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harmonising registrations and identification in emergencies in Somalia

report

Contents

Executive summary	3
Introduction	5
Definition of key terms	6
Methodology	8
Study limitations	9
Key findings	10
Targeting, registration and data management in CTP in Somalia	10
The state of harmonisation of CTP data systems in Somalia	17
Incentives to harmonise CTP data systems	21
Disincentives to harmonisation	22
Case studies	31
Roadmap for harmonising CTP data systems	33
Conclusion	39
Recommendations for streamlining and harmonising data systems in CTPs in Somalia	39
Appendix	43
Acknowledgements	45
Acronyms and abbreviations	46
Notes	48

Executive summary

Developing a robust information system for cash transfer programming (CTP) in a humanitarian context can facilitate the equitable and responsive distribution of aid, while enhancing the effectiveness and efficiency of its delivery. This paper summarises the key findings drawn from a study that examined how different humanitarian agencies in emergency contexts in Somalia are managing the collection, analysis, reporting and sharing of data, particularly identification and registration data, on recipients of assistance in cash transfer programmes (CTPs). The study sought to understand the current operational policies and practices related to the collection and sharing of registration data; the current initiatives towards harmonising data systems; the options for standardising, sharing, storing, monitoring and protecting data in a secure way that increases the efficiency and effectiveness of the response, minimises duplication and remains operationally relevant to the identification of needs in Somalia; and the ethical, fiduciary, reputational and legal risks associated with harmonising CTP data systems.

The study reveals that the collection of registration and identification data in Somalia is governed mainly by policies, guidelines and standard operating procedures developed by humanitarian agencies. Before collecting registration data, most humanitarian agencies select recipients through a two-step process involving geographical targeting followed by community-based targeting. While significant efforts have been made to improve this process, challenges abound. The key challenges include elite capture, corruption, favouritism, limited accessibility due to insecurity and clan power dynamics that lead to inclusion and exclusion errors.

Humanitarian agencies are increasingly adopting digital registration platforms that include proprietary and open source management information systems to ensure efficiency, accuracy of data capture and data protection through measures such as data encryption. However, the need for customised solutions and cost considerations, coupled with data ownership, access, privacy and protection concerns, hinder the use and/or sharing of existing digital registration platforms.

There is limited interoperability and sharing of data between humanitarian agencies for coordination, deduplication and caseload planning. This is attributed to: (1) data privacy and protection risks; (2) lack of a unique identifier that can facilitate the exchange of data between databases; (3) limited standardisation of data fields; (4) lack of trust in the quality of data from external sources; and (5) lack of consent to share data.

Important progress is already being made to harmonise data systems. Various consortia have been established, such as the Somalia Cash Consortium, which are using harmonised registration forms, a common database and a data sharing agreement. Nonetheless, these initiatives involve sharing data only in situations where the partner agencies are implementing a joint programme funded by a common donor. A few United Nations agencies such as the World Food Programme (WFP) and United Nations Children's Fund and international non-governmental organisations such as World Vision and the Danish Refugee Council have bilateral agreements involving sharing a registration platform. WFP and United Nations High Commissioner for Refugees (UNHCR) have established interoperability between their databases. Additionally, a group of donors led by the European Civil Protection and Humanitarian Aid are exploring ways to establish interoperable databases or registry for Somalia, while the government is working with the World Bank to establish a unified registry. However, the initiatives by the donors and the government are at preparatory stages and may take a couple of years to be completed.

The gains that have been made in harmonising data systems present opportunities that can be leveraged to deepen harmonisation. These include the following: (1) a common set of data variables is already being collected and can be standardised to facilitate interoperability; (2) the harmonised registration forms being used in various consortia can be refined and adopted widely to facilitate sharing of data; and (3) key

leadership and coordination structures such as the Cash Working Group, Food Security Cluster, Donor Working Group and Technical Assistance Facility can be leveraged to spearhead the harmonisation agenda.

Despite the progress and existing opportunities, the harmonisation of data systems is constrained by technical, political and economic factors. The key challenges include: (1) competition among humanitarian agencies for funding, which deters collaborative efforts; (2) the politics of data ownership and access; (3) lack of a common stance among donors on harmonisation, leading to weak coordination; (4) fear of the potential disruption of current operations, leading to resistance among humanitarian agencies; (5) weak national legal frameworks for data protection; (6) use of different eligibility criteria, which leads to diverse data needs that incentivise humanitarian agencies to collect their own data rather than using data from other programmes or agencies; and (7) varied levels of technical maturity across humanitarian agencies.

The level of willingness to harmonise data systems varies among actors. Humanitarian agencies are willing to share only a minimum agreed set of data variables for coordination, deduplication and planning. Most donors are willing to support the development of interoperable databases managed by humanitarian agencies in the short and medium terms. A few donors are willing to work with the Federal Government of Somalia to develop a social registry that can support the harmonised registration of vulnerable persons in the country, the sharing of data with social protection programmes and the scaling up of responses during emergencies.

Considering the opportunities, the challenges and the level of willingness among actors, a three-stage approach should be adopted to harmonise data systems. In the short term, a basic integrated beneficiary registry co-owned by donors and humanitarian agencies should be developed. This registry is basic in the sense that it will host only the minimum data variables that humanitarian agencies are willing to share. Moreover, in the absence of a reliable identification system such as a foundational ID, a short-term solution such as an algorithm based on matching a combination of variables to determine potential duplication can be adopted. In the medium term, the integrated beneficiary registry should be expanded as humanitarian agencies agree to share more data variables. A more reliable identification system that incorporates biometric technology should also be adopted. In the long term, the integrated beneficiary registry should be handed over to the government, a national foundational ID system should be established and the coverage of the registry should be expanded. Additionally, a social registry should be created to serve as a targeting database for social assistance programmes led by the government. Overall, we envision a comprehensive information system consisting of a social registry and an integrated beneficiary registry, supporting a vibrant social protection programme system underpinned by a foundational ID system in the long-term.

Introduction

Somalia has experienced a complex and protracted humanitarian crisis since the collapse of the Siad Barre regime in 1991. Ongoing armed conflicts and insecurity, marginalisation of ethnic minorities, weak governance and cyclical climatic shocks, including droughts and floods, have resulted in chronic food insecurity, destruction of property and livelihoods, loss of lives, limited access to basic services and humanitarian assistance, and displacement of an estimated 2.6 million people.¹ Mass movement of crisis-affected populations to urban and peri-urban areas in search of livelihood opportunities and humanitarian assistance has further strained limited resources and the absorptive capacity of host communities. While a federal government was formed in 2012 with the support of the United Nations, political wrangling, coupled with inadequate institutional, technical, human and financial capacity, hinders the delivery of basic services and the provision of security, thereby perpetuating household vulnerability and reliance on short-term humanitarian aid. Consequently, an estimated 4.2 million people are in need of humanitarian aid in 2019, with women, children, older people, persons living with disabilities and ethnic minorities being the most vulnerable groups.²

The use of cash transfer programming (CTP) as a transformative tool for addressing needs in humanitarian settings gained policy traction following the Grand Bargain agreement in 2016.³ Globally, US\$2.8 billion of humanitarian assistance was allocated to cash transfer programmes (CTPs) that year.⁴ In Somalia, humanitarian agencies have used CTP alongside in-kind assistance as a life-saving and livelihood support intervention at least since 2003. In 2011, CTP was used at scale to respond to the famine that led to the loss of 258,000 lives.⁵ In south and central Somalia, cash-based programmes were the main form of humanitarian assistance, with a total of US\$740 million delivered to recipients through multiple instruments such as unconditional cash grants, food voucher programmes, conditional cash transfers and business grants between 2011 and 2012.⁶ In response to the 2017 drought, 17% (US\$214 million) of total humanitarian assistance in Somalia had a cash element.⁷ The existence of a functioning private sector, coupled with the ability of communities to access markets to purchase food and non-food items, supports the use of CTP in Somalia. Cash transfers support local economy and promote dignity, flexibility and choice by allowing recipients to prioritise what goods and services they need. The main actors in the CTP landscape in Somalia are humanitarian agencies (UN agencies and international and national NGOs), donors, financial services providers, the Federal Government of Somalia and local authorities (formal and traditional). Somalia continues to provide important opportunities for innovation, learning and developing new approaches for CTP, such as the use of mobile money transfer services in a conflict-affected and fragile context.

