 - The grey dotted circle represents a country's eligible population (those who are entitled to receive some form of social assistance benefit based on the targeting criteria of any of the existing programmes).¹⁰ The area that does not overlap with the green or the blue line represents households that should be included but are not (exclusion errors). The area within the blue circle that does not overlap with the grey one represents households who are included in the social registry but not eligible based on existing eligibility criteria (they could be if these changed). All recipient households (green circle) are eligible (unless there are inclusion errors, not figured here).

Figure 3: How social registries and integrated recipient registries compare to a country's total



¹⁰ In cases of universal coverage, this grey dotted line would correspond to the outer red circle.

4.4 ADVANTAGES AND RISKS OF DATA AND INFORMATION INTEGRATION

- Integration of information and data within the SP sector can bring policy and operational gains. As discussed by Barca, 2017, from a **policy perspective**, advantages could include the ability to:
 - apply a potentially more equitable approach to distributing resources based on objective and comparable information, addressing the uneven and unequal provision of social protection across vulnerable social groups (eg. women and girls, people with disability etc.) and administrative jurisdictions
 - increase responsiveness and inclusiveness of interventions to serve the chronically poor, serve those structurally vulnerable to poverty and respond to individual shocks, such as job loss, disability, childbearing, old age, or large crises (for example, natural disasters or conflict)
 - ensure universal coverage and support implementation of the Social Protection Floor, potentially coordinating social assistance and social insurance
 - improve access to complementary services and benefits for recipients to address multidimensional vulnerabilities
 - build a stronger link to complementary institutional frameworks and wider social and economic policies¹¹
 - increase transparency and accountability, since programme information can be more easily shared and compared
 - improve the “image” of the social protection system, as citizens better understand their entitlements
 - improve government’s procedures for registering and enrolling into programmes
 - increase knowledge on poverty and vulnerability affecting different groups of people (eg. women and girls, elderly, persons with disability etc.) based on access to the large amount of information available

From an **operational perspective**, advantages include the ability to:

- facilitate oversight of multiple schemes and report to policymakers
- improve budget planning and ability to model and test policy changes
- decrease the burden on staff (e.g. less paperwork, less manual reporting, etc.)
- decrease the burden on potential applicants (e.g. can apply for several programmes at once, less documents needed, reduced costs in applying, better/coordinated information on entitlements and registration entitlements)
- avoid duplication of effort as well as gaps and fragmentation of data collection activities (for example, with data collection activities) and potentially establish a ‘common entry point’ for social protection
- establish common systems across all schemes (e.g. payment system, grievance mechanisms, etc.), increasing efficiency and saving money
- better manage error and fraud and monitor multiple payments (keeping track of who is receiving what)
- further digitalise service delivery, potentially reaching out to citizens in new ways (e.g. mobile phones) but ensuring new technologies are accessible to all groups of clients
- ensure reinforcing measures and/or complementary interventions to multiple disadvantaged households or individuals
- enable recipients to transition between schemes as their circumstances change
- establish more effective emergency responses (for example, by scaling up programmes to at-risk groups, directing additional payments to social protection recipients in areas affected by an emergency for a limited period) and context-based services.

¹¹ SP systems have the potential for maximizing outcomes and impacts if they are conceived as integral components of national development and poverty reduction strategies, linked with complementary programmes (e.g.: livelihood promotion, labour market and intermediation programmes, food security programmes, etc.) and macro policy determinants (macroeconomic stability, economic growth, etc.)”. Organisation for Economic Co-operation and Development (OECD), 2009.



However, several challenges and risks can emerge when embarking on such a process of data integration within the social sectors. These include:

- Increasing costs and complexity at the initial development stages (and potential 'failure') – calls for high capacity, strong policy leadership and institutional coordination – **Attention:** In certain cases, a more gradual and progressive approach is needed. It will be difficult to implement an Integrated System for Information Management when the underlying institutions have very rudimentary programme definitions and guidelines, weak programme management systems, and institutions tend to compete in context of poor leadership over and above the different departments. Possible coordination problems and escalation of costs must be taken into account.

Developing integrated approaches in those contexts entails costs with negotiation and arbitration, which may be prohibitive. The maturity of ICT development in different institutions, management complexities including maintenance of technology, back-ups and possible coordination problems and escalation of costs must be taken into account.

- increasing risks to data privacy and security – misusing or losing information, potentially exposing households and individuals to further vulnerability (e.g. 'surveillance state', stigmatizing people with disability)
- risks of multiple exclusion from all social sector schemes and systematic exclusion of certain types of households and individuals, and potential loss of specificity in the objectives of different social protection interventions (if integrated data is used for determination of eligibility across programmes, especially in census-based poverty determination criteria as a first filter). This is because social policy interventions can address different social objectives beyond the issue of poverty – for example, help improving the dignity of life of disabled people, empowering and protecting against bad social practices, abuse or negligence of certain groups.

Including gender and disability-disaggregated questions in questionnaires/forms during the initial screening stage of registration, and conducting a follow-up comprehensive needs assessments, is critical to achieving inclusive outcomes, and not reinforcing risks of exclusion from schemes. Box 12 provides some specific examples.

Moreover, the extent to which the benefits of information integration are felt greatly depends on the practical set-up for integration and on the ultimate use of the integrated system. To conclude, it is important not to lose sight of the ultimate aim of integrating data and information management systems for social protection: collecting and sharing information to support social objectives, including improving the standards of life of the poorest and most vulnerable citizens, protecting against life risks, empowering them and achieving social transformation.

Box 13: Critical questions to ask in the social registry questionnaire/application forms

Disability-related questions in registration forms used for programmes or social registries: In order to properly identify the diversity of persons who may experience disability at the initial stage of identification, application forms should include a set of questions about functional/activity limitations, rather than a simple self-assessment (e.g. a filter question such as do you have a disability yes /no) → ‘yes/no’ risks filtering out people who do not self-identify as disabled but may have significant functional difficulties e.g older persons. Validated, UNCRPD-aligned questions such as the Washington Group questions sets and/or WHODAS13. This initial screening process may then trigger a referral for a more detailed process of disability assessment for individuals and/or complement the registration data with information collected through interoperability with other registries (eg. Disability Registries) and official designations of disability (i.e. having a disability certificate/ card).

Gender-related questions in registration forms used for programmes or social registries: Critical questions to ask at the registration stage relevant to women include information about their care obligations; lifecycle stage (eg. pregnancy/lactation), access to services, mobility, ownership of ID documents, access to mobile phones/bank accounts. These indicators may be supplemented by additional data, but not necessarily at the registration stage. Other critical gender-specific questions that could be considered for case management and M&E include: time use including women and girls’ time spent on unpaid domestic and care work, autonomy, decision-making, and control over resources.

4.5 SET-UP FOR ‘FULL’ INTEGRATION

Potentially, the greater the interconnectivity, the greater the gains in efficiency and effectiveness of service delivery. The key issue is therefore the level of coordination and interoperability¹² achieved, not the creation of a super-sized system or database that serves all purposes.¹³ It does not matter whether the system is set-up as a ‘Social Registry’, ‘Integrated Recipient Registry’ or ‘Virtual Social Registry’, what matters is that the approach chosen:

- responds to a country’s needs (see Section 4.6)
- is appropriate to its context (see Section 4.7)
- is inclusive, affordable and sustainable (see Section 5)

A system that guarantees full integration within the Social Protection sector and beyond, in accordance with the right to privacy, would ensure the application software (‘Integrated MIS’) establishes a direct (e.g. web service) link to:

- **All Social Assistance Programme MISs** and related databases: to keep track of who is receiving what, potentially harmonize targeting procedures, integrate selected services, and enable adequate M&E and planning
- **Social Insurance MISs** and related databases: to integrate social assistance and social insurance and ensure a lifecycle and comprehensive approach to Social Protection
- **Any other relevant Government MISs** and related databases (e.g. Civil Registry, Tax Authority, etc.): to collect and cross-check data, enhance accountability, and enable a comprehensive approach to Social Policy planning.

This can most robustly be achieved using each citizen’s National ID number as a unique identifier (see Section 4.7.1 for more details and critique), allowing for instant access for more up-to-date data, with information flowing in both directions – conditional on the permission level of each user.

¹² Interoperability is a characteristic of a product or system, whose interfaces are completely understood, to work with other products or systems, present or future, in either implementation or access, without any restrictions.

¹³ A large whole-of-government information and communications technology system is unrealistic and risks being too complex to be useful. Instead, e-government, for the purposes of this paper, means a set of policies and frameworks that ensure interoperability of multiple government sector systems and use of IT to provide services to citizens.



4.6 POLICY OBJECTIVES: INTEGRATING - WHAT AND WHY?

It is evident that integration is mainly a policy issue requiring political and institutional arrangements before technical considerations, meaning that effective systems for data and information management cannot operate in a policy/institutional and programmatic vacuum. In this section, we outline the three main and overlapping objectives pursued by policy-makers aiming to achieve integration, and the approaches to integration that can support these Barca, 2017.

1. Providing oversight: Integrating to have an overview of who is receiving what, identifying inclusion and exclusion errors, coordinating interventions, facilitating planning and more generally providing combined monitoring and evaluation (M&E) across programmes. e.g. Kenya National Safety Net Single Registry.
 - Achievable through a) An integrated Recipient Registry; b) a Social Registry or Virtual Social Registry which exchanges data with Programme MISs (often not the case)
2. Consolidation of targeting processes so they serve multiple social programmes. The rationale here is to avoid the use of different and possibly conflicting targeting methods, increasing scale and thus cost efficiency of targeting tools. The aim is to create and maintain a database of poor households, which can be used for targeting of new programmes.
 - Achievable through:
 - a. A Social Registry;
 - b. A Virtual Social Registry with no additional data collection (only universal non-means-tested programmes);
 - c. A Virtual Social Registry with additional data collection
4. Integrating data management to integrate operations and services. This is in line with the concept of the Single Window Services within the social protection sector and beyond.

This is important both from a programme's efficiency perspective as well as easing the burden of registration in the multiple programmes (eg. time, costs) for applicants. In South Africa, for example, multiple phases within the delivery chain (eg. registration, eligibility calculation, enrolment and opening of a bank account) are all available to clients in a single visit.

- Achievable through (when this is a policy objective): a) An Integrated Recipient Registry; b) a Social Registry or Virtual Social Registry which exchanges data with Programme MISs (often not the case)

Below, we briefly outline key considerations that need to be made when attempting to achieve either or multiple of these objectives.

4.1.1 Integration for oversight, coordination, planning, and M&E

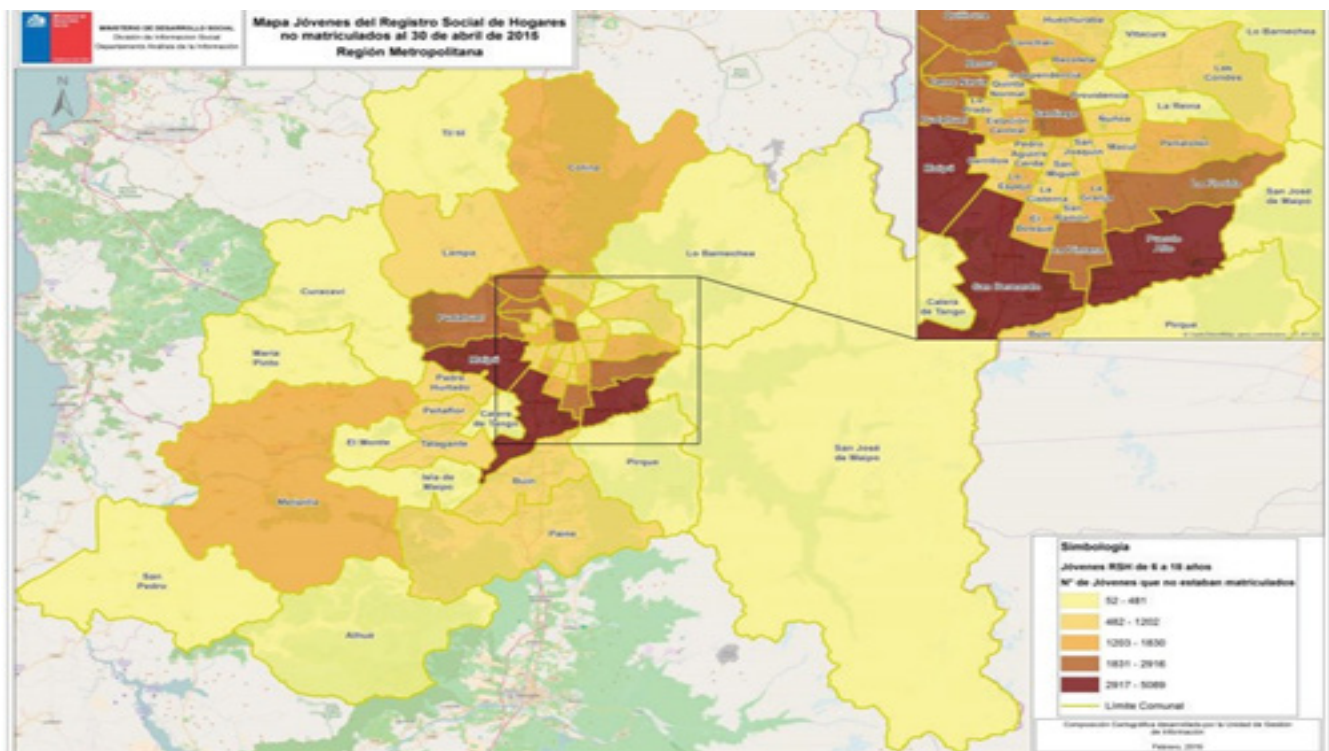
As shown above, only when data is shared back from individual programme MIS to the national Registry (always the case for Integrated Recipient Registries, but often not the case for Social Registries or Virtual Registries) it is possible to provide an integrated overview of the programme recipients to understand who is receiving what and feed into Social Protection policy planning.

However, this requirement alone is not sufficient. Even complete, high-quality data have no value unless they can be converted into information that is useful for making decisions and improving programmes (Villalobos et al, 2010) and policy. Whatever the integration set-up, effective systems for the on-going analysis and use of existing data also need to be developed. Good practices to ensure adequate reporting and use of data across government include (OPM, 2015):

1. Clearly identifying data needs and reporting requirements of each actor and catering to those within an overarching M&E framework. When planning this process, stakeholders should involve both the government and civil society actors, as well as the community members to ensure data needs and reporting requirements incorporate and reflect the priorities of the most disadvantaged groups and data is managed to build support for inclusive policymaking.
2. Developing a relevant and timely reporting system (e.g. Module within the integrated MIS), informed by constant testing by data users. See for example Kenya's online Single Registry (Figure 9 in Case Study)

3. Providing adequately disaggregated data, catering to the planning needs of local governments and other data users. This is critical if we want local governments to be supportive of the system, which means analysis of the data needs at the local level.
4. Presenting reports in easy-to-read formats e.g. dashboards, charts and graphs
5. Collecting, storing and reporting on disaggregated data on programme implementation and performance to assess and identify gaps in access to, and uptake of benefits and other trends in performance to inform a re-design of programming to enhance results.
6. Using GIS and geo-referenced data where possible (e.g. Uruguay, Indonesia, Chile, Brazil, etc.)
7. Publishing aggregate key data trends on a relevant institutional website, to engage citizenship more widely (e.g. Indonesia, Kenya)
8. Encouraging data-sharing with a wide range of actors, including research institutions and universities and civil society organizations championing the rights and needs of marginalised social groups.

Figure 4: An example of Chile’s geo-referenced reporting system



As mentioned before, efforts to collect gender and disability-disaggregated data are not well-mainstreamed in social protection information systems. Even when disaggregated data is collected, it does not necessarily mean that it will be properly analyzed and disseminated with implications for inclusive decision-making. Additional efforts are required to incentivize adequate reporting and use of data across government information systems, as the example in Nepal demonstrates in Box 14.



Box 14: Strengthening Nepal’s System for Social Protection and Civil Registration

In 2016, the Nepali government embarked on a project on Strengthening Systems for Social Protection and Civil Registration (SSSPCR) that aims to improve the coverage of social security allowance (SSA) and civil registration (CR), and the delivery of social security allowance. The data on CR and SSA recipients will be disaggregated in the MIS to better understand possible exclusion of men or women from programmes, and identify gender constraints linked to the registration of vital events, which may exist for women in particular. To strengthen institutional capacity for the implementation of the SSSPCR, the government will organise training, awareness raising for registrars, and the mobilization of community organizations, which could include women’s groups.” (World Bank, 2016). The system will collect and produce disaggregated recipient data by type of SSA, recipient’s name, districts, urban/rural municipalities, ward number and very specific gender-related indicators, such as SSA type by age distribution for single women or by religion or caste/ethnicity. These data will be publicly available.