Implementing CTPs typically includes five separate processes: targeting and selection of needy households, registration of eligible recipients, enrolment, payment delivery and management of complaints and grievances. Access to timely and accurate data is central to effective implementation of each of these processes. Quality data is also important for assessment of the impact of cash transfers. However, in emergency contexts that are also characterised by insecurity and weak governance structures, as is the case in Somalia, it is often a challenge for humanitarian agencies to collect, analyse and share accurate and reliable data. In Somalia, CTP is beset by a number of data challenges related to identifying and registering the most vulnerable people, validating the identities of recipients, preventing duplication of benefits and ensuring effective protection of recipients' personal data. Determining the best approaches to harmonise how CTPs collect and use data, therefore, is an important policy concern among donors, humanitarian agencies and government actors.

The objective of this study is two-fold. First, it identifies how different agencies in emergency situations in Somalia are collecting, analysing and sharing recipients' identification and registration data in CTP and the associated standards, systems and guidelines that exist. Second, the study identifies possible opportunities and implications for harmonising CTP-related registration and identification data systems. Building on the

objectives, the key research question that this study investigates is: to what extent is it possible to harmonise existing CTP-related registration and identification data systems? In order to address this question, the study sought to understand the current operational policies and practices related to the collection and sharing of registration data for CTP in Somalia; the current initiatives towards harmonising data systems, the progress that has been achieved and the challenges encountered; the options for standardising, sharing, storing, monitoring and protecting data in a way that ensures the safety of personal data, increases the efficiency and effectiveness of the response, minimises duplication and remains operationally relevant to the identification of needs in Somalia; and the ethical issues and fiduciary, reputational and legal risks associated with harmonising CTP data systems.

Definition of key terms

Cash transfer programming (CTP): all aid interventions where cash or vouchers (physical or electronic) for goods and services are directly provided to vulnerable households or individuals as a means of meeting needs, as well as establishing or rehabilitating livelihoods.

Management information system (MIS): a system designed to facilitate the transformation of data retrieved from a programme's database or different databases into information that can support effective and efficient programme implementation.

Database: a system for organising, storing and easily retrieving large amounts of data.

Registry: an official written record of names, events or transactions. In a computerised environment, registries and databases serve as repositories for storing and retrieving data. The word registry is used when referring to integrated repositories, whereas database is used when discussing a repository of a single programme.

Social registry: an information system that facilitates outreach, intake, registration and assessment of potential eligibility for various social protection programmes.⁸ Such a system provides a gateway for individuals or households to register and be considered for inclusion in various programmes. In terms of coverage, a social registry includes all applicants under social protection programmes, whether or not they are considered eligible for those programmes.⁹

Unified registry: a form of social registry designed to be used by multiple programmes.

Integrated beneficiary registry: a registry that serves as a data warehouse by integrating data from the MISs of various social protection programmes. It facilitates access to consolidated data collected by different programmes (e.g. who receives what from who), thereby facilitating coordination, monitoring and deduplication across different programmes. In terms of coverage, integrated beneficiary registries host the data for beneficiaries only – they do not include the data for potential beneficiaries as social registries do.

Interoperability: the ability of registries/databases, devices or systems to communicate with each other by exchanging data or information. Interoperability can be achieved by either establishing direct connections between databases or via a third-party exchange layer that facilitates exchange of information across different databases.

Foundational identification (ID): an ID system established primarily to provide legal identification and credentials to the entire population for public administration and access to services provided by public, private and non-governmental organisations. Examples include national ID systems.

Functional IDs: an ID system established to address a particular need such as managing the lifecycle for a given transaction or social programme. Examples include the ration cards provided by humanitarian agencies.

Targeting: the process by which needy or most vulnerable individuals or households are selected based on certain criteria to receive aid such as cash transfers.

Inclusion errors: inclusion in an aid programme of individuals or households who do not meet the eligibility criteria.

Exclusion errors: exclusion from an aid programme of individuals or households who meet the eligibility criteria.

Deduplication: a technique for detecting or recognising duplicate copies of identity data. In the context of social protection programmes or CTPs, deduplication involves using, for instance, national ID or biometrics (fingerprint or iris scans) to determine if a person has been registered multiple times in a registry.

Methodology

This study adopted a mix of primary and secondary research methods to address the research objectives. The methodology was broken down into six activities: literature and document review, a mapping of stakeholders, key informant interviews (KIIs), beneficiary data experiences, case studies and synthesis of findings. Guided by the primary research question, the literature and document review involved systematic selection and analysis of published and grey literature related to how humanitarian agencies are managing the collection, analysis and sharing of registration and identification data in CTP. To measure the strength of the evidence garnered, the selected literature was tested using criteria guided by the Department for International Development (DFID) *How to Note*¹⁰ on the strength of evidence and the Overseas Development Institute (ODI)'s guide on how to do a rigorous literature review.¹¹ The selection and review of literature was guided by the following parameters: (1) conceptual framing – the study acknowledges existing research/literature, constructs a conceptual framework and poses a specific research question or hypotheses; (2) transparency – the study clearly highlights its sources of data, location of the study, research design and limitations; (3) validity and reliability – the study clearly articulates or demonstrates the validity and reliability of its findings; (4) cogency – the study's findings are logical and its conclusions are based on the results; and (5) cultural and gender sensitivity – the study considers context-specific gender and cultural factors that may bias the findings. The review was limited to studies from 2011 to date to enable us to understand the state of play of the harmonisation of data systems from the most recent literature. Priority was given to relevant literature on Somalia, as well as on other fragile and conflict-affected states.

Building on the literature review, KIIs were conducted. To select relevant key informants, we mapped stakeholders, identifying 50 organisations in the humanitarian space in Somalia. These included international and national NGOs, government ministries, UN agencies and donors. From these, a purposive sampling technique was used to select 24 organisations, from which KIIs were conducted with 29 respondents (in some organisations more than one respondent was interviewed). The KIIs were conducted to gain deeper insights on four issues: (1) the challenges associated with targeting and registering recipients in CTPs and what needs to change; (2) the incentives and barriers to harmonising data systems and sharing recipients' data; (3) how Somalia can build a harmonised data system for CTPs and an integrated beneficiary registry that can support social protection programmes in future; and (4) international best practices that can be applied in Somalia around harmonisation of data systems.

This study also documented the experiences of recipients of cash transfers in providing data to humanitarian agencies through registration processes. This involved a review of relevant literature including CTPs' monitoring and post-distribution evaluation reports. In order to triangulate the information from the literature review, we adopted a user journey approach¹² – a qualitative human-centred research technique that aimed to create understanding of experiences of providing data through registration and identification processes from recipients' standpoint. Detailed individual (user) consultations were conducted with 12 recipients (five male and seven female) of cash assistance who described in detail their experiences in providing data to humanitarian agencies. These were selected through a random sampling technique based on beneficiary lists from three different humanitarian agencies operating in Banadir, Hiran and Middle Shabelle regions of the Federal Republic of Somalia. The study focused on in-depth consultations from a few respondents to complement the literature review since a large-scale survey was not possible due to time constraints.

Based on the information and data from the literature review and KIIs, a mapping of the cash transfer data systems in Somalia was conducted. This involved analysing the MISs used for CTPs along with their operational constraints, effectiveness and efficiencies to determine how existing systems can be harmonised into an integrated beneficiary registry. The analytical framework deployed for this work strand assessed the institutional framework, political nuances, coordination mechanisms, broader governance systems (including national ID and civil registration systems), legislative framework, governance framework, model and

objectives of integration, staff and operation capacity and the hardware and software needed to support the harmonisation of data systems.

Two case studies were conducted to identify replicable best practices and lessons learnt from other countries that are also harmonising registration and ID systems in emergency contexts. The case studies of Mali and Palestine were selected based on their contextual relevance to Somalia. Mali and Palestine are affected by conflicts and frequently experience shocks resulting from natural hazards such as droughts and floods.^{13,14,15} They experience high levels of vulnerability including poverty and food insecurity that perpetuate reliance on humanitarian aid, which is often delivered as CTP and in-kind assistance. Other considerations for selecting Mali and Palestine included the availability of data and information on harmonised registration mechanisms. The case studies were prepared based on desk reviews of published and grey literature.

The qualitative data collected through KIIs was analysed through a deductive analytical approach. The data transcribed from the interview notes was reviewed to determine consistency and patterns in the responses and emerging messages or themes. The initial review also helped in identifying information that needed to be clarified and validated through further consultations with stakeholders and a review of literature or documents. Building on this initial review, the data was categorised into various themes and topics based on predetermined research questions. The information was then assigned to relevant research objectives and synthesised, resulting in precise and meaningful statements to answer the research questions.

Study limitations

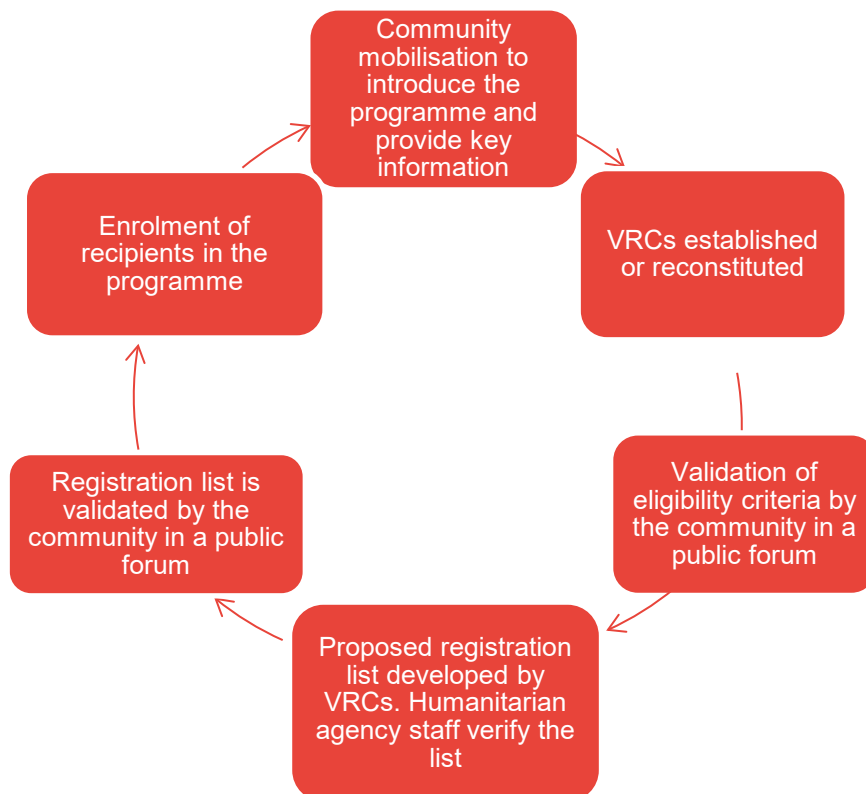
The limitations of the study included the short timeframe and reluctance of some respondents to provide information on sensitive issues such as the weaknesses of their targeting and registration systems. Additionally, most humanitarian agencies were reluctant to provide information about the number of recipients they have registered in their databases, as well as MIS-related information such as the type of programming languages used to build their MIS. A team of trained researchers with experience in using cross-checks and probing questions, as well as knowledge on the study subject, facilitated the collection of robust datasets. Information that appeared to be inconsistent was verified through follow-up interviews and triangulated with the literature.

Key findings

Targeting, registration and data management in CTP in Somalia

The majority of humanitarian agencies in Somalia use a combination of geographical and community-based targeting approaches to select recipients of cash transfers, especially in regions that are safe and accessible for aid workers. Typically, the selection of recipients begins with geographical targeting that involves identifying a region with the most vulnerable households. The selection is based on the Integrated Food Security Phase Classification (IPC) data provided by the Famine Early Warning Systems Network (FEWSNET) and the Food Security and Nutrition Analysis Unit (FSNAU), which is managed by the UN Food and Agriculture Organization (FAO). Most humanitarian agencies target locations with IPC level 3 (crisis), 4 (emergency) and 5 (famine).¹⁶ Once the location is selected, community-based targeting is used to profile and identify vulnerable households. This approach relies on members of the community to select recipients, based on the premise that they have a better understanding of their own vulnerability than external actors.¹⁷ In Somalia, targeting is facilitated by village relief committees (VRCs), internally displaced person (IDP) camp committees¹⁸ and local authorities such as clan elders, imams, chiefs, district commissioners and business persons.

Figure 1: Community-based targeting process



As illustrated in Figure 1, the community-based targeting process¹⁹ usually begins with outreach activities in which the communities are sensitised about the programme to be implemented, the eligibility criteria and the complaints and feedback mechanism used by the humanitarian agencies involved. This is followed by either establishing a new VRC or reconstituting an existing one. To improve targeting outcomes, the VRCs and camp committees are in most cases trained on the targeting criteria, their roles or responsibilities in selecting

recipients, and the objectives of the programme. Where possible, humanitarian agencies ensure a gender balance and the representation of various clans and other groups such as persons with a disability in the VRCs and camp committees, in order to minimise inclusion and exclusion errors. This is followed by a review of the eligibility criteria by VRCs and programme staff and their validation by the community. The VRCs and camp committees identify and recommend a list of vulnerable households to humanitarian agencies based on predetermined criteria. This step is followed by a community meeting in which the list of selected households or individuals is read out in public and community members are asked to approve or reject it, based on their perception of whether the right recipients have been selected. Finally, successful recipients are enrolled into the programme. This includes processes that prepare recipients to receive cash transfers, such as issuing functional IDs and smartcards and opening bank or mobile money accounts. It is worth noting that in practice these processes are not always followed by humanitarian agencies. In fact, some processes such as community mobilisation and the establishment of VRCs overlap while others such as verification of registration lists are skipped,²⁰ depending on the constraints in the targeting environment, as discussed in the next section on targeting challenges.

Overall, the inclusion criteria for recipients used by most humanitarian agencies include being a female head of household, asset depletion, having a disability or chronic illness, malnutrition, households with orphaned and vulnerable children, households that are dependent on others, being an IDP or living in a conflict-affected location, and being a pregnant or breastfeeding mother. Table 1 sets out a comparison of targeting processes across humanitarian agencies operating in Somalia.

Table 1: A summary of similarities and differences in targeting processes in Somalia

Targeting process	Similarities	Differences
Selection of programme location	<p>IPC data is used to determine food-insecure areas for CTP.</p> <p>Selection of programme location is mainly a decision taken at donor and humanitarian agency level.</p>	<p>Triangulation of IPC information is not done consistently across agencies and is often based on analyses from different organisations.</p> <p>Different organisational factors such as having a local partner in a given area and willingness to work in an insecure area (level of risk aversion) also determine the choice of programme location.</p>
Stakeholder engagement	Community consultations through outreach events are conducted to explain the programme's purpose, objective(s), eligibility criteria and feedback/complaints mechanism.	The level of consultation with government in targeting varies across agencies. Depending on their perception of the importance of consulting the government, humanitarian agencies can consult at federal, regional or local levels, or choose not to consult.
Determining eligibility criteria	Eligibility criteria are often determined by humanitarian agencies in consultations with VRCs and camp committees.	Eligibility criteria are based on socioeconomic indicators that vary from one humanitarian agency to another depending on programme objectives.
Selection of recipients	<p>Selection of vulnerable households or individuals is done mainly by VRCs or IDP camp committees.</p> <p>Some form of verification is done to ensure that selected individuals meet eligibility criteria.</p> <p>The list of recipients is often validated by community members.</p>	The level of verification of the vulnerability status of households/individuals varies between zero (no verification) and 100% of selected households, depending on accessibility and the amount of time and financial and human resources available to the humanitarian agency.

Coordination of targeting	Humanitarian agencies share information on the 3Ws (who, what, where) through the Food Security Cluster and Cash Working Group to avoid targeting the same recipients.	A few humanitarian agencies share registration data within consortia or bilaterally for deduplication and coordination purposes, while others do not.
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Targeting challenges

Achieving inclusive targeting in Somalia is hindered by limited access to parts of the country, due to the insecurity caused by the activities of the fundamentalist Al-Shabaab group and clan militias, as well as poor infrastructure. Many needy parts of the country remain unprotected and excluded from aid due to this insecurity. Access is paid for in most cases in the form of money or by awarding jobs and contracts to local authorities or militias and including local militias or their family members in registration lists.²¹ While this helps in gaining access, it also means that part of the aid supplied is directed away from the most vulnerable households. Limited accessibility has contributed in part to the concentration of CTPs in urban areas that are relatively safer than rural areas due to the presence of government and international security forces. While marginalised groups often migrate to urban areas such as Mogadishu to access cash transfers, they still face exclusion due to a lack of the networks needed to obtain assistance and the fact that they do not belong to the majority clans that control the distribution of aid.

Effective targeting is also hindered by elite capture²² and by favouritism. Although humanitarian agencies make deliberate efforts to reduce bias by ensuring that various groups and clans are represented in VRCs, this is often not achieved due to clan power dynamics (see Box 1).