4.6.2 Integration for consolidated targeting

One of the primary roles of social registries (as opposed to integrated recipient registries — see above) is to support the gateway phases of intake/registration and determination of eligibility across social sector programmes. Many social registries score or rank households registered based on their levels of poverty and vulnerability at the central level, to avoid political interference. The outcome is a compiled list of potentially eligible households or a ranked list of all households. This output can then be shared with individual programme implementers or decentralised counterparts, who use the national list as a basis for eligibility determination and often adapt it to their purposes by (Barca, 2017):

- a. adding further criteria: for example, pregnant women, presence of disability or age (eg. people aged 65 and over)
- b. validating lists provided: for example, publicising the list in the community and giving 30 days for people to object, calling a community meeting or conducting household visits
- c. choosing what percentage of households ranked nationally are to be included: for example, only the poorest 10 per cent.

This two-tiered targeting approach enables a common methodology to be developed across programmes while maintaining the flexibility needed by individual programmes or decentralised units of government to target specific household types. In other cases the full dataset from the social registry is shared with user programmes, meaning the social registry only integrates intake/registration, not eligibility determination.

However, the risks an integrated approach to intake/registration and/or determining eligibility poses go beyond those faced by individual social protection programmes, as any mistake can lead to exclusion from multiple social sector schemes.

The main risk for people is that if you do not make it “into the data system,” which acts as a gateway for most social protection interventions, you may be systematically excluded from all available schemes, despite being eligible.

For example, integrated intake/registration could lead to the systematic exclusion of certain households or individuals because of problems with:

- data collection approaches: e.g. low take-up for on-demand systems, biased coverage for census survey systems, political interference at the local level, time-consuming application process
- type of information collected: not including adequate gender and/or disability-related questions in the registration questionnaire/applications (see Box 13) risks eliminating eligible people at the initial screening stage
- data/administrative requirements: e.g. lack of an ID card, proof of income

An integrated process for determining eligibility could similarly be problematic if the eligibility formula does not accurately capture those in need or if the national approach to determining eligibility does not adequately reflect local poverty profiles – a big challenge in large and diverse countries (e.g. Indonesia, Brazil).



Approaches used to mitigate these risks have included (OPM 2015):

- a. adapting eligibility formulas to enhance inclusive targeting and coverage outcomes. For example, giving increased scoring/weight to women and girls and people with disability and other vulnerable categories when profiling needs through poverty targeting methods (eg. adding specific proxies on disability within Proxy Means Test scoring or weighing these higher; using single female head of household as a criteria for eligibility in categorical targeting).
- b. institutionalising a validation process within communities, at registration. However, this is time-consuming and can be counter-productive if validation results are not integrated into the system and open to all relevant stakeholders, including socially excluded groups and/or those facing practical barriers to participation in community meetings.
- c. enabling two decision-making layers. In Turkey, for example, data determines eligibility but human decision (following household visits) prevails. The central level then validates local decisions, performing spot-checks on discrepancies with the central targeting index.
- d. having in place a functional grievance mechanism for complaints and appeals, e.g. a toll-free line, easily accessible to all profiles of recipients (eg. women and people with disability etc.). This is problematic if this does not translate into changes in targeting decisions.
- e. ensuring that through tailored communication strategies, people understand targeting criteria and registration procedures (e.g. to increase take-up and registration).
- f. including parameters relating to the local context (urban/rural, services available etc.), as is done by SISBEN in Colombia.

4.6.3 Integrated management of selected operations and services

One of the ultimate aims of the integration of data and information management should be to improve citizens' experience and access to social protection programmes, with a particular focus on poor and vulnerable groups experiencing social exclusion. However, integrating operations and services across the social protection spectrum requires very high levels of capacity and institutional coordination and may not always be feasible. For example, individual programmes may be reluctant to relinquish control over their operations and share information across different institutions and departments. In this section, we briefly discuss the key operations – beyond the determination of eligibility – that could usefully be integrated and managed nationally as well as give some clues as to how these can be designed in a gender and disability-inclusive way. See also Modules S&I and Admin

- **Communications** - Adopting an integrated approach to social protection entails providing clear, transparent and non-contradictory information to citizens on their rights and responsibilities concerning the services they may or may not be entitled to. Information also needs to be disseminated to vulnerable groups through various communication channels and mechanisms to ensure they have access to timely information. An Integrated System for Information Management could potentially aid this process by rationalizing access to and receipt of social programmes: ensuring one point of contact and source of information.

Programmes can leverage the existing data from the social registry and other databases (eg. Disability Registry) to reach marginalized segments of the population at scale through carefully designed communication and outreach campaigns. Tech-based features of the information system (eg. mass SMS campaigns) can be used to assist the process of outreach and deliver tailored messages to target populations. However, as vulnerable groups, such as women and girls and persons with disability typically have more limited access to digital devices (eg. low ownership of phones, low levels of digital literacy), additional efforts may be needed (eg. distributing phones, providing support through social workers, engaging with Organisations of Persons with Disabilities) to ensure that potential applicants can access information via these channels. For example, during the COVID-19 pandemic, where mass registration campaigns were carried out digitally in many countries (online, or via SMS, applications, etc), local organisations were also mobilized to support marginalised and excluded users to access these.



- Registration – Integrating the approach to registering potential recipients of social protection programmes – as is the case for Social Registries with ongoing on-demand registration – can have large impacts on citizens (ensuring ease of access, applicants can apply for several programmes at once, fewer documents needed, better/coordinated information on entitlements, etc.). Ensuring that approaches to data collection reduce and address barriers faced by women, girls and persons with disability it is critical to involve them in the registration process (eg. social workers can accompany applicants in the registration process or on-demand home visits might be required for some persons with disability or pregnant women who face severe mobility constraints). This requires the capacity development of staff/enumerators responsible for data collection to ensure accurate collection of data, including sensitive and complex information (notably disability status assessments and severity but also others). This is in line with best practices advocated by the ILO in developing Single Window Services. See also comments above.
- Updating registration information for on-going assessment of eligibility – a key area where integration could generate benefits for the administration of social protection programmes is the possibility of continuously updating citizens’ registration information. This would allow the system to continuously re-assess eligibility for a wide range of programmes, especially universal categorical ones. For example, by crosschecking information from the social security system and Civil Registry, the system could flag households and individuals eligible for child benefits, disability benefits, maternity benefits, pensions or unemployment insurance. This would enable a government to provide immediate protection when needs arise, but also to ‘exit’ households who are no longer eligible (age cut-offs, death, etc.). Countries moving in this direction include Mauritius, with its twinned Single Registry, Argentina, Chile, and Uganda.
- Payments (where relevant, e.g. cash transfers) – Integrating payments can be difficult where existing programmes have different payment mechanisms and providers (e.g. banks, post offices, private agencies and manual mechanisms such as armed vehicles). However, Brazil, Turkey and Chile show that this level of integration is possible where adequate coordination is in place and the integrated MIS is linked to the payment service provider. For example, in Kenya, such integration is increasingly in place thanks to the role of Equity Bank and Kenya Commercial Bank, and a 2013 presidential directive mandating the digitisation of all government payments. For example, the country’s ‘Single Registry’ now supports the verification of the recipient list through pre-payroll and post-payroll checks (Mwasiaji, 2016).
- M&E systems – see Section 4.6.1
- Grievance mechanisms – there could be economies of scope and scale, and benefits in terms of transparency and ease of access, integrating the overarching grievance procedure (e.g. setting up a national hotline that redirects programme-specific queries, while also using a highly trained network of staff at the local level as first points of access). Several countries are moving in this direction (e.g. Indonesia and Kenya), but not enough evidence is available to date. In South Africa, the experience of the Social security tribunal was to operate a culture shift from previously decentralized social assistance to a more rules-based eligibility criteria – it served to inform people about the new eligibility rules. The SOCPEN system was instrumental in helping to quickly determine eligibility and inform participants about why they did not qualify etc. but this supposes rules are transparent and comprehensible.

Some countries (eg. Kenya) are integrating grievance mechanisms as a module within integrated information systems, which are based on disaggregated data related to the challenges and types of complaints submitted by women and people with disability to ensure service improvement.



- Case Management – Each recipient accessing a social protection programme comes with a particular history and set of needs, which are not, necessarily all addressed through standard programme operations. An integrated Social Protection Case Management System would follow each individual ‘case’, ensuring that people’s needs (children, people with disability, the elderly, vulnerable households including those with women and girls, etc.) are assessed continuously and addressed:
 - a. within existing programmes (e.g. providing guidance, information, support)
 - b. by linking recipients to a wider set of complementary services available within the country (through some form of a Referral System)

Integrated information systems and digital technologies can play an important role in conducting in-depth assessments of recipients’ multidimensional needs and vulnerabilities (beyond the initial screening at the registration stage), to assist in eligibility determination for additional support and develop tailored action plans for case management. For example, in North Macedonia, separate information systems for cash benefit administration and case management were integrated to provide more holistic assistance to people with disability. Zambia Agency for Persons with Disabilities is developing a Disability Management Information System containing all records of disability assessments, which will be shared with Social Cash Transfer MIS, to facilitate case management for staff in charge of supporting people with disability.

- Conditionalities – In theory, full integration could make it more efficient to monitor conditionality. For example, connecting the Education Ministry MIS to the Integrated MIS could provide timely data on attendance. This is a highly complex process from an institutional and data management point of view, which is why only Turkey has succeeded in making this process entirely virtual – the standard practice is to adopt batch-sending processes.

A great example of a legacy system being used to manage a wide variety of grants through an integrated system for data and information management is South Africa (see Box 15).



Box 15: SOCPEN, South Africa’s legacy system

The Republic of South Africa’s Department of Social Development (established in 1929), together with the South Africa Social Security Agency (SASSA), runs a comprehensive system of social assistance grants and processes, 16,991,634 grants monthly¹⁴ (collected by just over 11 million recipients). The grants are processed using a legacy system called SOCPEN, which started in the 1930s. SOCPEN runs on a non-graphical user interface based on mainframes located at the State Information Technology Agency (SITA). Its legacy enterprise database, Adabas, manages more than 2,300 concurrent users and has a register of more than 16 million recipients, with primary data collected through an on-demand application system. Since social security implementation is handled by one agency, it can be argued that South Africa operates a ‘single window’ for processing applicants.

To perform its key functions – processing applications for the country’s six social grants, determining recipients from the list of applicants, maintaining the payroll for the grants,¹⁵ and automatically producing a list of recipients to be re-assessed – SOCPEN links to a file-tracking system providing real-time information on the status of social grant applications and to Livelihood, a document management system that scans and manages records of grant recipients.

SOCPEN interfaces with other government MISs, the most important of which is that of the Department of Home Affairs, and can provide real-time information from the population register (e.g. deaths). An online interface has also been established with PERSAL (government payroll system) to crosscheck income data. Other ad hoc data sources (not linked online) include the Unemployment Insurance Fund, Government Employees Pension Fund, payroll system of the Defence Force, National Treasury (to verify recipient banking details), Department of Basic Education learner database, and special investigations unit (to identify fraudulent grants).

- While proving that legacy systems can be very effective, the system has limits:
- reaching its ability to be customised and being overtaken by many technological changes
- producing substantial volumes of paperwork
- not being an organisation-wide system covering all SASSA operations, leading to the duplication of data storing and making M&E more difficult
- linking with other MISs but not always in real-time
- focusing on managing operational processes for grant delivery rather than on policy coordination and oversight.
- Moreover, approaches to further integrate SOCPEN and move towards a national integrated social information system (NISIS) have failed to date.¹⁶

Source: *Barca and Chirchir (2014)*.

14 Source: interviews with Caesar Vundule and Carin Koster. The current estimate of South Africa’s population is 54 million. biometric systems are in place for beneficiaries to collect their money and prove their identity, including fingerprints and voice recognition.

16 SASSA’s plans to migrate to a graphical user interface have run in parallel with plans to integrate the social information needed by higher levels of government. This need originally came from the national War on Poverty Campaign launched in 2007 by the Office of the President after a 10-year review of anti-poverty services offered since Independence. The rationale for creating a new NISIS was to develop cross-ministry anti-poverty strategies and gather information on the conditions of the poor. SASSA’s on-demand system was insufficient for this since it does not have a complete profile of the poor. A feasibility study and proof-of-concept for NISIS were completed in 2009, and financed directly by the Treasury. Since then, as with most large conceptual ideas, NISIS’s development has been a journey. In 2009, a formal partnership was established between the War on Poverty Campaign and the Department of Rural Development and Land Reform. The department took ownership of the project and has enabled the ongoing development of NISIS in support of its Comprehensive Rural Development Programme, which focused on household profiling and service referral capabilities. The Department of Social Development was to lead overall coordination but it never did so, partly because NISIS had no institutional and legal framework and no structure. SASSA has been almost cut out, such that SOCPEN data has never been fed into the NISIS database. Similarly, the Treasury has not supported the project due to ‘general scepticism over large scale IT projects’ (Da Silva, 2012).

4.7 COUNTRY CONTEXT: INTEGRATING HOW?

Beyond policy objectives, it is clear that certain set-ups for integration will only be achievable in certain contexts: a country’s historical trajectory and ultimate ‘endowment’ has a great weight in determining choices. We discuss key enablers below (noting that recommendations in Section 3.3 also apply and that the key questions for a needs and feasibility assessment are set-out in Section 5.2).

Table 2: Key enablers for the development of an Integrated System for Information Management

DIMENSION	WHEN IS THE DEVELOPMENT OF AN INTEGRATED SYSTEM FOR INFORMATION MANAGEMENT FOR SOCIAL PROTECTION FEASIBLE? KEY ISSUES
Policy environment and budget	<ul style="list-style-type: none"> • National policy focused on developing a systems approach to social protection (aiming to achieve coordination and harmonisation to fill coverage gaps and address the fragmentation that limits the effectiveness and impact of social protection policies and programmes) • Integration of data and information management clearly articulated in National Development Plans, National Social Protection Policies and Strategies, and other strategic documents • Strong political leadership advocating for reform and coordinating institutional actors • Focus on ensuring political buy-in and ownership of all actors, including social partners and representatives of recipients, by addressing advantages for each (e.g. through social dialogue, participatory planning process and stakeholder mapping) • Existence of Programme operational rules and guidelines (often ICTs prompt the need to clarify this prerequisite) • Sufficient capacity to identify cost policy options, assess affordability and identify available financing options • Budget availability (and policy support) to back the vision • Acceptance of slow, iterative processes and failures
Staff availability and capacity	<ul style="list-style-type: none"> • Highly trained and qualified staff, motivated through a performance management system, and sufficiently high salary to guarantee retention – both at the central and local level • Sufficient budget for continuous staff training and retention • Culture of sharing and problem solving, e.g. no resistance and complacency of staff to want to keep the system as it is • Presence of ‘hybrid’ staff that understand both context, organization, and work processes of their sector and the role of information system • Staff sufficiently trained in inclusive data collection and management



Table 2: Key enablers for the development of an Integrated System for Information Management

DIMENSION	WHEN IS THE DEVELOPMENT OF AN INTEGRATED SYSTEM FOR INFORMATION MANAGEMENT FOR SOCIAL PROTECTION FEASIBLE? KEY ISSUES
Governance and institutional structure	<ul style="list-style-type: none"> • Existence or easy creation of an independent unit that is in charge of managing and maintaining the new system at a sufficiently high government level to effectively coordinate with all stakeholders and update new regulations etc. • Role of the Integrated System for Information Management and its managing unit embedded in legislation (example Brazil) • Potential for strong institutional ties with other government bodies • Absence of parallel or competing structures for oversight of social protection policy • (no power struggles), levels of agreement on basic issues regarding payment systems/contracts and compensation of administration costs between agencies, etc. • Stakeholders are clearly identified and their roles are formalised through legally binding agreements, carefully designed incentives, and mutually agreed terms of reference • Decentralisation is approached as a resource rather than an impediment: providing added value to decentralised government (tailored functionality and data sharing), involving local government and creating performance incentives
Wider country context	<p>Hardware (for example, computers and servers)</p> <ul style="list-style-type: none"> • Adequate hardware is available at local levels (these can be purchased, but this increases costs significantly). • Adequate servers—high-capacity computers—that can be scaled up to accommodate potential growth (for example, a designated server room with reasonable physical and logical security that conforms to ISO 27001). • Stable provision of electricity at the local level <p>Application software and database</p> <ul style="list-style-type: none"> • (If needed) potential to create a large database that is scalable, flexible, and performs well. • Clarity of functional requirements and technical specifications at the policy level. Key questions—such as purpose, benefits, hosting and nature of users—should be addressed at the feasibility stage and agreed upon by all stakeholders. • Availability of capacity to support and administer the relevant software, database, and network <p>Transfer of data</p> <ul style="list-style-type: none"> • Adequate legislation and procedures ensuring data privacy and security • Existence of a solid system for a unique ID for social protection (National ID or social security number) that can be used as a backbone to integrate data across sources • Ideally, internet access at all levels of implementation, including local (to build web-service access that greatly improves information flow)—preferable use of government internal network and hosting • Clearly documented protocols enabling quality controls on information before it is submitted over the internet or transferred by batch process

Source: Barca, 2017

It should be noted that the lack of any of these conditions does not mean integration is not possible, it simply implies increasing time and effort to develop a functioning system. We focus on two key 'building blocks' below:

- a. lack of National ID number
- b. lack of appropriate safeguards to ensure data privacy and security.