Humanitarian aid is manipulated not only by government officials but also by UN and international and national NGOs through corruption and the diversion of aid by their staff.²³ This occurs mainly through collusion between the staff of international agencies and the staff of national NGOs that are often contracted to deliver aid.^{24, 25} The local staff also collude with local authorities, VRCs and gatekeepers²⁶ to tax recipients, favour certain geographical areas and/or family and friends during targeting and create 'ghost' recipients to divert aid.²⁷ The majority of local staff of international humanitarian agencies come from dominant clans and often divert large amounts of aid to their clans at the expense of the minority. IDPs are frequently used by gatekeepers to attract humanitarian aid, which is ultimately diverted to powerful clans.²⁸

Box 1: Accountability and fairness

"We sometimes go to a community and find established VRCs that consist of only one clan or exclude women and people living with a disability. However, due to insecurity and clan tensions, it is not possible to reconstitute the VRCs to ensure accountability and fairness."

A humanitarian agency respondent

"Implementing agencies have very clear plans and guidelines for using community-based targeting. However, these are hardly used or followed when local authorities threaten to resort to violence if their interests are not served."

A donor respondent

Humanitarian agencies try to address exclusion/inclusion errors by conducting several rounds of verification through household visits. However, this requires a lot of time, leading to delays in the targeting and registration processes, and it is impossible to implement where access is limited due to insecurity or poor transport infrastructure. Where a large number of households have been registered, a sample of recipients is verified to save time and the administrative costs of verifying everyone. In addition, the pressure from donors to deliver cash assistance means that humanitarian agencies have limited time to verify registration data. In some locations, district commissioners are involved in addressing inclusion and exclusion errors, exploitation by gatekeepers and taxation of assistance.²⁹ Nonetheless, in regions where government offices are underfunded, aid is considered a means for compensating staff by including them in the recipient lists, again leading to aid diversion.³⁰ Humanitarian agencies are also increasingly investing in internal control systems

and external monitoring mechanisms, such as third-party monitoring and evaluation (M&E), to ensure accountability at various stages of the programme cycle.³¹ These initiatives are expected to contribute to improved targeting and aid effectiveness. However, realising their full potential is hindered by incentives to minimise negative M&E feedback or findings.

Registration

Registration data is collected mainly on an on-demand basis, typically at the beginning of each programme. The type of data variables collected depends on the activities that will be supported by the data. This includes biodata such as name, age, gender, contact details, biometrics, household size and location. Apart from this, data that is specific to programme targeting needs, such as asset ownership, nutritional status, chronic illness and disability status, is collected. The level of data disaggregation is limited and varies from agency to agency. Table 2 highlights the similarities and differences in registration processes in Somalia.

Table 2: A summary of similarities and differences in registration processes in Somalia

Registration process	Similarities	Differences
Frequency of registration	Registration is done afresh every time a new programme is launched, instead of using existing data.	Registration cycles vary between every three and every 12 months.
Registration modalities	Registration is often done through interviews with potential recipients of assistance.	Some humanitarian agencies, such as Somalia Cash Consortium partners, conduct registrations through household visits, while others carry out registration in centralised places. Registration is done by different entities – humanitarian agency staff, temporary support staff or local partner NGOs. Different digital registration platforms, as well as manual systems, are used for registration.
Level of data collection	Data is collected at household level. The majority of humanitarian agencies record only the details of the principal recipient and/or their next of kin.	While most humanitarian agencies register only actual recipients approved by the community during targeting, WFP and UNHCR (major providers of cash assistance) register all potential recipients.
Data management	Data is updated if there is top-up assistance or the duration of the programme is extended. Some form of data validation is done at the field level to ensure reliability.	The frequency of updating data varies from every month to every year. Different approaches to data validation are used. These include inbuilt tools in digital registration platforms and repeating registration questions to double-check the answers.
Identification	A unique identifier is often assigned to each recipient to facilitate identity authentication during payment.	Different unique identifiers are assigned to registered recipients. These include functional IDs, phone numbers and biometrics.

Registration platforms

Registration of recipients is done through both manual and digital platforms in Somalia. Manual registration is time-consuming, labour-intensive and prone to errors. While most humanitarian agencies digitise the data

collected through paper-based registration, the data is often stored in Excel formats that are not always password-protected. Given the limitations of manual registration, humanitarian agencies are transitioning to digital platforms to enhance efficiency, ensure data protection through measures such as data encryption, promote accountability and fraud prevention through the use of biometrics, support reporting and M&E, and reduce operational costs by automating processes.

Despite their benefits, the use of existing digital platforms is hindered by various challenges. The need for a customised platform that meets specific organisational needs encourages humanitarian agencies to develop bespoke platforms rather than adopt or share existing ones. Humanitarian agencies prefer to use their own systems instead of a shared platform in order to have full ownership and access to the data. Additionally, funding partners sometimes require humanitarian agencies to use specific platforms, leading to the use of more than one system at the agency level (as explained in the section below on harmonisation initiatives). Digitisation of registration also comes with data privacy and protection risks, especially if the data is stored in a third-party server. Moreover, inadequate broadband infrastructure limits the extent to which digital registration platforms can be used, for instance, to store data on cloud-based servers and to share data.³² Table 3 highlights the digital registration platforms used by various humanitarian agencies.

Table 3: A mapping of the digital registration platforms used in Somalia

Name	Owner/developer	Users
System for Cash Operations (SCOPE)	WFP	WFP, FAO, DRC, UNICEF, World Vision
Last Mile Mobile Solutions (LMMS)	World Vision	World Vision
Biometric Automated Fingerprint Identification System (BAFIS)	Cooperazione Internazionale (COOPI)	COOPI
Profile Global Registration System (ProGres)	UNHCR	UNHCR
Cash and Asset Transfer (CAT)	Catholic Relief Services	Catholic Relief Services
Displacement Tracking Matrix (DTM)	International Organization for Migration (IOM)	IOM
Open Data Kit (ODK)	Open Data Kit – developed by University of Washington	ACTED, SADO, Adeso
Ona	Ona Kenya Ltd	ACTED, Concern Worldwide, COOPI, DRC, Save the Children, NRC, IRC, CESVI and FAO
KoBo	KoBoToolbox – Harvard Humanitarian Initiative	Save the Children, UNHCR and IOM
sQuid	Smart Transactions Ltd	Save the Children
Biometrics Technology System (BITS)	FAO	FAO
Biometric Money Application (BiMo)	FAO	FAO
CommCare	Dimagi	IRC

Humanitarian agencies that have not invested in bespoke registration solutions, such as BAFIS, use open source mobile data collection platforms owned by a third party but which can be accessed either for a fee or free. These platforms include KoBoToolbox, ODK, Ona and CommCare. Box 4 in the appendix provides an overview of these platforms, including their similarities and differences. From the research, it was evident that all the digital registration platforms have the capability to support data analysis and to generate reports

about programme activities for decision-making. In addition, they can support both online and offline data collection. This includes automatic synchronisation of data between offline and online modes for platforms such as SCOPE and Ona.

SCOPE, BAFIS, ProGres, sQuid and LMMS are end-to-end platforms to the extent that they can be used to manage the entire CTP cycle. For instance, SCOPE and sQuid have smartcards through which recipients can receive assistance, whereas ProGres links with financial service providers, usually a bank, through its CashAssist application to make payments. In addition, SCOPE, sQuid, ProGres (using its Global Distribution Tool) and LMMS have a delivery mechanism that supports the distribution of both cash and in-kind assistance. Biometric registration is supported by ProGres, SCOPE, BITS/BiMo, DTM and BAFIS.

The digital registration platforms have some common data security features that include the use of passwords, usernames and encryption. However, some platforms have additional data security features. For instance, CommCare includes a two-factor authentication system and data de-identification to ensure data security. FAO's BITS runs on a protected (non-administrator) account, with additional credentials needed to use the application. In addition, FAO's BiMo has device-restricted data access capability. Some platforms, particularly BITS, LMMS and BAFIS, are built on the same programming language (Java).³³

WFP has one of the largest databases, hosting data for 1.6 million recipient households, which is equivalent to 5.9 million people. FAO has reported that it has registered 450,000 households – equivalent to 2.7 million people – through its biometric registration system. Other humanitarian agencies are reported to have registered between 1,300 and 50,000 recipients.³⁴

Identification

An effective identification mechanism is essential for the success of CTP. However, Somalia lacks a functioning foundational ID system, although plans are under way to develop a digital ID.³⁵ The country depends on multiple non-interoperable identification systems with coverage limited to specific regions or social assistance programmes. These include functional IDs issued by agencies such as the World Food Programme (WFP) and World Vision. However, these IDs cannot prevent duplication since each agency assigns its own unique identification numbers. The UN High Commissioner for Refugees (UNHCR) has developed specific documents such as voluntary repatriation forms for identification during payment. In a few cases, the functional IDs are complemented by biometric data.

Many humanitarian agencies use the phone numbers registered to receive assistance for identification because they are unique (there are no identical phone numbers), are linked to recipients' biodata and have a personal identification number (PIN) for security. However, using phone numbers as unique identifiers has several limitations. First, some recipients have multiple phone numbers, making it difficult to cross-check for duplication. Second, recipients' phone numbers change over time, making it necessary to update their details regularly. Third, some recipients share phone numbers. In our consultation with an M&E call centre, staff indicated that most of the reported cases of duplication are attributed to households sharing a single phone number. Fourth, there are reports that some recipients sell or lease their SIM cards for immediate cash needs, thereby defeating the purpose of the CTPs. Finally, using phone numbers automatically excludes certain sections of the society, such as the blind or older people.

Data management and quality assurance

Among the humanitarian agencies that use digital platforms, data quality checks are done through inbuilt tools in the registration platforms. By contrast, humanitarian agencies using paper-based registration systems conduct data quality checks manually through their staff, who review all data points to identify errors and inconsistencies. This approach is labour-intensive, time-consuming and does not guarantee identification of all errors.

Despite the efforts being made to improve data management systems, some quality issues remain unresolved. These include difficulties in determining the exact ages of recipients due to a lack of supporting documents such as birth certificates and national IDs, while household sizes are sometimes inflated because there are no reliable means of verifying the identities of household members and their relationship with recipients. Moreover, some recipients use different names in different databases, making it difficult to check for duplications in the absence of a unique identifier.

Most emergency CTPs in Somalia are short-term in nature, ranging from three to nine months. In most of these programmes, data is collected once at the beginning of the programme and is not updated thereafter. However, the majority of humanitarian agencies reported that they update the data if the programme period is extended or if top-up cash assistance is introduced to complement the programme.

A common approach among humanitarian agencies in Somalia is to collect new data every time a project is launched, rather than using existing data. In this context, data from past programmes are either discarded or handed over to the funding partner. This is attributed to a lack of consent to transfer data from one programme to another, the need to collect new data when humanitarian agencies move to new locations, inclusion/exclusion errors in existing datasets and the fact that data is not always updated regularly.

Duplication and coordination among agencies

At the organisational level, most humanitarian agencies reported that duplication is not a major concern. Anecdotal estimates put duplication at between 2% and 5% of the total number of registered recipients in individual databases. This percentage could be larger when extrapolated across humanitarian agencies. However, it is worth noting that determining the exact magnitude of duplication at the national level is difficult in the absence of an integrated beneficiary registry and a unique identifier. Most humanitarian agencies concur that a great risk of duplication exists, especially in IDP camps where several NGOs are working with limited coordination.

To reduce the risk of duplication, humanitarian agencies have developed coordination structures that support CTPs. The Cash Working Group, which has 80 members, and the cluster system are the main coordination mechanisms. Coordination involves sharing information on the 3Ws i.e. data on **who** does **what** and **where**. It enables humanitarian agencies to use a zoning approach – a practice that involves working in different locations to avoid targeting the same recipients. This approach has the backing of government authorities because of its potential to reduce duplication, thereby allowing humanitarian agencies to reach more recipients with limited resources. Nonetheless, the 3Ws data is disaggregated to district rather than village level where humanitarian agencies implement their CTPs.

Policies and guidelines supporting CTP data management

Internationally, functional CTP MISs are underpinned by well-designed operational processes covering various areas including data sharing and protection. In Somalia, data management is guided by policies, guidelines and standard operating procedures developed by individual agencies or consortia. The UNHCR and the Cash Learning Partnership (CaLP) have developed operational guidance and a toolkit for multi-purpose cash assistance that provides a set of minimum standards and best practices for implementing CTPs and can be deployed in emergency contexts.³⁶ Similarly, CaLP has developed a toolkit aimed at guiding humanitarian agencies in providing cash assistance in urban settings.³⁷

The International Committee of the Red Cross's Cash in Emergencies Toolkit provides guidelines for registering recipients, as well as establishing and using databases to manage registration data.³⁸ However, the guidelines do not cover data sharing and protection. The Food Security Cluster also has guidelines that cover targeting and registration but do not address data protection and sharing.

Mercy Corps has developed more elaborate guidelines for CTP that cover data protection, coordination with other agencies and data sharing and management, as well as seeking consent to share data where appropriate. The guidelines also cover the handling of feedback and complaints in CTPs and the use of alternative identification documents such as functional IDs where a national ID system does not exist.³⁹

Experiences of recipients of assistance

As part of the operational design of CTPs, humanitarian agencies set out key parameters such as programme objectives, eligibility criteria and registration processes. However, this information is not always understood by recipients, in part due to poor communication. This leads to mistrust, confusion and delays during targeting and registration.⁴⁰ From the study, we established that recipients believed that digital registration is more time-efficient than paper-based registration but does not necessarily prevent all errors. Travelling to far-away registration centres poses security risks to recipients, especially women who are exposed to sexual and physical assaults, as well as older people and persons with disabilities who cannot travel unhindered.

Recipients of assistance also have limited knowledge on data privacy and protection risks associated with providing their personal data to humanitarian agencies. Even where recipients are aware of data protection risks, they are not likely to withhold their personal data or question how the data will be protected due to the fear of being excluded from aid.⁴¹ Many humanitarian agencies in Somalia have inadequate data protection protocols that expose recipients to data protection risks.⁴² This includes inadequate provision of information to recipients on how their personal data is processed and protected.

Using different forms of identification, including multiple functional IDs, is inconvenient for recipients of cash transfers. Most humanitarian agencies have a complaints and feedback mechanism for dealing with issues such as replacing lost functional ID cards, but recipients are often not aware of how such mechanisms work.⁴³

The state of harmonisation of CTP data systems in Somalia

Data sharing and interoperability

Operationally, sharing recipients' data is critical for coordination and planning to avoid overlaps and duplication of assistance. For data to be shared effectively, there should be interoperability between various databases. However, the CTP landscape in Somalia is relatively young and is expected to continue evolving in terms of operational strategies and data management solutions that are currently fragmented and tailored for specific needs. Accordingly, achieving interoperability is a complex challenge.

Internally, humanitarian agencies share data between programme teams for specific functions such as planning, reporting and M&E. Access is often restricted to programme staff to ensure security. Most humanitarian agencies do not exchange data between programmes due to challenges such as lack of consent, data quality and the need to collect new data to ensure that those left out in previous registrations are included in new CTPs. Most international humanitarian agencies have at least one staff member who is responsible for managing their data systems, including sharing data internally and externally.

Externally, data is shared mainly with financial services providers such as mobile money companies, banks and money transfer operators. This includes the data variables needed to transfer cash assistance to recipients, such as recipients' names, phone numbers and the amount of cash to be transferred to each recipient. However, extensive sharing of data among humanitarian agencies is not a common practice in Somalia due to technical, political and ethical reasons (as explained in the section below on challenges to

interoperability). Although most of the existing registration platforms, particularly SCOPE, BAFIS and LMMS, can be used by other agencies, this potential has not been realised. The platforms are rarely shared and do not communicate with each other (non-interoperable). Even where the platforms are shared, their use is often limited to a single project in which the funder requires the humanitarian agency to use the platform. So, for instance, World Vision uses SCOPE for WFP-funded programmes and LMMS for its own programmes, while the Danish Refugee Council (DRC) uses Ona for programmes under the Somalia Cash Consortium and SCOPE for WFP-funded programmes. Similarly, Cooperazione Internazionale (COOPI) uses BAFIS for its own programmes but Ona for programmes under the Somalia Cash Consortium.

Initiatives towards harmonising CTP data systems

Initiatives within consortia

Three consortia are already making significant progress in harmonising their CTP processes, including data management. These are the Somalia Cash Consortium (SCC), the Somalia Resilience Action Consortium (STREAM) and the Building Resilient Communities in Somalia Consortium (BRCiS).