4.7.1 Lack of national unique number identifier (e.g. ID)

When attempting to integrate programmes across and outside the social protection sector, a unique ID number for individuals is needed to link Registry information with other systems and programmes. The easiest and most effective solution for this – though not free of controversy (see Table 3) – is the use of a country's National ID number.

Table 3: The opportunities and challenges of linking a National ID number to Social Protection provision

OPPORTUNITIES	CHALLENGES AND RISKS
<ul style="list-style-type: none"> • Enables instant integration of different programmes and sectorial databases (acts as a unique identifier), potentially improving service delivery • Can provide online, cost-effective, ubiquitous authentication services across a country: e.g. for data verification (ensuring uniqueness – 1:n – and identity – 1:1) • Can act as a data source, with information on all citizens (e.g., names, addresses, etc.), thus helping to identify vulnerable groups or persons • Facilitates an audit trail down to the recipient of social assistance thus increasing transparency and accountability while reducing programme leakages and fraud • Can complement financial inclusion initiatives and enable access to and reduce the costs of financial services: e.g. enables e-payments to recipients (fulfils Know Your Customer Requirements) • Can support the integration of payment systems and other services across programmes 	<ul style="list-style-type: none"> • Few lower and middle-income countries have 100% population coverage within their Civil Registry • The most vulnerable and disadvantaged individuals are often those without a national ID because of a lack of information and direct (e.g. fees), indirect (e.g. transport) and opportunity costs (time). • Certain categories of the population could be systematically excluded from the National ID and therefore Social Protection provision: most importantly non-citizens, migrants, indigenous people and minors (e.g. street children) • Risky in contexts with no legal framework for privacy and where governance is poor – privacy concerns, while perhaps not manifested initially, will likely increase over time¹⁷ • ID projects can have large initial capital costs, not justified by needs in terms of Social Protection provision • Where biometrics is involved, needs an ad-hoc approach for categories that cannot be easily registered (e.g. fingerprints for very young and very old)

Source: Adapted by Barca, 2017 from Gelb and Clark 2012. Note that many of the 'opportunities' could also be guaranteed by other robust ID systems.

¹⁷ It should be noted in this context that several high-income countries, most recently France, have not allowed for integration across their Civil Registry and Social Protection system because of privacy concerns.



Many countries, however, do not have a National ID number or have insufficient coverage for the poorest and most vulnerable population groups. The lack of national IDs is particularly prevalent among women and girls, whereby as many as 45 per cent of women in low-income countries, particularly in Africa, do not have access to foundational IDs (Barca and Chirchir, 2014). In some countries like Tanzania, registration for National IDs have only been possible for some individuals who have other identifying documents. So how to ensure the linkage of databases in the lack of an existing ID system and unique identifier? Country experience suggests the following avenues (Barca, 2017; Castaneda and Lindert 2005; Gelb and Clark 2012; Gelb 2014):

- Building a business case for a National ID System as an important pillar for the delivery of social services, working alongside national registry offices on a common effort to register individuals, particularly in remote or poor areas where lack of identity documentation and numbers is prevalent. For example, this could include:
 1. Assessing the effectiveness of a National ID system, evaluating pros and cons (see for example Table 3) and investing in a feasibility study as part of data and information integration planning.¹⁸ Estimates on costs of large ID programmes run from \$3 to \$15 per head.¹⁹
 2. Incorporating civil registration as a key objective of a social protection programme. Examples include Kenya's Cash Transfer for Orphans and Vulnerable Children cash transfer, Kenya's Hunger Safety Net Programme and Uganda's Social Assistance Grants for Empowerment programme, where recipient households are given easy/free access to national ID.²⁰
 3. Registering households for National ID during registration for the Social Registry. In Lesotho, for example, this was done during registration for the Child Grant Programme.
- Incorporating social protection as a key objective of civil registration and National ID efforts. This is the case in Pakistan and India. Partner with Home Affairs for national campaign and extension of ID registration
 1. Taking advantage of national events such as elections to register all citizens. This has been done in Bangladesh, Benin and DRC, for example.
 2. Sharing costs of setting up an ID system among government agencies to justify the investment.
 3. Linking the ID to other desirable services. For example, as part of the rollout of a comprehensive ID system called "Adhaar",²¹ India's government is opening bank accounts. In Pakistan, NADRA achieved registration by promoting a wide range of benefits (ability to perform haj pilgrimage, access to bank accounts and other services).
- Considering the relative effectiveness of other existing functional ID systems e.g. Voter Registration, Birth Registration, etc.
- Generating another functional 'unique number' to substitute a national ID number and complement existing functional IDs. The most famous is the US's Social Security Number, a strategy adopted in Brazil,²² Mauritius, and Mexico. However, the common practice of assigning new numbers as people apply (a new number for each questionnaire) could lead to potential problems with duplication, as in Colombia.
- Designing formulae or "algorithms" that combine several variables to create a comparable identifier across databases in the government sector. For example, Brazil's "match key" variables consist of name, mother's name, birth and codes from selected documents,²³ while in the Philippines probability models for matching data are based on birth dates and other identifying data.
- Rejecting those who do not have an ID number, as Brazil did, for example, in the early phases of the Cadastro Único. However, this is not a viable strategy for an inclusive Registry.

18 Such a study would clarify objectives, benefits, costs, contextual constraints and set forth a clear road map.

19 See "Unique ID in Development and Social Programmes" PPT (Gelb, 2014) for more details.

20 A controversial example comes from the Dominican Republic, where a programme aiming to register poor citizens de facto stripped citizenship rights from many residents of Haitian extraction – see here.

21 See here.

22 See for example Brazil's 'Social identification number' (a unique number for each registered person). 23Note that cross-checks across databases using these algorithms as a Unique ID are not 100% accurate.

4.7.2 Lack of appropriate safeguards to ensure data security and privacy

Eligibility into social protection programmes requires substantial amounts of personal information to be gathered from potential recipients, including sensitive data on health, income, assets, and housing. This poses the risk of misusing or losing such information,²⁴ potentially exposing households and individuals to further vulnerability e.g. stigma, discrimination, and abuse. (CALP 2013; Hosein and Nyst 2013; APSP 2015). In integrated systems, this risk increases, especially as data is shared across multiple actors. Importantly, the right to information privacy is also embedded in the Universal Declaration of Human Rights (UDHR), the International Covenant on Civil and Political Rights and the ILO Social Protection Floors Recommendation, 2012 (No. 202), which explicitly calls on States to “establish a legal framework to secure and protect private individual information in their social security data systems” (para, 23).²⁶

Best practice shows that – where Social Registries or any level of Interoperability is being developed – country laws should adhere to international data transfer and information privacy protocols, which legislate the collection, transfer and storage of information. This becomes even more important when data is shared across a public network and several institutions.

Key laws that should be adhered to include: the Council of Europe’s Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data, United Nations Guidelines for the Regulation of Computerized Personal Data Files, and OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data. Such practice is common, for example, in all Latin American countries.

In particular, some of the most important principles and actions for the secure use of personal data within social protection programmes are summarised below (CALP, 2013; Barca, 2017):

1. ensure informed consent of those who are sharing their data, explaining the nature of the data being collected, the purpose of collection, with whom it will be shared, and who is responsible for the secure use of their data. This process needs to be adapted to the specific communication needs of respondents (eg. sign language, screen-reader accessible web pages and forms, easy-to-read formats for persons with disability);²⁷
2. establish a mechanism to respond to any complaints or concerns citizens may have about the use of their personal data but keeping in mind that very vulnerable and marginalised groups may need extra support to enable them to safely submit complaints;
3. regularly undergo information system audits to analyse, document and understand the flow of data and develop tailored risk mitigation strategies for potential risks arising from these flows;
4. implement appropriate technical and operational security standards for each stage of the collection, use and transfer of recipient data to prevent unauthorised access, disclosure or loss;
5. implement appropriate mechanisms to provide individuals with the right to access their personal data and correct it. This is particularly pertinent to systems using biometric modes of authentication (e.g. ensuring authentication sites are accessible to people with disability and support to use these devices is provided to them by trained frontline staff)
6. enforce data back-up and protection protocols and guidelines, for example by:
 - ensuring data users are trained and aware of these issues
 - implementing user profiles on information system access, allowing for an audit trail
 - sharing data in anonymised and summary format except when needed
 - establishing non-disclosure agreements for anyone who is granted access to data

24 For example, data could be illicitly used for blackmail, identity theft, or marketing purposes.

25 Article 17 of the ICCPR, which reinforces Article 12 of the UDHR, provides that “no one shall be subjected to arbitrary or unlawful interference with his privacy, family, home or correspondence, nor to unlawful attacks on his honour and reputation”

26 States that are party to other United Nations or regional instruments, such as the International Covenant on Civil and Political Rights, the American Convention on Human Rights, or the African Union Principles on Freedom of Expression should also take into account their international obligations in the implementation of the national social protection floors.

27 Recent research in Kenya showed that this was often not the case (APSP 2015).



Specifically, backup and security should conform to ISO 27001²⁸—an approach to managing confidential or sensitive information— so it remains secure, confidential and with its integrity intact. In some pilot transfer programmes (for example, the Hunger Safety Net Programme Kenya and Social Assistance Grants for Empowerment in Uganda) backup and security systems are hosted in physically and logically secured servers at the programme level. But national programmes sometimes outsource this security and hosting function. In Pakistan, for example, the Benazir Income Support Programme database is hosted by the National Database and Registration Authority. In South Africa, SOCPEN is hosted by the South African State Information Technology Agency (SITA).

A trade-off emerges when the need for data privacy conflicts with transparency and accountability. Several countries have solved this by making certain aggregate and anonymised datasets and data visualisations available to the general public. In Indonesia, for example, 16 of the 40 core indicators in the Social Registry are available online in aggregate format.

4.8 COUNTRY EXPERIENCES TO DATE

Support for integrated data and information management for social protection has grown considerably in the last 20 years especially. the early wave which goes back to the late 70s and early 80s, when Chile and South Africa were starting to set up their systems (see Box 15 for South Africa’s legacy system). Based on data from the World Bank’s State of Social Safety Nets 2015 (Honorati, Gentilini and Yemtsov, 2015) and on our updated assessment, integrated data and information management for social protection is already fully institutionalised in 30 low and middle-income countries worldwide (15 in Latin America, 6 in Africa, 5 in Europe and the Middle East and 4 in the Asia-Pacific).²⁹ Many of these systems are set up as social registries. Currently, the number of countries considering and developing options for integration in this sector is expanding rapidly, with an additional 31 countries – 18 of which are in Sub-Saharan Africa – in the process of developing an integrated system for information management (see Table 4 overleaf).

28 SO/IEC 27001:2013 is an information security standard that was published in September 2013. It is published by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). Organizations which meet the standard may be certified compliant by an independent and accredited certification body on successful completion of a formal compliance audit.

29 The World Bank’s full list includes 21 countries. We have added further ones based on an updated assessment.

Table 4: List of countries, which have developed or are developing integrated systems for information management in the social protection sector

<p>Latin America</p>	<ul style="list-style-type: none"> • Argentina, Single Database for Social Security (BUSS) • Belize, Single Identification System of Recipients (SISB) • Bolivia, Recipient Registry of Social Programs • Brazil, Cadastro Único • Chile, Social Registry of Households (RSH) • Colombia, Integrated Information System of Social Protection (SISPRO) • Costa Rica, Sistema de Identificación de la Población Objetivo (SIPO) • Dominican Republic, Sistema Único de Beneficiarios (SIUBEN) • Ecuador, Social Registry and Registry of Social Programs (RIPS) • Guatemala, Registro Único de Usuarios Nacional (RUU-N) • Honduras, Unique Registry of Participants (RUP) • Jamaica, Recipient Management Information System • Mexico, Cuestionario Único de Información Socioeconómica • Panama, Unified Registry of Recipients (RUB) • Uruguay, Integrated Information System for the Social Area (SIAS)
<p>Africa</p>	<ul style="list-style-type: none"> • Cabo Verde, Unique Registry • Kenya, Single Registry • Lesotho, National Information System for Social Assistance (NISSA) • Mauritius, Social Register of Mauritius (SRM) • Seychelles, IMIS • South Africa, SOCPEN
<p>Europe and Middle East</p>	<ul style="list-style-type: none"> • Armenia, Family Benefit System* • Azerbaijan, Ministry of Labor and Social Protection of Population MIS (MLSP) • Macedonia, Cash Benefits Management Information System (CBM) • Romania, Integrated Information System for Administration of Social Benefits • Turkey, Social Assistance Information System (SAIS)
<p>Asia- Pacific</p>	<ul style="list-style-type: none"> • Indonesia, Basis Data Terpadu (or Unified Database for Social Protection (PPLS)) • Pakistan, National Socio Economic Registry • Malaysia, eKasih • Philippines, Listahanan (or National Household Targeting System for Poverty Reduction, NHTS-PR NSER)
<p>Latin America</p>	<ul style="list-style-type: none"> • Dominica, National Recipient Information System (NBIS) • El Salvador, Single Registry of Recipients (RUP) • Nicaragua, Unique Registry of Participants (RUP) • Paraguay, Single Registry of Recipients • Peru, National Registry of Recipients • St Lucia, Central Recipient Registry



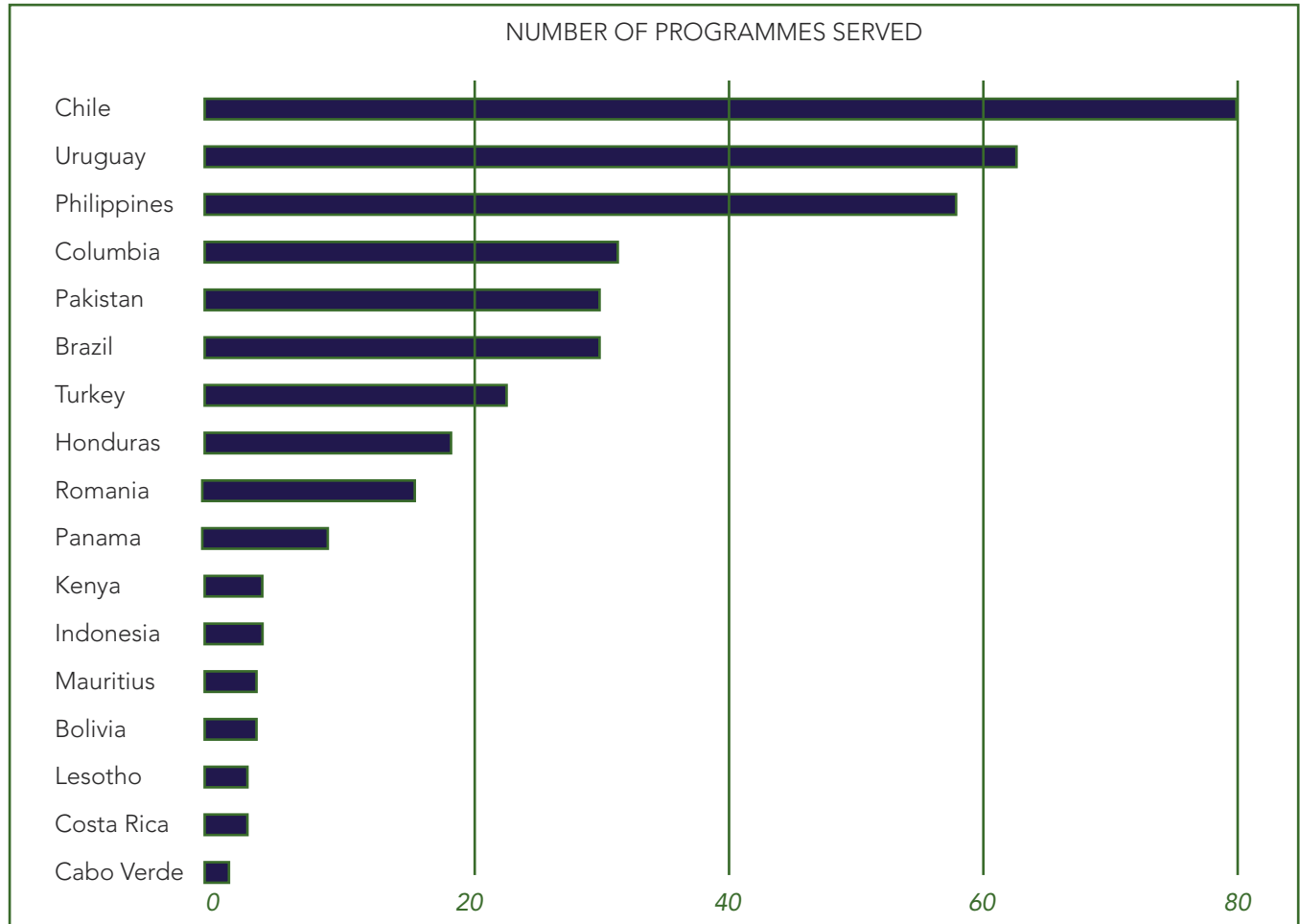
Table 4: Continued

Africa	<ul style="list-style-type: none"> • Benin, Unique Registry • Djibouti, Unique Register • Egypt, Unified National Registry • Ethiopia, National Household Registry (social registry) and Central Social Protection Management Information System (integrated recipient registry) • Ghana, Ghana National Household Registry (GNHR) • Liberia (name unknown) • Malawi, Unified Recipient Registry • Mali, Social Registry • Mauritania, National Social Registry • Morocco, Unified Register • Nigeria (name unknown) • Rwanda, Integrated Management Information System • Senegal, Unique Registry • Tanzania, TASAF Social Registry • Tunisia, Unified Registry and Unique Identification System • Uganda (name unknown) • Zambia, Single Registry of Recipients • Zimbabwe, Integrated systems that are being developed
Europe and Middle	<ul style="list-style-type: none"> • Georgia, System of Social Assistance • Jordan, National Unified Registry • Lebanon, National Poverty Targeting Program
Asia- Pacific	<ul style="list-style-type: none"> • Bangladesh, Bangladesh Poverty Database • Cambodia, ID Poor • Mongolia, Intersectoral Database of Poor Households and Registry of Recipients • Tajikistan, National Registry of Social Protection

Source: Honorati, Gentilini and Yemtsov (2015) and authors' integrations.

These integrated systems range greatly in their set-up, functions and levels of cross-sectoral integration. This is exemplified by the number of social protection programmes they serve, which ranges from 2 (Cabo Verde) to over 80 (Chile), as shown in figure 5 below, and by the number of web service links they establish with other government databases, which ranges from 0 to 43 (Chile). Of course, they also differ in their approach to integration – many are operationalised as social registries, others as integrated recipient registries and others as virtual social registries.³⁰

Figure 5: Number of programmes served, selected registries



Source: Honorati, Gentilini and Yemtsov (2015) and authors’ updates (online survey and recent literature).

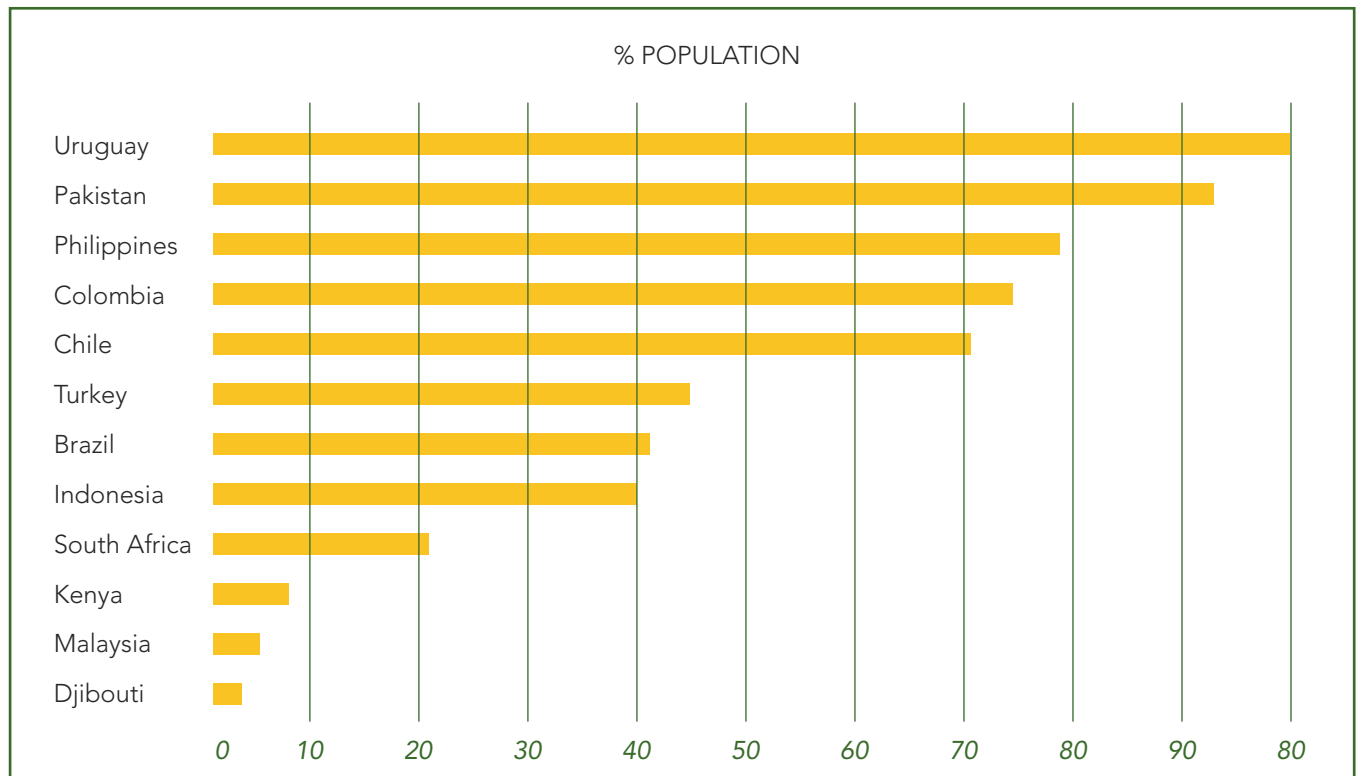
Moreover, whether calculated as numbers of individuals or households or as a percentage of the population, the size of existing integrated systems for information management (i.e. the total number of households and individuals they have data on) varies greatly from country to country, depending on a variety of factors.

As exemplified in Figure 6, the highest population ‘coverage’ (percentage of population registered) is reached by systems that guarantee full interoperability. For example, in Uruguay, the use of data from existing administrative databases (using national ID for linking) means all citizens and residents are registered (including those who have died, those who have moved abroad and foreigners living in the country). Social registries with census survey approaches to data collection that aim to survey all households in a given country follow close behind – as exemplified by Pakistan and the Philippines. Countries with on-demand data collection approaches (e.g. Brazil and South Africa) or census-surveys of selected population groups (e.g. Indonesia) have marginally lower coverage rates – 40 to 50 per cent of the population. By definition, countries with integrated recipient registries have the lowest coverage, as only recipients are included in the integrated registry (e.g. Kenya). Djibouti and Malaysia fail to hit the 5 per cent coverage mark as their systems are currently being expanded. (Barca, 2017)

30 The amount of information available on each country’s experience was not sufficient to classify these explicitly.



Figure 5: Number of programmes served, selected registries



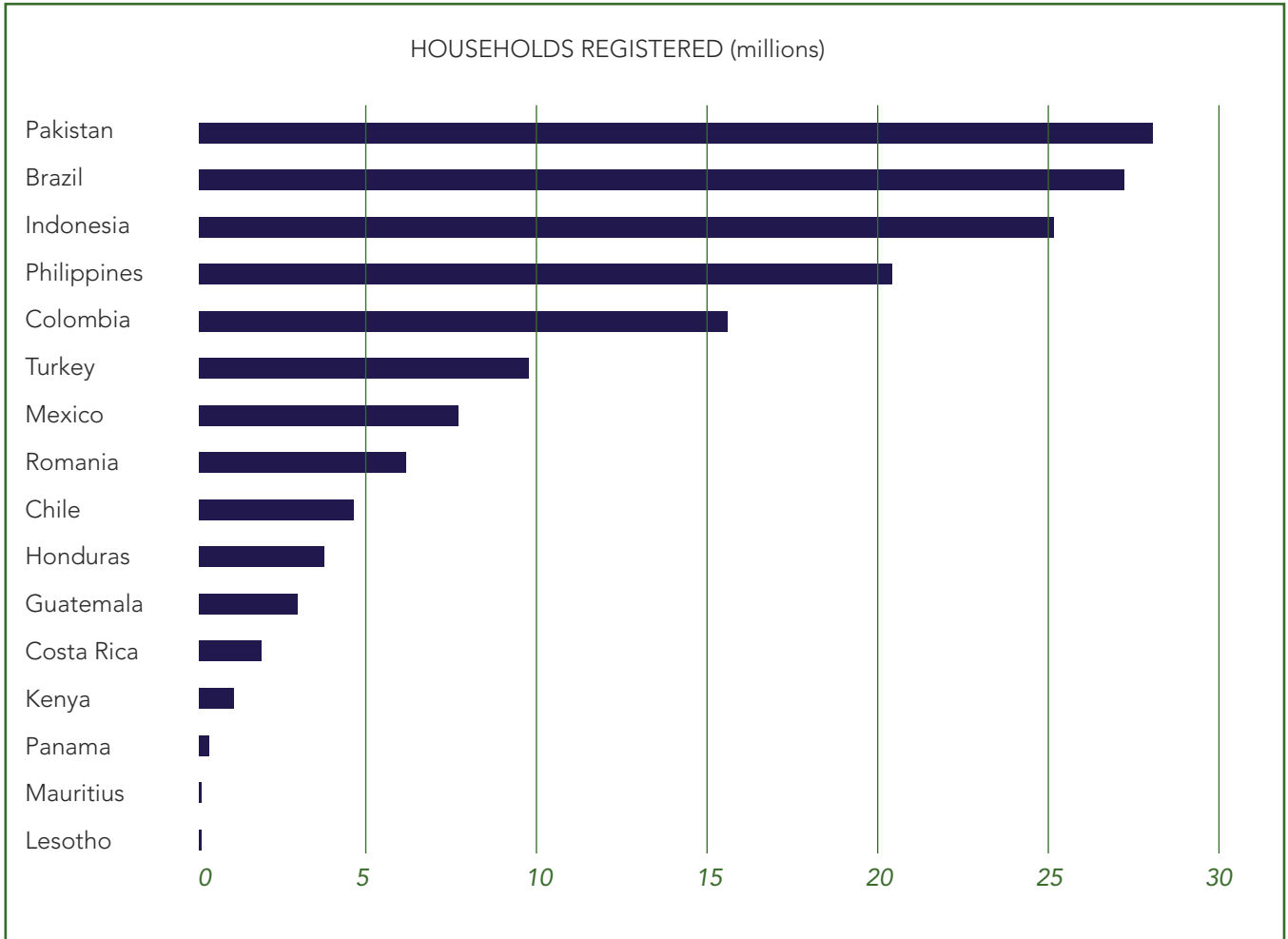
Source: authors’ analysis (online survey and recent literature). Note: Countries and registries included are not necessarily the same as above, as some report number of households and some report number of individuals.

Less significant as a comparison (as it is strongly affected by a country’s population size), yet interesting to give a sense of the magnitude of these efforts is the number of households registered (see Figure 7): Number of households registered and selected registries

The largest of all efforts in absolute terms is Pakistan’s National Socio-Economic Registry (linked to BISP), which contains information on 167 million individuals, equivalent to 27 million households or 92 per cent of the population (2015).³¹ Far behind in terms of population coverage (43 per cent) but very close in terms of number of households (almost 27 million) is Brazil’s Cadastro Único, followed by Indonesia’s Unified Database (25 million households, 40 per cent of the population).

31 Interestingly, this is far lower than the number of recipients registered for China’s Dibao programme registry of recipients, which comprehends 78 million households (Honorati, Gentilini and Yemtsov 2015) – representing, however, only 6 per cent of China’s population.

Figure 5: Number of programmes served, selected registries



Source: Honorati, Gentilini and Yemtsov (2015) and authors' updates (online survey and recent literature). Note: Mauritius and Lesotho have registered 0.04 million recipients.

The percentage of registered people or households receiving any form of social assistance (recipients) also varies greatly from country to country – partly depending on the selected approach to integration.

In Kenya, for example, 100 per cent of individuals registered are also recipients (as this is an integrated recipient registry). In Pakistan, the number of BISP recipients was 4.8 million in 2015, equivalent to 18 per cent of the households within the national registry.³² In the Philippines, 5.1 million of the total 15 million registered (33 per cent) were classified as poor and therefore eligible for any benefit. In countries where data collection is primarily on demand and based on citizen applications, this ratio likely is highest as the households most likely to apply are those most in need (self-targeting).

32 primarily drawn from Lindert et al (2016)

4.9 TAKE-AWAY LESSONS

- Integration of information and data within the SP sector could potentially yield several policy and operational dividends. Full integration of information management within the SP sector and beyond increases the likelihood of women and people with disability, and other vulnerable population groups to be identified and enrolled into programmes and have timely access to complementary services. The extent to which these are achieved in practice will depend on the ultimate set-up of the selected Integrated System for Information Management. This choice will also affect the extent of potential risks and tradeoffs – which need to be carefully evaluated and counteracted.
- Potentially, the greater the interconnectivity, the greater the gains in efficiency and effectiveness of service delivery. The key issue is therefore the level of coordination and interoperability achieved, not the creation of a super-sized system or database that serves all purposes. It does not matter whether the system is set-up as a 'Social Registry', 'Integrated Recipient Registry' or 'Virtual Social Registry' what matters is that the approach chosen responds to a country's needs, is appropriate to its context, and is affordable and sustainable.
- A system that guarantees full integration within the Social Protection sector and beyond, in accordance with the right to privacy, would establish a direct (e.g. web service) link to all Social Assistance Programme MISs, Social Insurance MISs, and any other relevant Government MISs, including disability registries.
- Integration is mainly a policy issue requiring political and institutional arrangements rather than technical 'fixes' and different countries pursue different policy objectives with integration (affecting their design choices): they may be choosing to facilitate the combined oversight of programmes, the consolidation of targeting, and/or the integration of operations and services.
- Certain set-ups for integration will only be achievable in certain contexts: a country's historical trajectory and ultimate 'endowment' has a great weight in determining choices (e.g. existing infrastructure, capacity, etc.)

5

KEY STEPS WHEN SETTING UP A PROGRAMME MIS OR AN INTEGRATED SYSTEM FOR INFORMATION MANAGEMENT

5.1 OBJECTIVES

Having completed this section, the participant will have an understanding of:

- The main steps involved in setting up an MIS or Integrated System for Information Management
- The importance of a Needs Assessment and a Feasibility Study and what questions these should be asking
- Several considerations, including potential risks, during design and implementation

Setting up a programme MIS is a challenging undertaking, which is compounded by a lack of standards and guidelines. Consequently, many countries, especially in sub-Saharan Africa, have been experimenting with several pilot programmes that implement programme MIS. Unfortunately, some of these experiments have been costly. For example, some countries have procured MIS software without accompanying source codes, while others have been forced to pay expensive licenses in instances where source codes were not supplied alongside other MIS deliverables. In other cases, vendors have oversold expensive customized MIS solutions where standard off-the-shelf products would have been sufficient for the needs of the particular programme. Very often, the underlying problem has been the lack of sufficient capacity of the commissioning body.

These risks are even larger for Integrated Systems for Information Management – which require significant levels of policy coordination to fulfill their objectives in full. Of course, these challenges are not insurmountable. In fact, with a better understanding of the key factors and risks, improved systems can be set up to best address the needs of SP schemes and systems.

Broadly speaking, we focus on three key steps:

- i. conducting a needs assessment and agreeing on broad design parameters
- ii. conducting a feasibility study
- iii. developing and implementing the selected solution

A gender-responsive and disability-inclusive lens needs to be incorporated into each of the key steps during the planning process.