SCC was established in 2017 and consists of six international NGOs: the Agency for Technical Cooperation and Development (ACTED), Concern Worldwide, COOPI, DRC, Save the Children and the Norwegian Refugee Council (NRC). The consortium is implementing a joint European Civil Protection and Humanitarian Aid Operation (ECHO)-funded CTP in which partner agencies have adopted a streamlined targeting, registration, distribution and monitoring approach. The partners are using harmonised registration and M&E forms. They also use a common registration platform (Ona) and have a data-sharing agreement. The data is hosted in a central database that is accessed by one designated staff member from each partner to ensure security. To promote wider harmonisation, SCC piloted biometric interoperability with WFP's SCOPE in 2018. It is also working on harmonising biodata fields such as names to facilitate sharing data with WFP. However, this initiative has been slowed by a delay in finalising a data-sharing agreement between WFP and SCC.

Harmonisation has enabled SCC partners to share data and perform duplication checks successfully. It has also contributed to enhanced efficiency and coherence in CTP implementation within the consortium. Using a harmonised approach also allows the consortium partners to share best practices and learn from each other. A key challenge in SCC is that sharing data is limited to the joint programme. The partners have separate databases for programmes funded by other donors, which are not interoperable with the ECHO-funded programme's database.

The STREAM consortium was established in 2013 and consists of ACTED, Social-life and Agricultural Development Organisation (SADO) (a local NGO in Somalia) and Adeso (a regional NGO). The consortium is implementing a joint CTP in which the partners are using streamlined implementation approaches including harmonised registration and M&E forms. The partners have also adopted ODK as a common registration platform and have a data-sharing agreement.

While the STREAM partners can technically share data, one reported that there is low demand for sharing data between them. A reason given for this is that the partners work in different locations in Somalia, which minimises the risk of registering the same beneficiaries. Working in different locations also means that each partner collects its own data at the location where it works rather than relying on shared data. Nonetheless, the harmonisation facilitates better coordination and reporting among the partners.

The BRCiS consortium was established in 2013 and consists of five international NGOs: Cooperazione e Sviluppo (CESVI), Concern Worldwide, NRC, the International Rescue Committee (IRC) and Save the

Children. The consortium has streamlined its registration process by adopting a harmonised form. The partners also use a common registration platform (Ona) and have a common database that is accessible to all partners through authorised programme staff. Harmonisation has enabled the partners to share data successfully among themselves to avoid duplication of assistance. As with SCC and STREAM, data sharing within BRCiS is limited to a specific programme.

Initiatives to using a common registration platform (current and planned)

Initiatives that involve using a common registration platform include a collaboration between WFP, DRC and World Vision on a programme to use SCOPE for registration. A similar arrangement has been used by FAO, WFP and UNICEF to register recipients through SCOPE. The main driver of these collaborations is that WFP requires its partners, such as DRC and World Vision, to use SCOPE as part of the programme implementation agreement. Sharing SCOPE with partners enables WFP to ensure consistent reporting across its programmes and maintain control over recipients' data. WFP's partners participate mainly in data collection using SCOPE but have limited control or access to the data after registration since the datasets are managed by WFP.

Despite being partners, WFP and World Vision are yet to establish interoperability between their registration platforms. Currently, LMMS is not linked to SCOPE for the purposes of sharing data. However, discussions are under way between WFP and World Vision to set up an agreement that will aid the sharing of data through the two platforms. This initiative, however, has not gained much traction and has been slowed by bureaucratic decision-making processes in both organisations. UNHCR and WFP have established interoperability between their registration platforms, ProGres and SCOPE respectively, and have signed a data-sharing agreement.

The Somalia Resilience Programme (SomReP) which is made up of seven international NGOs – Action contre la Faim, Adventist Development and Relief Agency, Cooperative for Assistance and Relief Everywhere, COOPI, DRC, Oxfam and World Vision – is planning to adopt SCOPE as a common registration platform. This is informed by the need to harmonise its registration processes, which currently rely on different platforms operated by individual partners. In addition, adopting SCOPE is meant to facilitate cooperation between SomReP and WFP, as well as other agencies that are already using or planning to use the platform. The challenges that hinder actual sharing of data between humanitarian agencies that use a common platform include the fear that data might be misused if not adequately protected and the bureaucratic decision-making processes that slow approval for transfer of data from one agency to another. Additionally, competition among agencies over ownership of data leads to mistrust that discourages sharing.

Donor-led initiatives

ECHO is keen on working with other donors and humanitarian agencies to transform current CTPs into a long-term safety net programme in Somalia. Consultations are under way on three pertinent issues: (1) how to adapt the current transfer values and frequency to a long-term social safety net programme; (2) how to enhance the targeting criteria to support a shock-responsive safety net programme; (3) how to improve interoperability between databases to support development of an integrated beneficiary registry led by the government in future.

A Donor Working Group (DWG) consisting of humanitarian and development donors was established in 2018 to take forward the safety net agenda. Its key mandate is to promote donor harmonisation and provide strategic oversight to the establishment of the programme. A Technical Assistance Facility (TAF) was established in early 2019 and is working on 12 deliverables that include exploring options for developing an integrated beneficiary registry for Somalia and addressing the capacity gaps in government. This initiative, if fully implemented, could lead to an integrated data system by promoting interoperability between existing

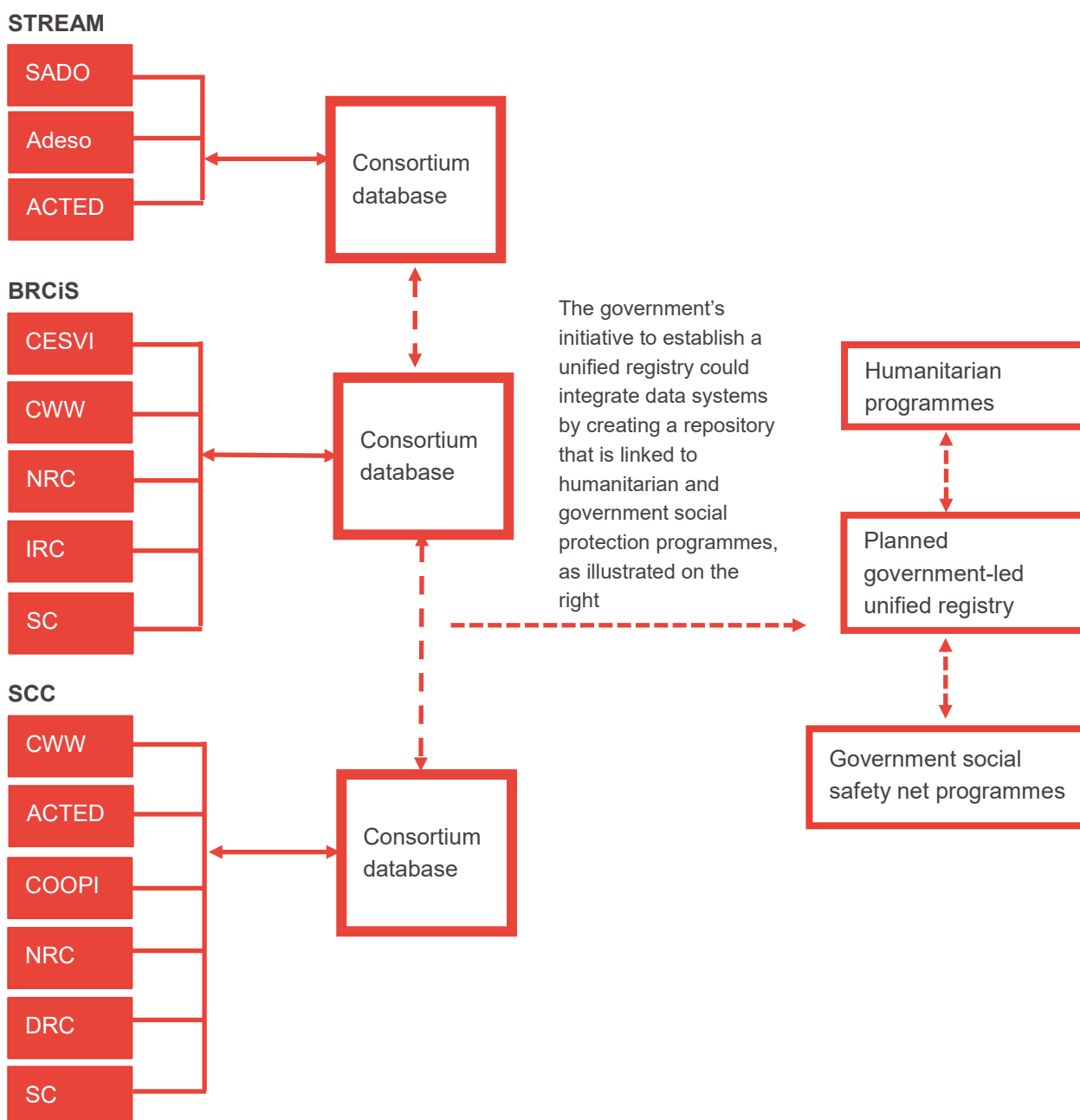
databases. Nonetheless, the initiative is still at a nascent stage, which limits the extent to which its potential to contribute to a harmonised data system can be analysed.