5.2 NEEDS ASSESSMENT AND AGREEMENT ON BROAD DESIGN PARAMETERS

Design choices need to be defined through evidence, carefully analysing gaps in service provision and separating desire from need. To achieve this, a broad consensus needs to be built among all key stakeholders. This can be based on a comprehensive needs assessment and ongoing participatory planning, to agree on broad design parameters. It is important to involve all potential stakeholders, including civil society groups representing vulnerable groups such as people with disability, future programme recipients and local leaders, in the design process, and continuous user testing. Using the creation of an Integrated System for Information Management as an example (this can be broadly applicable to programme MIS too), this will include:

- Taking stock of the broader Social Protection and E-Government context, to define objectives and understand opportunities and constraints
- Taking stock of existing programmes and their potential for integration, including the quality of existing programme business processes and whether/how to redesign/integrate these
- Understanding specific information requirements for different levels of users (primary, secondary and tertiary), including policymakers from other sectors

Table 5: Needs assessment – example of questions that could be asked to inform design

COMPONENT	EXAMPLE QUESTIONS (UNDERLYING QUESTION FOR EACH: HOW DOES THIS AFFECT DESIGN CHOICES?)
Broad Social Protection context ³³ (policy & legislation)	<ul style="list-style-type: none"> • What is the National SP policy? Priorities? Does this reflect plans for integration? How? What are the policy priorities in terms of integration (see Section 4.5)? • (Stakeholder mapping) Who is in charge of delivering social assistance and social security in the country, at both central and decentralised levels (primary users)? What other stakeholders are involved (secondary users)? Which further actors may have a stake (tertiary users)? What are these actors' interests? What are their (information and management) needs that integration can help address? What resistance could be encountered? • What are the legislative foundations for Social Protection and for integration? What are the gaps? • What is the current degree of fragmentation or integration within Social Assistance and between Social Assistance and Social Insurance? What are the existing mechanisms for horizontal and vertical coordination? • What is the level of decentralization? What capacity is there at the local level?

33 primarily drawn from Lindert et al (2016)

Table 5: Continued

COMPONENT	EXAMPLE QUESTIONS (UNDERLYING QUESTION FOR EACH: HOW DOES THIS AFFECT DESIGN CHOICES?)
Broad e-governance context ³⁴	<ul style="list-style-type: none"> • Does a broader e-governance platform exist? Status? Institutional arrangements? Is there a government framework for ICT and interoperability? What is the main government ICT infrastructure? • What are the existing legal and regulatory provisions for information access, cyber-security, data security, data confidentiality, privacy standards, personal data protection, etc.? Are these sufficient? • What other government information systems could usefully share data (depending on objectives)? E.g. National ID, Civil Registry, employment and labour, tax system, social security, health, education, land titling, housing and other property, etc. Are links with each desirable and why? • Can the National ID be used as a Unique Identifier? E.g. What % of the population has National ID; what info is collected; characteristics of those with no ID; other forms of ID; most common ID for low-income households; charges or fees for ID; accessibility of registry, etc.? Advantages and disadvantages? If not, what alternative solution?
Existing programmes and their business processes	<ul style="list-style-type: none"> • What programmes exist in the country (objectives, budget, implementing agency, targeting criteria, coverage and plans for scaling up, benefits, key features, business processes, information management approach)? • Which of these can usefully be integrated? Along which dimensions (e.g. integration of registration/data collection, eligibility determination, or other systems too – payments, grievances, etc.)? • Do programmes' current business processes need redesigning and integrating? How?
Information requirements	<ul style="list-style-type: none"> • What are the specific information needs of all key actors (primary, secondary and tertiary, national and local, government and civil society, implementation and policy, etc.)? Why are these needs important? How will this information be used? What is the order in terms of priority? • What data will be needed to feed into the core business processes supported? • Has the amount of data collected been limited by keeping data focused on core objectives and processes

Source: Lindert et al (2016),³⁵ adapted by Barca (2017)

³⁴ primarily drawn from Lindert et al (2016)

³⁵ Specifically, elements of this table are adapted from the World Bank's draft 'Assessment Tool for Social Registry Information Systems'.



Box 16: Kenya's Single Registry

Kenya's National Social Protection Policy (NSPP) clearly defines the nature and scope of the Single Registry and SP MIS. According to NSPP, the Single Registry is designed to: (i) provide increased harmonization and consolidation of fragmented schemes; and (ii) enhance the responsiveness of social protection initiatives to increase its capacity to quickly scale-up in response to rapid-onset crises. The NSPP also vests the responsibility for collection and management of data in the respective stakeholders implementing various social protection programmes. Moreover, UNICEF has recently commissioned a study to assess gender-responsiveness of the current MIS and identify entry points for strengthening inclusion objectives in the Single Registry and monitoring and evaluation frameworks of key social assistance schemes. See Case Study in Section 6.2 below.

Source: Barca, 2017; key informant interviews with UNICEF staff.

However, not all developing countries have put in place social protection policies with clear agendas on MIS or integration. To avoid potential pitfalls, developing countries should therefore invest in feasibility studies. Such a study would address the following issues (see Table 6 below):

Table 6: Key feasibility parameters and questions

COMPONENT	QUESTION
Institutional capacity	<ul style="list-style-type: none"> Does existing legislation and policy adequately reflect the rationale and main objective pursued? If not, is there space for shifting policy in this direction? How? Is there strong enough political leadership advocating for reform and coordinating institutional actors across the board? If not, how can this be garnered? What other institutions will back the process? Who will oppose it? How can each be influenced and brought on board? Is there sufficient capacity to identify and cost potential options for integration, assess affordability and identify available financing options? If not, how could this technical support be achieved? Is the existing governance structure strong enough to ensure vertical and horizontal coordination and lead development and management phases? If not, how could this be strengthened?
Implementation capacity	<ul style="list-style-type: none"> What capacity is there at all levels of Social Protection governance to implement such a project including management of inclusive information systems? What are the gaps that need addressing (number and qualifications of staff)? Is there in-house IT capacity that can be leveraged? If so, how will this be used? If not, how will external providers be managed? Is there a network of staff at the local level (e.g. social assistants) that can be called upon? How can these most effectively be used? What is their capacity in terms of data collection (either through a census survey or on-demand) including gender-responsive and disability-inclusive approaches? Overall, what are the proposed roles and responsibilities of various actors involved in setting up, managing and using the system?

Table 6: Key feasibility parameters and questions

COMPONENT	QUESTION
Infrastructure requirements	<ul style="list-style-type: none"> • What are the hardware requirements of the proposed model? Do these respond to country constraints (durability, etc.)? Are these already available at all levels of governance or will they need to be procured? If so, how? Expected costs? • What are the telecommunication systems/network requirements? Do these respond to country constraints (availability of internet, power, etc.)? What backup options exist?
Financial costs & sustainability	<ul style="list-style-type: none"> • What are the estimated start-up costs of the proposed model (including hardware and training costs)? • What are the estimated costs of operating the proposed model (including staff requirements) • Is an adequate source of funding guaranteed and sustainable over time?
Intended users	<ul style="list-style-type: none"> • How will the system ultimately be used? • How will the MIS be assessed to determine if it is adequately meeting programme and policy objectives, including for greater disability and gender inclusion? • How can use be most effectively enhanced?
Potential positive impacts	<ul style="list-style-type: none"> • What are the expected positive impacts of the proposed system? • How could these best be achieved? See the list in Section 4.4 as an example.
Potential negative impacts	<ul style="list-style-type: none"> • What are the negative impacts and how can these be mitigated? E.g. privacy and security risks, excessive costs, unsustainability, etc.
Conclusions and Recommendations	<ul style="list-style-type: none"> • What are the conclusions? • What are key recommendations?

Source: authors

The feasibility study would provide essential guidance as to how to implement the proposed project effectively – or could provide the basis for deciding whether the overarching project is unfeasible.

5.3 DEVELOP AND IMPLEMENT THE SELECTED SOLUTION

As discussed extensively above, the ‘road map’ set out by the Feasibility Study should primarily focus on how the overarching strategy for implementing the selected solution (e.g. programme MIS or specific approach to developing an Integrated System for Information Management) will be effectively pursued. How this can be achieved in practice is beyond the scope of this Module, but is discussed in Module COO and Module GOV.

In this section, we focus on the ‘IT components’: the development (and implementation) of the MIS or Integrated MIS software, the database/registry creation, the hardware procurement and the choice of the telecommunications system.



5.3.1 Software development

There are two main options for this: develop the MIS software in-house (if there is sufficient capacity) or tender it out to an external provider. For example:

- Mozambique opted to develop and locate its MIS at the Ministry of Finance because it had sufficient resources to develop, host, and maintain it.
- Kenya outsourced the development of its 'Single Registry' (Integrated Recipient Registry) and the modernization of its cash transfer MIS to an external software firm that had a local presence (important because it enables the supplier to provide 'handholding' throughout implementation and fix any potential software glitches within a minimum guarantee period, e.g. a year).

Outsourcing is essential where capacity is not available in-house, but requires careful contracting and management.

For example, during the development of the software, it is necessary to support the supplier by internally establishing two teams:

1. Steering: To ensure that the MIS is delivered within scope and on time.
2. Technical: Responsible for monitoring the tasks and deliverables of the project Further best practice (to be incorporated in ToRs if managed externally) is to:
 - Adopt iterative prototyping,³⁶ whereby the system is designed and used to iteratively customise and incorporate feedback from users (one module at a time)
 - Use open-source software, acknowledging the high costs of making changes to proprietary software. For any other proprietary third-party software used, the suppliers should be asked to provide a perpetual and valid license for at least five years and ensure the software is procured with accompanying source codes.
 - Ensuring the MIS software includes all standard data checks such as format masks, drop-down menus, data value parameters, warnings of repeating names, and cross-reference checks.
 - Ensure that gender-responsive and disability-inclusive data architecture is supported by a tailored software application (eg. design all routine tabulations and dashboards to be automatically calculated by the information system to enable disaggregation by sex, age, disability status, etc.) beyond generic categories.
 - Ensuring 'segregation of functions': Pre-defining roles and privileges of each user of the MIS system to prevent violations of security and any misuse of the MIS application
 - Build in-house capacity to develop and update the MIS, for example by ensuring that contracts have clear provisions to allow suppliers to hand over all the source code and technical documentation of the system without any preconditions.

5.3.2 Database/registry creation

An MIS can only function if it is fed by a database/registry that contains accurate, up-to-date data (garbage in garbage out). This requires:

- a. Ensuring a strong approach to data collection and validation (see Modules X, Y and Z)
- b. Ensuring contents and formats such as names and identification numbers conform to those contained in the MIS data dictionary. The length of fields and content structure should be standardized for aggregation and reporting.

³⁶ Based on the design-divisibility concept, meaning staff can learn from early, relatively small, failures and not be overwhelmed by a single, whole-system design. 'Where design comes as this single whole, "big bang" implementation, opportunities for local improvisation are reduced and risks of failure correspondingly increase' (Heeks, 2002).



5.3.3 Hardware procurement

As discussed in Section 3.3, MISs need to be supported by adequate hardware. Best practice in ensuring this includes:

- Choosing hardware resources based on the application software requirements of the MIS
- Carefully defining hardware specifications to ensure adequate memory, disc space and processing capacity; sufficient resilience to extreme conditions (high or low temperatures, rain, dust, etc.)
- Ensuring availability and appropriateness for local levels of administration, considering cost-effective technology (e.g. use of tablets, smartphones, etc.)

5.3.4 Telecommunications system (data-sharing) set-up

Data collected through an MIS, whether programme specific or integrated, is useless if it is not accessible by a wide variety of actors – and ultimately used. Best practices in setting such systems up include:

- Ensuring data is accessible and functional at the sub-national level using the most cost-effective and appropriate telecommunication technologies available in-country, where possible sharing data through web-service access (not batch processes, using CDs or email).
- Investing in network infrastructure readiness
- Where possible, automating data sharing through pre-defined formats/templates/applications
- Ensuring adequate measures for data security and privacy tailored to the specific needs of different users (see also Section 4.7.2)
- Clearly documenting protocols for quality controls on the information before it is submitted over the internet or transferred by batch process



5.4 TAKE-AWAY LESSONS

- Setting up a programme MIS is a challenging undertaking, and risks are even larger for Integrated Systems for Information Management. A better understanding of key factors and risks can help to set up improved systems to best address the needs of SP schemes and systems.
- Three key steps: (i) conducting a Needs Assessment and agreeing on broad design parameters; (ii) conducting a Feasibility Study; and (iii) developing and implementing the selected solution.
 1. The Needs Assessment, accompanied by on-going participatory planning, should aim to define broad design parameters by: taking stock of the broader Social Protection and E-Government context, taking stock of existing programmes and their potential for integration, and understanding specific information requirements for different levels of users.
 2. The Feasibility Study should aim to objectively uncover the strengths and weaknesses of the proposed design, to improve its chances of success. It should focus on the following areas: institutional capacity, implementation capacity, infrastructure requirements, responsiveness to intended users' needs, potential positive and negative impacts and subsequent recommendations.
 3. Developing and implementing the selected solution is primarily an issue of capacity, governance and coordination. However, best practice does emerge for the purely 'IT components' (software development, database/registry creation, hardware procurement and telecommunications system set-up).
- Gender and disability considerations need to be explicitly reflected throughout the planning and design process, and sufficient resources (budgets, capacities) and institutional arrangements need to be committed to the inclusive reform of the information system. For optimal results, all relevant stakeholders, including end-users of SP schemes, should be involved in the design process to ensure the applicability of selected solutions and accountability of the implementation process.

6

CASE STUDIES

The following chapter sets out three country case studies from sub-Saharan Africa: (i) Zimbabwe, exemplifying a case of programme MIS that was designed to act as a Social Registry. Interestingly, the Zimbabwe cash transfer design bears a close resemblance to neighbouring Zambia's and Malawi's social cash transfer schemes. (ii) Kenya, highlighting the use of an Integrated Recipient Registry set up to consolidate information on five national social assistance programmes; and (iii) South Africa, illustrating the role of an integrated MIS serving several national schemes.

6.1 ZIMBABWE'S HARMONISED SOCIAL CASH TRANSFER SCHEME AND ITS MIS

Zimbabwe is currently in the process of putting in place a national social protection policy. However, that has not stopped the Ministry of Labour and Social Services (MoLSS) and the Department of Social Services (DSS), from designing a flagship social cash transfer programme for labour-constrained and extremely poor households. The social cash transfer programme was established as part of the revised National Action Plan for Orphans and Vulnerable Children (NAP II) 2011- 2015 as well as of broader DSS social protection programming.

The Child Protection Fund (CPF) has three main pillars. The first is to reduce poverty experienced by approximately 55,000 extremely poor households, including those with orphans and other vulnerable children, by implementing a national cash transfer programme and thereby positively benefiting children and women's health and well-being. The second is to enhance all vulnerable children's access to effective child protection services, including protective services (legal, welfare, judicial) to child survivors of violence, exploitation and abuse. The third is to facilitate improved access to basic education for poor orphans and other vulnerable children in Year 1.