Government-led initiatives

Through the support of the World Bank and Pakistan's National Database and Registration Authority (NADRA), the government is developing a digital ID system. As part of the process, a policy and legal framework will be established to underpin development of the system, which is expected to facilitate data sharing by providing a reliable means of identifying recipients. However, its development faces significant challenges. These include insecurity attributed to Al-Shabaab's opposition to the development of ID systems, the lack of trust in identity systems, difficulties in verifying identities because of poor breeder documents such as birth certificates, difficulties in reaching populations due to insecurity and poor infrastructure and controversies over who should be registered and which entities have the mandate to provide IDs.⁴⁴ The government is also working with the World Bank to establish a national unified registry, a form of social registry. While development of the registry is a key priority of Somalia's Social Protection Policy, the initiative is still at a preparatory stage and the government faces significant capacity challenges, including inadequate human and financial resources.

Overall, ongoing harmonisation initiatives provide important opportunities for humanitarian agencies to share best practices. Moreover, harmonisation efforts underpinned by a long-term objective such as developing a safety net programme spearheaded by the DWG are critical for transitioning from relief to long-term development outcomes. However, current harmonisation initiatives seem to be donor-driven and limited to specific programmes being implemented by consortia. There is therefore a risk that humanitarian agencies could revert to working in silos at the end of existing grant contracts that bind them to work together using common approaches. Figure 2 maps the current harmonisation landscape.

Figure 2: Landscape of ongoing harmonisation initiatives



Notes: dotted arrows denote opportunities for further harmonisation and sharing of data and full arrows show the actual flow of data. CWW refers to Concern Worldwide, SCC is Somalia Cash Consortium and SC is Save the Children. Figure 2 shows only a selection rather than a comprehensive illustration of all ongoing harmonisation initiatives in Somalia.

Incentives to harmonise CTP data systems

Incentives for humanitarian agencies

Prevention of duplication and overlaps: Interoperable databases can facilitate effective data sharing among humanitarian agencies to avoid overlaps and duplication of assistance. This can help in increasing coverage of vulnerable or crisis-affected households with limited resources, thereby enhancing the impact of aid.

Improved caseload planning: Sharing data on key aspects of CTP, such as who has been registered, the type of cash transfers they have received, the organisation providing the assistance and the duration of the assistance provided, can help in determining the gaps in meeting existing needs. Such data can inform planning and decision-making processes that are related to the targeting and distribution of aid.

Cost-effectiveness and efficiency in delivering aid: Enhancing interoperability and sharing data can facilitate establishment of joint processes such as common payment mechanisms to reduce operating costs. Such collaborative efforts provide opportunities for humanitarian agencies to bargain for better terms and fees with financial services providers in order to reduce the cost of transferring cash to recipients.⁴⁵

Incentives for donors

Enhancing aid effectiveness: The overarching goal of donors is to ensure that aid is delivered in an effective and efficient manner, prioritising the most pressing needs of affected populations and demonstrating value for money. Harmonising CTP data systems can contribute to achieving this goal by facilitating access to and use of quality data to support eligibility assessments, distribution of aid, coordination of response and monitoring of outcomes effectively and efficiently.

Improved transparency and accountability: Establishing interoperability can facilitate access to comprehensive information and analysis of the performance of CTPs at national level. Such analysis can provide important insights to donors on what works and what needs to be improved to enhance the reach and impact of CTPs in Somalia.

Linking relief response to recovery and resilience outcomes: Harmonisation efforts can contribute to the development of an integrated beneficiary registry or a social registry, as well as the use of common targeting, needs assessment and registration strategies to transform fragmented short-term CTPs into a reliable long-term social protection programme for the poorest populations. This will allow donors to reduce investments in relief response as populations become more resilient and the government takes over the provision of social support in the long term.

Disincentives to harmonisation

Technical and process constraints to establishing interoperability and sharing of data

There is limited standardisation of data fields. For data to be exchanged effectively, three types of semantic meaning ought to be harmonised. These are the meaning of terms (data variables), meaning of values assigned to data variables and the hierarchy and relationships between data variables. However, our analysis of a selection of data fields reveals significant semantic inconsistencies across registration forms.

First, recipients' names are collected by virtually all humanitarian agencies. However, names are spelt differently depending on whether they are recorded in English or Somali, making it difficult to compare names across databases. While the registration forms for a few agencies (such as WFP and ACTED) provide different fields for recording the first to fourth names, most registration forms have only one field for recording names, with no instructions on how they should be recorded. This means that the order in which names are recorded (first, middle and last) differs across the board. While most humanitarian agencies record four names due to the similarity of names in Somalia, others record just two or three. Also, humanitarian agencies such as NRC and ACTED include recipients' mothers' names as an additional level of identification, while others such as IRC do not. Biometric data is also collected in different ways. For instance, UNHCR's Biometric Identity Management System⁴⁶ records 10 fingerprints and iris scans, while COOPI and FAO record only two fingerprints. However, FAO is in the process of deploying registration kits

that can capture 10 fingerprints. WFP records the fingerprints of two people per household – the principal recipient and an alternate – while UNHCR records fingerprints and iris scans for everyone older than five years.

Second, data on household composition is collected by recording the number of male and female household members in various age brackets. The age of recipients or of their household members is important for targeting since it is being used in Somalia as a proxy indicator for household vulnerability. For instance, a poor household with many members falling in the age brackets of under five years and over 70 years is likely to be more vulnerable, as people in these age brackets are often economically inactive.⁴⁷ Furthermore, humanitarian agencies providing health- or nutrition-related interventions are more interested in specific age groups such as children younger than five years due to their vulnerability to malnutrition. Thus, defining age brackets in a manner that meets the targeting needs of different humanitarian agencies is important for sharing data. However, as Table 4 shows, age brackets are defined differently across humanitarian agencies. Although family and household are technically different concepts, they are used interchangeably among humanitarian agencies. This creates the risk of considering data captured as family size to be similar to household size datasets.

Table 4: Definition of age brackets in a selection of humanitarian agencies

Consortium A	INGO A	Consortium B	INGO B	INGO C	UN agency A
Under 5 years	Under 5 years	Under 3 years	Under 5 years	14 years and under	Under 5 years
5–17 years	5–17 years	3–4 years	5–17 years	15–24 years	5–17 years
18–49 years	18–50 years	5–17 years	18–60 years	25–49 years	18–49 years
50–69 years	Above 50 years	18–49 years	60 years and above	50 years and above	50–69 years
70 years and above		50–59 years			70 years and above
		70 years and above			

Finally, humanitarian agencies collect data on the residential status of recipients. However, what constitutes ‘residential status’ varies significantly. As Table 5 illustrates, in consortium A there are eight different categories of residential status, whereas international NGO A has three and consortium B and UN agency A have two categories respectively. While consortium A and UN agency A break down the returnee category into two sub-categories (returnee – former IDP and returnee – former refugee), INGO A does not. These inconsistencies prevent sharing of data.

Table 5: Classification of recipients’ residential status

Consortium A	INGO A	Consortium B	INGO D	UN agency A
Permanent resident	Resident	Host community	Regular/host community	Host community
IDP	IDP	IDP	IDP	IDP
Returnee – former IDP	Returnee			Returnee – former IDP
Returnee – former refugee				Returnee – former refugee
Mixed status – some household members are permanent residents, while others are migrants				
All household members migrate				
Seasonal migrants				
Refugee				

Lack of a unique identifier constrains the exchange of data. Databases require the same set of unique identifiers to match and link datasets. Specifically, a unique identifier is needed to verify and authenticate the identity of registered individuals, link the registered persons to families and/or households and prevent multiple registration of individuals. However, different non-interoperable identification systems are being used by humanitarian agencies in Somalia, thereby preventing the sharing of data.

Existing registration platforms have limited capability to meet diverse data needs. Existing platforms often need to be modified to be used by different humanitarian agencies for registration and sharing data. While modification is possible, it usually faces technical challenges, especially where software must be modified significantly to support new functions, leading to delays in programme implementation. For instance, one UN agency reported that it has faced difficulties in coding children with disabilities in SCOPE. An international NGO reported that initially it had considered using SCOPE for a programme that targeted 50,000 households; however, it later opted for sQuid after realising that it would take longer to register all the recipients using SCOPE.