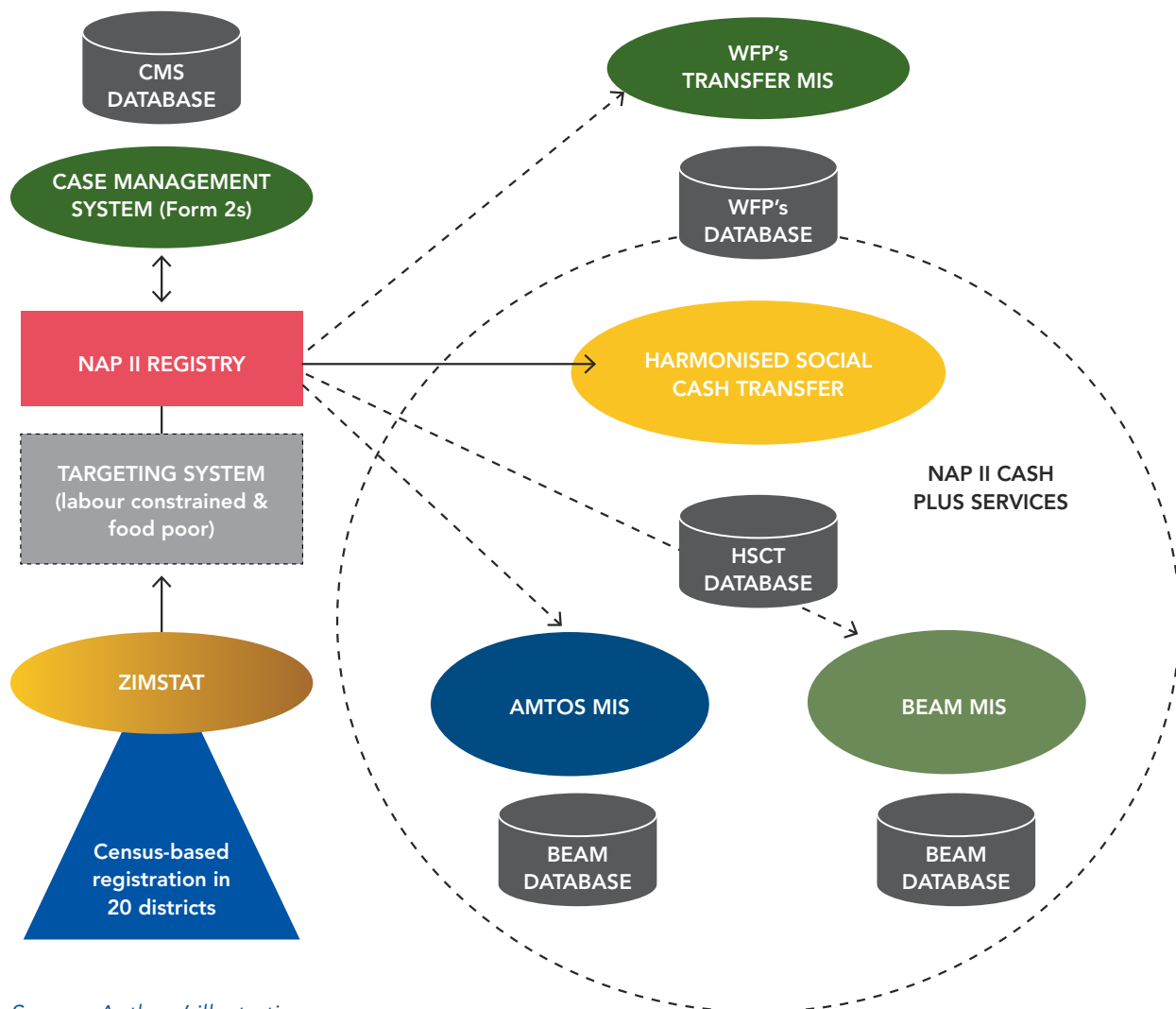
To support the harmonized cash transfer (HSCT) programme, CPF contracted the design of the programme's manual of operations and its MIS to an external consultancy firm. The programme MIS was designed and developed on the back of a comprehensive review of the capacity, potential and use of the social cash transfer scheme databases. Thus, the MIS systematically and comprehensively captures the information requirements documented in the manual of operations of the harmonized cash transfer programme. The HSCT conducted mass registration (outsourced to Zimbabwe's Bureau of Statistics [ZIMSTATs]) in the target districts to create a comprehensive NAP II database. To date, the NAP II database contains information on 539,057 households across 24 districts.



As set out in Figure 8, the SP programmes that are harmonized or designed to link to the NAP II registry include:

- Harmonised Cash Transfer Programme (HSCT): Based on the NAP II registry, the programme’s MIS applies two sets of selection criteria:
 - i. extreme poverty, meaning the household members are living below the food poverty line³⁷ and are unable to meet their most urgent basic needs; and
 - ii. if the household has no labour capacity, i.e. it has no able-bodied household member in the age group 18 to 59 who is fit for productive work. Based on the dual criteria, HSCT currently benefits 55,507 households in 20 districts
- Basic Education Assistance Module (BEAM): The Basic Education Assistance Module (BEAM) was conceived as part of the Enhanced Social Protection Project (ESPP), which was launched by the Government of Zimbabwe in the year 2000. Even though the recipients of BEAM are not derived from the NAP II registry, the intention has always been for the recipients of HSCT to receive BEAM as a complementary (cash plus service) benefit.
- AMTOS: The recipients of the HSCT are intended to receive AMTOS, a health insurance for poor households as a complementary benefit.

Figure 8: NAP II Registry as envisioned by the child-sensitive social protection framework



Source: Authors’ illustration

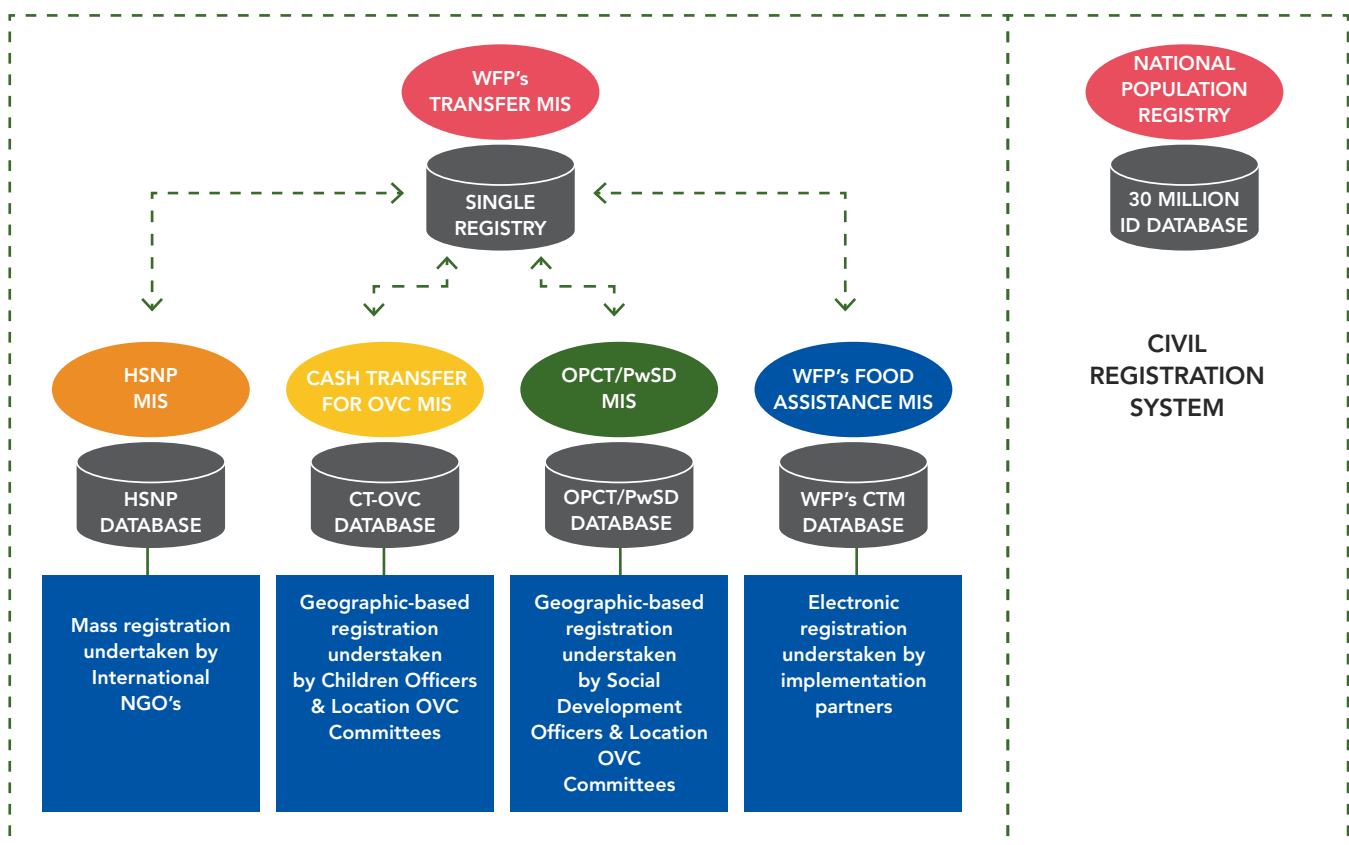
³⁷ A household is food poor when the total household expenditure is below the amount required to meet the minimal food energy requirements of the household members (2,100 kcal per adult equivalent). As households always have to spend some of their expenditure on non-food items, food-poor households suffer from chronic hunger and are unable to meet basic needs.

6.2 KENYA'S NATIONAL SAFETY NET PROGRAMME AND ITS 'SINGLE REGISTRY'³⁸

This case study focuses on Kenya's recently implemented 'Single Registry'. This can be classified as an Integrated Recipient Registry (see Section 4.2) with a web-based reporting interface that provides a platform where common and essential information across five social assistance programmes are stored, analysed and reported. In detail, the Single Registry enables the government of Kenya to link together the MISs of its five major social protection schemes: the Old Age Grant, Disability Benefit, Orphans and Vulnerable Children's Cash Transfer, Hunger Safety Net Programme, and World Food Programme's (WFP) Cash for Assets scheme.

Kenya's Single Registry is very different in design when compared to attempts in other countries to develop Social Registries. Kenya's system is essentially a 'data warehouse', holding information on all the recipients of the national social protection system, and is continuously and automatically updated as individual programme MISs update their information on recipients. The Single Registry – which offers a publicly available online version sharing aggregate data trends – acts as a single point of reference to give an overview of who is receiving, what type of assistance (and how much), where the assistance is received, and when the assistance is transferred. In May 2016, the Single Registry was populated with information on 883,000 recipient households (approximately 3.7 million individuals) out of a population of 44 million, equivalent to 8% of the national population.

Figure 8: NAP II Registry as envisioned by the child-sensitive social protection framework



Authors. Note: Boxes indicate databases, circles indicate MISs, bold lines indicate direct links (e.g. web service access), dotted lines indicate indirect links (batch process, CDs etc.), double arrows indicate a flow in both directions and single arrows indicate a flow in just one direction.

38 The main source for this Case Study is Barca, 2017.



6.2.1 Background and historical evolution

Historically, social protection programmes in Kenya were fragmented and not well coordinated, presenting duplications and inconsistencies, and led by different agencies – resulting in a lack of efficiency (World Bank, 2012). Over time, there was growing recognition that there should be a systematic approach to data and information management across the sector.

Kenya's Social Protection Policy, which was gazetted in 2012, comprehensively addressed policy coordination, including the institutional framework and management information systems needed to make it happen. The policy also envisioned the country's Single Registry as playing a central role in establishing a coherent and scalable approach to social protection, "The Government recognizes the need to establish a management information system (MIS) for social protection in Kenya."³⁹ This vision was also reflected in the Medium-Term Plan (MTP) of Kenya's Vision 2030 and was strongly led by the National Social Protection Secretariat.

In 2011, the process to achieve such integration was not clear. Some of the programmes that were going to be integrated did not have an electronic database or related MIS, while none of the existing databases could speak to each-other and no standardisation of data existed across databases (for example there was no use of standard geographic locations across programmes). To tackle these problems, in 2011 a Working Group was established with members from the country's five core programmes to start discussing standardisation. Recommendations developed based on ongoing assessments led to a first achievement, with government-led cash transfer MISs harmonised in 2013. With technical assistance from WFP, full integration across programmes was achieved in 2014-2015, including integration with the country's Civil Registration authority. The system went into full use by April 2015 when linkage to Civil Registration was established.

6.2.2 Institutional arrangements

The National Social Protection Policy vests the National Council for Social Protection⁴⁰ with the overall strategic direction for social protection. Support and coordination is provided by the Social Protection Secretariat, located within the Ministry of Labour and East African Affairs (MLEAA). Since Kenya's Single Registry is essentially a warehouse, holding information on all the recipients of the national social protection system, data collection and updating are undertaken by individual programme MISs.

The Head of the Social Protection Secretariat is fully responsible for the overall management of the Single Registry. Technical administration (data backup and ensuring that the system is up and running) is undertaken by an MIS Coordinator supported by two assistants. Since effective functionality of individual programme MISs is important to ensure an update of the Single Registry, an MIS working group was created to bring together MIS specialists from individual programmes – coordinated by the MIS Coordinator at the Secretariat. This group leads in providing technical oversight to Single Registry development. An external consultancy firm, Development Pathways was contracted initially by DFID and more recently by World Food Programme to build and maintain the Single Registry.

6.2.3 How Kenya's single registry is structured in practice

6.2.3.1 Data sources and linkages

As discussed above, the main source of data for the Single Registry is the country's five social protection programme databases. The broad data set of information on the Single Registry and programme database is set out in table 7 overleaf.

³⁹ National Social Protection Policy, page 22.

⁴⁰ Bill soon to be passed

Table 7: Information kept within the Single Registry

REGISTRATION	MEMBERS	CHARACTERISTICS	PAYMENTS	COMPLAINTS
<ul style="list-style-type: none"> • County • District • Division • Location • Ward • Sub Location • Village • Physical Address • Land Mark • GPS Coordinates 	<ul style="list-style-type: none"> • ID number • Names • Sex • Relationship to head of household • Birth certificate • Age • Orphanhood • School attendance • Grade • Disability • Chronic illness • Occupation • Marital status 	<ul style="list-style-type: none"> • Dwelling characteristics • Assets • Flag whether the household benefits from other programmes • Type of programme • Real-estate ownership • Employment terms • Business ownership • Income • Expenditure • Meals 	<ul style="list-style-type: none"> • Transfer amount • Frequency of payment • Dates of actual payment • Amount paid 	<ul style="list-style-type: none"> • Date of submission of complaint • Reasons for complaint • Stage in the process (and date) • Confirmation of action taken • Date of resolution

To ensure that data on the Single Registry and programme MISs is verified (i.e. accurate), the Single Registry is also linked to IPRS

– a department in the Ministry of Interior and Coordination that maintains 30 million plus National Population Register – and links to other government and private sector providers using an automated software mechanism (web service). It is worth emphasizing that the registration of potential recipients for safety net programmes in Kenya was historically conducted by recording personal information from formal forms of identification, including national identity cards and passports. The integration of Single Registry and IPRS enables NSNP to verify the details of their recipients and the authenticity of potential recipients before enrolling them.

6.2.3.2 How data is collected and updated

Data collection and updating for Kenya’s Single Registry is undertaken by individual programmes. Since these programmes have been set up for different purposes, their registration (data collection) approaches and data needs are different. **There are plans currently to standardise information collection.**

In terms of registration, except for HSNP (which followed a ‘pure’ census approach for its second phase registration), other social assistance programmes in Kenya undertake a ‘push’ registration on an annual basis. For the purposes of this case study, **Push Registration** is defined as a process where government purposely and periodically goes to communities to register a set number of recipients through ad hoc committees and with the help of local administrators, without resorting to a door-to-door census (Kidd and Hossain, 2014). Table 8 describes the historical data collection process by each individual programme that forms the Single Registry.

Table 8: Approaches to data collection and updating

PROGRAMME	DATA COLLECTION METHOD/APPROACH	DATA COLLECTION AND UPDATING PROCESS/OPCT/PWSDCT
OPCT/PwSDCT	Push Registration (a variant of the census survey approach)	Geographic-based registration is undertaken by Social Development Officers and Location OVC Committees. The number of registered applicants is based on quotas set by the expansion plan and government annual budget allocations. Besides regular updates to remove deceased recipients, OPCT undertook a recertification process in 2015 to update its list of recipients and exclude households that are no longer eligible.
CT-OVC Programme	Push Registration (a variant of the census survey approach)	Geography-based registration is undertaken by Children Officers and Location OVC Committees. The numbers are based on quotas set by the expansion plan and government annual budget allocations. Besides regular updates, CT-OVC plans to pilot re-certification during the 2015/2016 financial years.
HSNP	Census Survey	Registration is undertaken with the support of contracted NGOs. HSNP is in the process of a re-registration process (2016). Once undertaken (registration and targeting), this will lead to the update of the Single Registry by providing a new set of recipients.
WFP's Jenga Jamii	Push Registration (a variant of the census survey approach)	Registration is undertaken with the support of contracted cooperating partners based on programme targets.

Except for HSNP and WFP's CTM which are purely electronic, all the other NSNP programmes (CT-OVC, OPCT, PwSDCT and UFSP-CT) register households manually (first data-capture). The paperwork is then transported from the field to the National office for transcription into the programme MIS. Recently the DSD decentralized the transcription process from the National to the County level. So far, there has been an indication of a general improvement in the quality of data captured and timeliness of the registration process, attributed to the nearness to the data source.

Each programme has specific operational guidelines to ensure the currency of its data based on its targeting approaches. For example, three programmes (OPCT, PwSDCT and CT-OVC) are categorical schemes that are poverty targeted. These programmes continuously update their data to exit recipients who are no longer eligible. For instance, a senior citizen who has died or an orphan who has turned 23 is exited from OPCT and CT-OVC respectively. When this happens, the Single Registry is automatically updated. Single Registry is also updated to bring in new replacements for recipients that have been exited. This is very common with OPCT. Finally, as discussed above, large enrolments of new recipients are normally undertaken annually based on the government's budget allocations and in line with expansion plans.

6.2.3.3 How data is transferred

Until early 2015, the transfer of data from programme MIS to the Single Registry was not automatic. This meant that data had to be moved manually and the process did not guarantee up-to-date data at the Single Registry. As a result, two methodologies for the automatic transfer of data between individual MISs and the Single Registry were tested: (i) Data exchange using web services, and (ii) Automatic replication using Microsoft SQL tools.

A technical assessment of the two showed that the latter was appropriate for the Kenyan context because:

- i. all the programme databases were set up with Microsoft SQL Server
- ii. technically, it was possible to configure a homogenous replication mechanism
- iii. using the web service option would have required more programming time.

Therefore, **an automatic replication of data from the CT-OVC, joint OPCT/PwSD-CT and the HSNP MISs to the Single Registry was configured using an SQL server, giving each programme database a mirror copy on the Single Registry server** (and thus acting as a real-time backup).

Apart from sending data to Single Registry, each programme MIS can connect to the Single Registry and access its data using a web service (“Bio Data Verification”). The web service link enables programmes (through their MISs) to access data on recipients for the purposes of verification of potential recipients before they are enrolled. “Bio Data Verification” web service specifically ensures that adult members (with national IDs) of potential recipient households are: (i) authenticated against the IPRS Population Register; (ii) checked against Single Registry to determine whether one member benefits from one or multiple programmes.

The Single Registry currently works as a tool to support programme monitoring and coordination of the social protection sector. As such, its primary users are programme staff at the national and sub-national levels. Therefore, **programme staff working at national as well as decentralised units of government (counties and sub-counties) are also provided access to Single Registry**. In fact, the Single Registry ‘enquiries module’ has become an effective tool to respond to programme queries, as it is accessible over the internet. The enquiries module is used to check whether recipients have been enrolled in programmes or whether payments have been delivered to recipients. Going forward, there are plans to deepen the use of Single Registry data by targeting other government entities – e.g. other ministries and counties (communication) – at both national and local levels as well as providing an access portal to recipients using national ID as a search parameter.

Data from the Single Registry to external stakeholders is transferred in excel format by email or on disk. The Social Protection Secretariat has developed and signed off data sharing protocols that define:

- i. Procedures for application for use of Single Registry data
- ii. Procedures for assessing the application
- iii. Procedures for approval, sharing and disposal of data

Examples of institutions that have requested data based on the protocols include other Social Protection Programmes, other national government institutions such as the Parliament, implementation partners such as Payment Service Providers, Donor organizations such as DFID, DFAT, World Bank, UNICEF, WFP, and international NGOs and National NGOs.

6.2.3.4 *How data is processed and used for targeting*

After data is captured on Programme MISs, each undergoes a validation based on the procedures defined in programme Operations Manuals. Each core step (registration, determination of eligibility and enrolment) is supported by individual programme MISs: the data that is consolidated in the Single Registry is only from programme recipients.

Importantly, however, the overarching integration has added value to the verification phase for each programme in two ways:

- i. by enabling a check of potential recipients against the Single Registry to determine households that could be benefitting from more than one programme
- ii. by comparison with IPRS’s national population register to determine the accuracy of the information collected on potential recipients (especially ID numbers, names, date of birth and sex). The potential recipients who do not meet the criteria (i.e. already enrolled in another programme) are de-registered.



6.2.3.5 How information is used

The Single Registry through its MIS platform is used for organising and managing the data for social protection programmes in Kenya. The Single Registry enables the flow and management of information within and between social protection programmes and in some instances, other sectors.

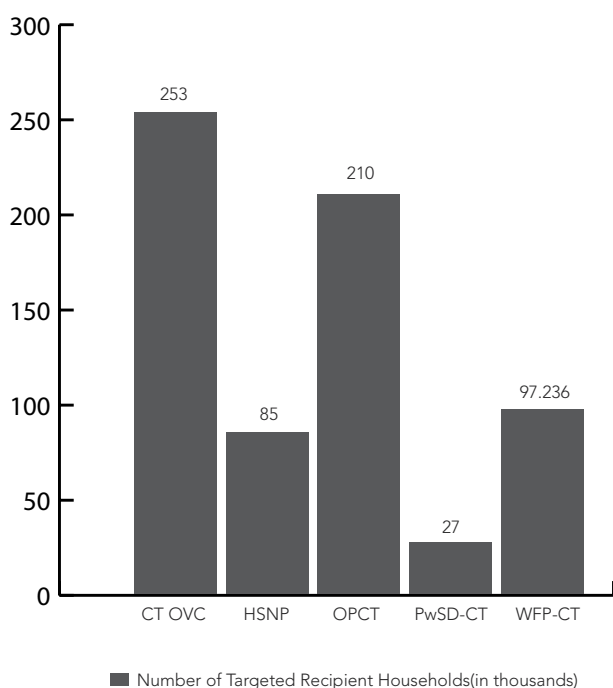
The information is utilised by the local and national government, policymakers, social safety net programmes designers and managers. Kenya’s Single Registry responds to the following stakeholder issues:

- **Prevention Error/Fraud.** Information in the Registry is run against data on 30 million IPRS’ National Population Register, allowing programme managers to be sure that recipients’ details are accurate/verified.
- **Programme Efficiency and Effectiveness.** Crosscheck is made whether recipients enrolled in a programme are on the payroll and whether the number of recipients scheduled to be paid equals those actually paid.
- **Monitoring Programme Implementation.** Single Registry supports programme monitoring and has a specific report that allows monitoring of the selected indicators across programmes.
- **Planning Expansion of Social Protection Programmes.** The expansion plan of the National Safety Net Programme has been integrated with the Single Registry so that users can cross-reference attainment against the objectives of any programme.
- **Foundation for Establishment of Common Delivery Systems.** With a consolidated payroll of recipients from existing cash transfer schemes, the Single Registry is a key resource for creating other common delivery systems, including payment systems, which will reduce the costs associated with delivering benefits.
- **Basis for Emergency Response.** HSNP sub-registry contains bank account details for households in the four poorest counties (Turkana, Wajir, Mandera and Marsabit) enabling emergency response in case of drought.

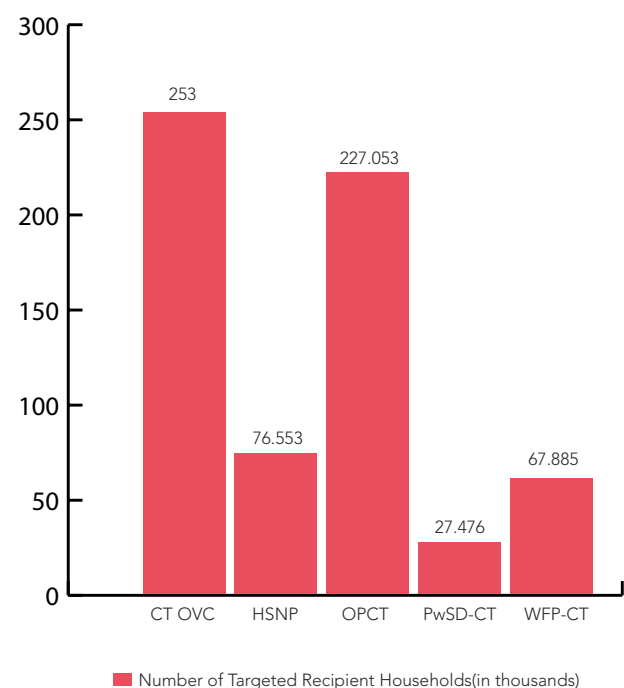
Since February 2016, SP Secretariat also provides open web access to the data on key performance indicators of the NSNP.

Figure 10: Sample of Single Registry summary statistics

Targeted Recipient Households - Year 2014/2015



Registered Recipient Households - Year 2014/2015



6.2.3.6 Data security and privacy

The Social Protection Secretariat has developed comprehensive data protection and sharing protocols. The purpose of the NSNP data-sharing protocols is fivefold:

- i. Provide a framework for the secure and confidential sharing of information
- ii. Ensure personal information is handled sensitively and only disclosed on a need-to-know and need-to-use basis
- iii. Provide a basis where anonymised data about an individual recipient or member can be shared without consent in a form where the identity cannot be recognised
- iv. Create a transparent procedure to increase usage of the National Safety Net Programme (NSNP) data to layer additional services to cash transfer recipients
- v. Ensure that the rights of programme recipients especially their privacy are not infringed on as enshrined in the Kenyan Constitution and other International conventions.

The data-sharing protocols are based on the Kenyan Constitution, Kenya's Data Protection Act -2013 and other international conventions such as the Council of Europe's Convention, United Nations Guidelines Concerning Computerized Personal Data Files, OECD Guidelines on the Protection of Privacy and Trans-Border Flows of Personal Data and Universal Declaration of Human Rights.

Summary and aggregated data on the programmes that form a Single Registry can be accessed through a public portal. However, Personal Data or request for data on recipient household listing is accessed on a need-to-know and need-to-use basis. For all data requests, the applicants must assent to data confidentiality agreements that have specific guidelines on the use and disposal of the data.

6.2.4 Main challenges and lessons learned

The management of information for the different social protection programmes in Kenya has been significantly improved since the inception of the Single Registry. Social Protection programmes in Kenya are better managed and operated, while the coordination, oversight and monitoring of the social assistance sector are made possible by the Single Registry. The Single Registry has enabled the government and other key stakeholders to conceptualise the coordination of the programmes in a clear and coordinated manner.

Key lessons from the implementation of Kenya's Single Registry include the following:

- Approaches to developing Integrated Systems for Information Management should be construed more broadly as a policy tool. Kenya's Social Protection policy underscored the need for the Single Registry and envisioned the set-up of individual programmes with functional MISs populating the Single Registry.
- Adequate investment should be made to deliver quality Registry design, based on needs assessments and feasibility studies (see also Section 1) – both important for long-term sustainability.
- The development of a Single Registry should be phased. Phasing helps ensure:
 - Ease of managing project sub-components
 - Incorporating lessons from previous phases in the next phases
 - Less risk of failure and risk of overwhelming existing capacity
 - Ad-hoc strengthening of business processes and systems



The key challenges that have been experienced during the set-up include:

- **Conceptualisation:** At first, it was difficult to technically conceptualise how social assistance programmes could be coordinated. Now the model is clear and logical, but it took a lot of assessment and thinking to get there.
- **Coordination:** The Secretariat had to undertake a massive task to actually coordinate individual programmes to invest time and resources in an MIS. Now each social assistance programme owns its own MIS and is a core part of the Single Registry. It works for all the actors involved.
- **Resources:** To save time and money in the future, an upfront investment is needed. Over the years, various development partners have stepped in to support the government in making this happen.

The next stage in the development of the Single Registry will be to ensure that all programme MISs can be managed at the district level – through a web-based system – and that information on recipients can be updated as close to real-time as possible. The broader plan is to also bring on board other components of the social protection system such as the National Social Health Insurance scheme and the National Social Security Fund (NSSF).

6.3 SOUTH AFRICA'S SOCPEN

The Republic of South Africa's Department of Social Development (DSD), established in 1929, runs a comprehensive system of social assistance grants and processes 16,991,634⁴¹ grants monthly (collected by just over 11 million recipients). The cost is estimated to be 3.5 per cent of the country's gross domestic product. The grants are processed using a legacy information management system called SOCPEN, which started in the 1930s. South Africa's social protection system is similar in two ways to the social security system in high-income countries—its programmes are means-tested and national in coverage. Responsibility rests with the DSD and South Africa Social Security Agency (SASSA). While DSD is responsible for policy, legislation and oversight, SASSA is in charge of programme implementation.

6.3.1 Objective and institutional arrangements of SOCPEN

SASSA is mandated by the South African Social Security Agency Act to: '... ensure the provision of comprehensive social security services against vulnerability and poverty within the constitutional legislative framework.'

SASSA has MoUs with other ministries and government structures and has succeeded in setting up online interfaces for data exchange with the Department of Home Affairs and PERSAL, the government payroll system.

6.3.2 How SOCPEN is structured in practice

SOCPEN runs on mainframes located at SITA. Its enterprise database, Adabas, manages more than 2,300 concurrent users and has a register of more than 16 million recipients.

The system operates throughout SASSA offices but cannot be accessed through the internet for online application processing. Applicants must complete application forms in the presence of a SASSA officer and these are entered into SOCPEN, which allows real-time tracking of progress and reduces problems of lost or misplaced forms.

41 Source: SOCPEN fact sheet, 31 March 2016 and useful integrations from Caesar Vundule and Carin Koster. The current estimate of South Africa's population is 54 million.

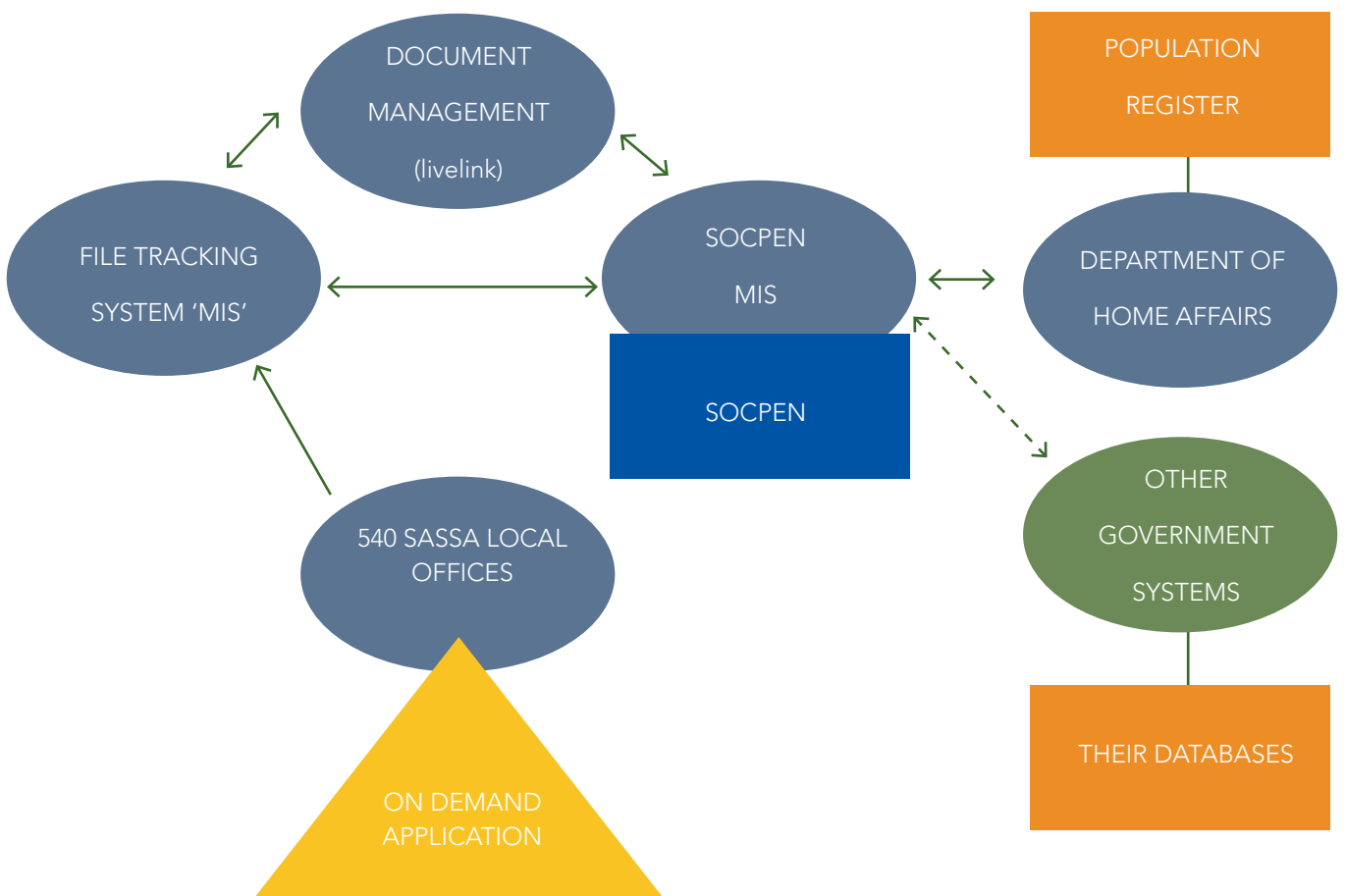
6.3.2.1 Data sources

SOCPEN is a primary database for recipient information management. As shown in Figure 11, it is linked to other data sources, including:

- Applicants of the six social grants feeding into SOCPEN
- A file tracking system providing real-time information on the status of social grant applications
- Livelink, a document management system that scans and manages records of grant recipients

SOCPEN interfaces with other government MISs, the most important of which is the Department of Home Affairs and can provide real-time information from the population register. For example, when a death is reported, the information is conveyed to SOCPEN immediately leading to the termination of payments. Data is also used to establish recipient status (for example, age cut-offs).

Figure 11: Overall structure of SOCPEN



Source: Developed by authors based on Chirchir (2011).



An online interface has been established with PERSAL, to crosscheck income data. Other ad-hoc data sources (not linked online) for this include: the Unemployment Insurance Fund, Government Employees Pension Fund, payroll system of the Defence Force, National Treasury (to verify recipient banking details), Department of Basic Education's learner database, and special investigations unit (to identify fraudulent grants).

Innovatively, biometric systems are in place for recipients to collect their money and prove their identity, including fingerprints and voice recognition.

6.3.2.2 Data collection

Given that SOCPEN is a demand-based system, by which potential recipients apply to the programme at local SASSA office registration points, the process of data collection and registration is ongoing, allowing for regular updating and re-certifying. Box 17 has more details on the social grants lifecycle.

Box 17: Social Grants Lifecycle in South Africa

The social grants lifecycle in South Africa starts with applications made on demand at local SASSA office registration points. Details captured include personal information, address, income, deductions, age and disability. Applications are screened with applicants identified and proof of income provided. If there is internet access, grants officers enter details into SOCPEN. Legally, applications should be processed within 21 days. However, current initiatives aim to reduce turnaround time to 24 hours.

The next step is approval or rejection based on applicant information provided, and criteria defined for the means test. Applicants are informed of outcomes through notification letters.

Once notified, applicants are enrolled into the scheme. Then SOCPEN's payroll produces a payment schedule aggregated by provinces and payment service providers. SASSA uses three payment methods: bank deposits, hand delivery, and pickup from a post office.

SOCPEN monitors eligibility of approved recipients. Routine maintenance certifies if recipients are alive and updates the poverty status of existing recipients. SOCPEN system ring-fences recipients due for review and notifications are prepared. Those still eligible are reinstated, while those who skip reviews are suspended.

Source: Barca and Chirchir (2014)



6.3.2.3 How information from SOCPEN is used

SOCPEN handles 2,300 concurrent users. This is impressive for a legacy system that has consistently processed more than 16 million grants a month. Since social security implementation is handled by one agency, it can be argued that South Africa operates a 'single window' for processing applicants.

SOCPEN also:

- processes applications for the country's six social grants
- determines recipients from the list of applicants
- maintains the payroll for the monthly 16 million plus grants
- automatically produces a list of recipients to be re-assessed

The system has limits, however, SASSA employees are the main users of the information kept by SOCPEN. Moreover, SOCPEN is not an organisation-wide system and so not all of SASSA's operations are computerised. Indeed, SASSA also has to maintain other operational MISs (for example, financial, human resource management, call centres and a geographic information tracking system).

Plans are underway to migrate SOCPEN to a graphical user interface while maintaining its robust database platform (Peterson and Appel, 2012). The new system will integrate current services with compliance services, back-office functions and business intelligence services.

6.3.3 Further pushes for integration: the national integrated social Information system⁴²

SASSA's plans to migrate to a graphical user interface have run in parallel with plans to integrate the social information needed by higher levels of government. This need originally came from the national War on Poverty Campaign launched in 2007 by the Office of the President after a 10-year review of anti-poverty services offered since Independence. The rationale for creating a new NISIS was to develop cross-ministry, anti-poverty strategies and gather information on the conditions of the poor. SASSA's on-demand system was insufficient for this since it does not have a complete profile of the poor. A feasibility study and proof-of-concept for NISIS were completed in 2009 and financed directly by the Treasury.

Since then, as with most large conceptual ideas, NISIS's development has been a journey. In 2009, a formal partnership was established between the War on Poverty Campaign and the Department of Rural Development and Land Reform. The department took ownership of the project and has enabled the ongoing development of NISIS in support of its Comprehensive Rural Development Programme, which focused on household profiling and service referrals capabilities. The DSD was to lead overall coordination but it never did so, partly because NISIS had no institutional and legal framework and no structure. SASSA has been almost cut out, such that SOCPEN data has never been fed into the NISIS database. Similarly, the Treasury has not supported the project due to 'general scepticism over large-scale IT projects' (Da Silva, 2012).

As a consequence, some provincial governments are experimenting with playing a stronger role in coordinating the social policy within their remit, including North Cape and Mpumalanga provinces and in Johannesburg.

Despite any success at the provincial level, the NISIS remains far from being what it set out to be. The DSD is trying to reconceptualise the NISIS to align it with departmental priorities and focuses on internal coordination and implementation of an integrated service delivery model.

⁴² This section has been partly informed by discussions with an information technology consultant involved in developing NISIS.





6.3.4 Main challenges and lessons learned

6.3.4.1 SOCPEN

SOCPEN is stable, supports most grant operations and interfaces with some other government MISs to crosscheck information and prevent fraud. However, it has its limits, including:

- reaching its ability to be customised and being overtaken by many technological changes
- processes producing a substantial volume of paper and forms
- not being an organisation-wide system covering all SASSA operations
- positioning SASSA so it has to maintain other operational MISs, which is inefficient and leads to duplication of data storing (making reporting, monitoring and evaluation difficult)
- linking with other MISs but not always in real-time
- not being set up to integrate data and information management, which means its overall focus is on managing operational processes for grant delivery rather than on policy coordination and oversight.
- Despite these limitations, several lessons can be drawn from South Africa's experience:
- **Old is gold.** Even though it is a legacy system built on a non-graphical user interface based on mainframes, SOCPEN has delivered relatively well.
- **Support from SITA.** SITA plays a pivotal role in supporting and maintaining SOCPEN. In fact, SOCPEN is hosted on mainframes held at SITA. Retaining talented staff is a challenge. The government needs to build internal support mechanisms to run MIS system nationally, through a dedicated information and communications technology agency or a strong internal support team.

6.3.4.2 National Integrated Social Information System

- SOCPEN's problems have not been addressed by the NISIS, proving how lack of policy coordination and institutional arrangements are the basis of IT failure, not the other way around. Issues include:
- **Lack of national DSD involvement and ownership:** The provincial DSDs are sometimes deeply involved in the War on Poverty. At the national level, involvement has been almost non-existent. The NISIS, therefore, is not always seen as relevant.
- **Slow profiling progress:** Household profiling is a massive, labour-intensive and logistically complex exercise that the War on Poverty or Comprehensive Rural Development Programme were not capable of performing (including because of a lack of resources). This was compounded by an increasing lack of interest from the Treasury and the central government and no coordinating effort by the DSD.
- **Lack of service delivery:** Several factors have led to the lack of service delivery including:
 - i. excess focus on household profiling targets at the expense of service delivery
 - ii. lack of focus and/or clarity on the services to be prioritised for delivery
 - iii. limited coordination capacity and authority on the ground
 - iv. close to non-existent coordination models and institutional arrangements
 - v. no dedicated resources from line departments meaning programmes compete against their department's internal priorities
 - vi. absence of a clear political or legislative mandate necessary to marshal the line departments responsible for service delivery.

7

CONCLUSIONS

This Module has clearly shown that – when made a priority and designed in an inclusive and rights-based way – programme MISs are a powerful tool to efficiently implement, manage and monitor social protection programmes. Developing an Integrated System for Information Management – that enables the flow and management of information within the Social Protection sector and sometimes beyond – can have further policy and operational advantages:

- *Policy advantages* can include a more equitable approach to distributing resources based on objective and comparable information, increased responsiveness and inclusiveness of interventions (potentially ensuring universal coverage), increased transparency and accountability (and improved 'image' of the Social Protection system), increased links to complementary services and sectors, and increased knowledge on issues around poverty (both chronic and transient) and vulnerability across the lifecycle.
- *Operational advantages* can include:
 - a. facilitated oversight of multiple schemes
 - b. reporting to policymakers, and the ability to model and test policy changes
 - c. decreased burden on staff (e.g. less paperwork) and on potential applicants (e.g. streamlined access to services)
 - d. increased efficiency of delivery by avoiding gaps or duplication of efforts, enabling economies of scale, and ensuring better management of error and fraud
 - e. improved management, for example enabling recipients to transition between schemes as their circumstances change and establishing more effective emergency responses while ensuring improved M&E, planning and coordination at sector and potentially cross-sector level

The extent to which these advantages are achieved greatly depends on the approach to integration selected (developing a Social Registry, Integrated Recipient Registry or Virtual Social Registry, see Section 4.2) and the overarching objectives pursued. It is clear that, whereas many stakeholders understand MISs and their registries/databases from an Information Technology (e.g. software and hardware) perspective, they are primarily a policy tool.

This has several implications:

- Social Protection stakeholders need to set the policy, legal and operational framework for the establishment of their MISs or Integrated Systems for Information. This also includes setting clear obligations to ensure gender responsiveness and disability inclusiveness within the overall information system (both at the programme and integrated levels).
- In determining the model to set up, developing countries should not (even though it is natural to look to existing examples) be casually seduced by models arising from middle-income countries (e.g. Brazil, South Africa and Indonesia). Instead, the choice must be carefully made in light of country-specific purpose, needs, and context (including existing opportunities and institutional arrangements as well as capacity/financial constraints).

- Given the overarching objective of data and information management in the Social Protection field – collecting and sharing information to take action to improve the standards of life of the poorest and most vulnerable citizens – it is important to involve all potential stakeholders in the design and development process. This can be done through an in-depth Needs Assessment (see Section 5.2) and Feasibility Study (Section 1) and by keeping key actors continuously involved (e.g. Steering Committee, continuous user testing, etc.).
- The development of a high quality programme MIS – and to a greater extent the development of an Integrated System for Information Management – requires a complex, costly, lengthy and iterative process which requires very high capacity.
- The risk of failure is high, and not for IT-related reasons. Governments lacking sufficient capacity will need to be encouraged, advised/guided in the development process, while investing in capacity development. Proposed solutions for inclusive design need to be staged and realistic to avoid making things too hard to implement and risk creating disincentives among staff to implement changes.
- When analysing other countries' strategies for data and information management the focus should not fall on what the system is called, but on the functions, it performs - especially where the data is flowing from and to, and what practical implications that has.

7.1 IMPLICATIONS FOR SUB-SAHARAN AFRICA

The implications for Sub-Saharan Africa are extensive, given the importance of country needs and the context in determining the 'right' solution to data and information management. Six main considerations should be noted.

First of all, from a policy perspective, a wide range of countries in the region are swiftly striving towards the creation of a comprehensive vision of Social Protection policy (in line with the ILO Social Protection Floor Recommendation). This is reflected in country strategy documents and in regional efforts and has already translated into practice – as Table 9 below shows.

Table 9: African countries which have developed or are developing integrated systems for information management in the Social Protection sector

EXISTING INTEGRATED SYSTEMS	INTEGRATED SYSTEMS THAT ARE BEING DEVELOPED
<ul style="list-style-type: none"> • Cabo Verde, Unique Registry • Kenya, Single Registry • Lesotho, National Information System for Social Assistance (NISSA) • Mauritius, Social Register of Mauritius (SRM) • Seychelles, Integrated MIS • South Africa, SOCPEN 	<ul style="list-style-type: none"> • Benin, Unique Registry • Djibouti, Unique Register • Egypt, Unified National Registry • Ethiopia, National Household Registry (Social Registry) and Central Social Protection Management Information System (Integrated Recipient Registry) • Ghana, Ghana National Household Registry (GNHR) • Liberia (N/A) • Malawi, Unified Recipient Registry • Mali, Social Registry • Mauritania, National Social Registry • Morocco, Unified Register • Nigeria (N/A) • Rwanda, Integrated Management Information System • Senegal, Unique Registry • Tanzania, TASAF Social Registry • Tunisia, Unified Registry and Unique Identification System • Uganda (N/A)

Source: Honorati, Gentilini and Yemtsov (2015) and authors' integrations

Secondly, countries across Sub-Saharan Africa have great opportunities to adopt leapfrog technology when it comes to setting up MIS solutions. This has already been the case in countries pioneering the use of programme and integrated MISs, addressing challenges unique to the region: for example,

- biometric identification can overcome traditional difficulties in identifying recipients without appropriate documentation
- point-of-sale devices or mobile phones can be used to transfer cash to nomadic or hard-to-reach recipients electronically (allowing for instant integration with MIS)
- mobile phones or hand-held devices may be used for data collection (Garcia and Moore, 2012)

The application of the new modalities, however, needs to be continuously monitored to identify and address barriers for recipients in accessing and properly using these devices.

Third, **capacity constraints will need serious tackling** – at the central and local levels. While the Ministries and Agencies in charge of implementing Social Protection across the region have been strengthening their role and cadre of staff, there is still a significant lack of:

- a. technical staff at the central level capable of leading the MIS development process while also understanding policy and implementation requirements as well as inclusive programming
- b. field staff at the local level (e.g. a cadre of social assistants), capable of acting as liaisons with programme applicants and recipients

Countries that have recently succeeded in their process of data integration, such as Kenya, have undertaken rigorous Capacity Needs Assessments to tackle this issue. They have also adapted their system to existing capacity constraints, for example by

- a. gradually building on existing systems rather than adopting a ‘big-bang’ approach
- b. outsourcing development tasks to external companies and/or receiving donor technical assistance
- c. adapting business processes to capacity constraints (e.g. impossibility of on-demand data collection in the short term given the lack of local staff).

Fourth, the sustainability of any MIS project – and especially a large project involving the creation of an integrated system – is largely reliant on a **sustainable source of funding** allowing for ongoing operations (including training and technical support for staff), maintenance and potential changes/tweaks. This is problematic in contexts where Social Protection is still struggling to garner sufficient domestic financing and commitments to gender-responsive and disability-inclusive social protection are still relatively underdeveloped – as is often the case in some low-income countries including those in Sub-Saharan Africa (Garcia and Moore, 2012). An MIS project’s Feasibility Study should realistically assess the cost implications of different models of MIS development and rollout, and base ultimate choices on the availability of adequate financing.

Fifth, MIS projects in the region **need extensive tailoring to the specific objectives and characteristics of social assistance programmes**, as extensively described by Garcia and Moore (2012). For example, given most programmes’ strong focus on targeting vulnerable groups rather than ‘the poor’, a unified approach to poverty targeting across different programmes could be more difficult to implement. Similarly, given the high level of community involvement in all of the ‘gateway’ phases of the programme implementation, any proposed MIS solution would have to find a way to accommodate this.

Sixth, the wider ‘enabling’ (or ‘disabling’) context also needs to be accounted for, possibly at the early design stages (Feasibility Study). From an IT standpoint, the lack of reliable mobile phones, network coverage and electricity, or lack of basic hardware infrastructure could seriously undermine the success of an MIS programme in the region (e.g. rural areas) – especially where one of the core objectives is improved management and coordination across central and decentralised levels of government. From a wider country-context perspective, it is essential to understand whether existing data privacy, security legislation, and enforcement measures in the region are strong enough to protect already vulnerable groups from further vulnerability.

8

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CURRICULUM OVERVIEW

The TRANSFORM Learning Package is organized in a modular structure, and reflects the key building blocks of a holistic & interdependent social protection system.

The TRANSFORM modules that are currently available are listed below. Other modules are under development and will be added to the curriculum.

 LEG	Legal Frameworks
 S&I	Selection & Identification
 ADM	Administration and Delivery Systems
 COO	Coordination
 GOV	Governance, Institutions & Organizational Structure
 MIS	Management Information Systems & Approaches to Data Integration
 FIN	Financing & Financial Management
 M&E	Monitoring & Evaluation

All TRANSFORM materials are available at:

www.transformsp.org

WHAT IS TRANSFORM?

TRANSFORM is an innovative learning package on the administration of national social protection floors in Africa. The prime objective of TRANSFORM is to build critical thinking and capacities of policy makers and practitioners at national and decentralized levels to improve the design, effectiveness and efficiency of social protection systems. TRANSFORM aims not only at imparting state-of-the-art knowledge that is appropriate for the challenges faced by countries in the region, but also to encourage learners to take leadership on the change and transformation of nationally defined social protection systems.

WHY TRANSFORM?

Many training curricula exist in the field of social protection and thus fundamental ideas, concepts, approaches and techniques are accessible. And yet, institutions and individuals struggle with the complexity of developing a broad, encompassing social protection system.

This complexity requires a transformational approach to teaching and knowledge sharing. It is far from enough to impart knowledge, to fill heads. It requires learners to grapple with the features of complexity, to stimulate creativity, to appreciate diversity and uniqueness, to be involved as a key element of ownership –elements which are at least as important as the factual knowledge itself. This learning package aims at just that: TRANSFORM!

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See more on cover page.

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