Varied levels of technical maturity limits the extent to which different humanitarian agencies can participate in harmonisation of data systems. While WFP, UNHCR, World Vision and COOPI have already developed mature platforms that have been tried and tested in different settings or countries, many humanitarian agencies are still trialling both in-house and third-party commercial solutions. Importantly, some humanitarian agencies are still using manual and simple Excel-based systems for registration and data management. Many humanitarian agencies and their local partners will need time and financial resources to upgrade their systems to facilitate effective interoperability.

Content-related constraints to interoperability and data sharing

There is limited trust in the quality of data from external databases (see Box 2). The effectiveness of CTP depends crucially on the quality of data used for implementation. For humanitarian agencies to use data from external sources, they must have adequate information about the quality of the data, including how it was collected, cleaned and validated. However, data quality is a sensitive topic in Somalia, with most humanitarian agencies not being willing to provide to third parties details about the reliability of their datasets. This is because providing

Box 2: Data quality

“We know our organisation has capability to produce quality data, but we cannot trust every agency to produce quality data for use by everyone”.

A humanitarian agency respondent

information that exposes flaws in existing datasets is associated with reputational risks that have negative implications for funding.

CTPs in Somalia have very diverse data needs because of their different objectives and expected outcomes. The vulnerability indicators used to assess eligibility are informed in part by the type of programme that is being implemented. For instance, WFP considers health indicators such as height, weight and mid-upper arm circumference which are relevant for its food and nutrition interventions, whereas ACTED has indicators such as the presence of able-bodied persons who are willing to work as eligibility criteria for its cash-for-work programmes. Consortia such as BRCiS and Danwadaag Durable Solutions, which are implementing programmes designed to link relief to resilience, also consider baseline vulnerability indicators that are unique to their interventions. For instance, Danwadaag Durable Solutions includes indicators such as educational attainment, access to financial services such as banking, membership of self-help groups, household expenditure on food and non-food items and households' perceived self-reliance. Using different eligibility criteria limits the extent to which data can be transferred from one programme to another or shared by agencies for targeting purposes. Using two agencies as an example, Box 5 in the appendix shows differences in eligibility criteria.

Organisational, ethical and legal constraints to interoperability and sharing of data

Data privacy and protection risks prevent sharing of data. In Somalia, unauthorised sharing of data can put at risk the security of recipients of cash assistance because of the ongoing conflicts. Specifically, recipients can be targeted for violence or harassment because of their political, ethnic, clan or religious background or because they have received aid if their data leaks to militias such as Al-Shabaab. Most humanitarian agencies reported that they do not share data because they lack an effective mechanism for monitoring how the data is used or protected once shared with third parties. There are also concerns about using a registry operated by a government that is party to the ongoing conflicts for humanitarian response, as this undermines the humanitarian principles of neutrality, impartiality and independence. This limits the extent to which humanitarian agencies can collaborate with the government to take forward the harmonisation agenda.

Lack of consent to share data with third parties. Whereas the majority of humanitarian agencies obtain written or verbal consent to collect personal data, this does not always include consent to transfer the data to a third party or to use the data for activities outside the programme for which it is collected (see Box 3). Ethically, humanitarian agencies cannot share personal data with third parties without recipients' consent.

Box 3: Consent to share data

"We cannot share the data we have because we lack the consent to do so. In future, our agency and other humanitarian agencies should consider obtaining consent to share data at least for duplication checks."
A humanitarian agency respondent

A weak national legal framework and the risk of breaching international data protection legislations discourage data sharing. In the absence of national data protection legislation, humanitarian agencies rely on their own data protection protocols and policies. However, using different protocols and policies contributes to differences in understanding among humanitarian agencies about what should be shared, how it should be shared and how the shared data should be used and protected. This hinders the development of enforceable data-sharing agreements. While the European Union's General Data Protection Regulation (GDPR) provides guidance on data privacy and protection,⁴⁸ the financial penalties and reputational risks associated with breaching it are disincentives to sharing data.

Many humanitarian agencies have limited technical and financial capacity. Harmonising data systems entails technical processes that require adequate human and financial resources. Although international humanitarian agencies have invested in information and communication technology departments, the

expertise is often concentrated at the headquarters level, with limited support to country offices. For instance, WFP's SCOPE users have faced difficulties in accessing support.^{49,50} The majority of humanitarian agencies interviewed reported that they have to rely on their headquarters not only for technical and financial support but also for approval of their data management initiatives, such as sharing registration platforms with other agencies.

Political economy factors affecting harmonisation of data systems

Ownership and control over access to and use of data: Data is seen as a bargaining tool with respect to funding, a perspective that may not be easy to change in the short term. This is partly attributed to the way that donors fund cash transfer programming. Since CTP implementation in Somalia is determined to a great extent by access, donors prefer to work with humanitarian agencies that already have large databases, on the premise that such agencies can reach a large number of recipients, especially in an emergency context. This has contributed to increased competition rather than collaboration among humanitarian agencies with respect to collecting, processing and using data. It also promotes a culture of secrecy and mistrust where humanitarian agencies prefer not to share best practices about what works and what doesn't for data management.

Fear of potential disruption of current operations of agencies: Harmonisation initiatives aimed at consolidating fragmented interventions into a few large-scale CTPs that use common approaches could disrupt the operations of some humanitarian agencies. For instance, in Lebanon attempts by ECHO and DFID in 2016–2017 to consolidate various CTPs that were being implemented by several humanitarian agencies into a single multipurpose CTP underpinned by a common targeting, registration and distribution approach and implemented by two agencies ran into practical challenges in part due to its perceived disruptive effects.⁵¹ Humanitarian agencies resisted the initiative on the grounds that it would (1) undermine the investments they had made in developing their *modus operandi*; (2) limit access to funding for sector-specific interventions, thereby rendering many agencies irrelevant; and (3) a few large agencies with a competitive advantage would gain a monopoly in the CTP space, leading to shrinking operational budgets for other agencies. In Somalia, as one UN agency respondent stated, harmonisation efforts are being slowed by large players in the CTP space who are keen on maintaining their relevance through multiple sector-specific interventions such as food vouchers.

The sunk costs associated with existing platforms: Developing a registration platform such as LMMS or SCOPE requires significant investment in hardware, software and technical support. Accordingly, humanitarian agencies are not willing to abandon the investments they have already made in their systems in favour of a third-party registration platform. A majority of humanitarian agencies believe that selecting one platform to be used by all is unfair, as investments in various platforms will go to waste while the owner of the selected platform will have greater control over access to data. Therefore, it is important to encourage humanitarian agencies to establish interfaces that allow their platforms to communicate with each other, rather than promoting the adoption of a single platform.

Donors lack a common stance on harmonisation of CTP data systems. Donors have both development and humanitarian perspectives on harmonising data systems. Donors who are aligned with the development perspective consider harmonisation to be a medium- to long-term development issue that should be addressed in close collaboration with the government. Their preference for working with the government is informed by various reasons. To begin with, there is a need to build the capacity of the government to establish an integrated beneficiary registry and implement social protection programmes to reduce reliance on humanitarian assistance. Working with the government is also expected to create ownership, which is key to continued investment in harmonisation in the long term. Furthermore, multilateral funding institutions, such as the World Bank, are designed to provide financial and technical support mainly through government structures. An institution like the World Bank has the incentive to work with the government on projects such

as establishing a unified registry for social protection programmes because it contributes to the bank's mandate to end poverty, while also providing new 'business' (lending) opportunities.

The humanitarian perspective, on the other hand, promotes collaboration with NGOs, with a focus on developing short-term solutions to the fragmented CTP data systems. This is because many donors believe that working with NGOs rather than the government allows them to be neutral, independent and impartial in a humanitarian context. The government is also not seen as a partner that can contribute significantly to addressing harmonisation challenges in the short term due to its limited technical and financial capacity. Many donors believe that engaging the government on a project such as a unified registry is premature. Their concerns include insecurity, inadequate technical capacity in the government to manage the registry, lack of clarity on the roles that various levels of government should play in social protection, and resource constraints that hinder investment in a long-term project when humanitarian needs are still high. These differences and concerns lead to poor coordination among donors, which has negative implications for the success of harmonising CTP data systems.

The quest for innovation to demonstrate value for money in CTP. To ensure accountability, donors are increasingly subjecting humanitarian agencies to pressure to demonstrate value for money by funding the most effective and efficient interventions, supported by innovative delivery approaches.⁵² While this is laudable, it also promotes competition for funding that discourages collaboration among humanitarian agencies. The quest for innovation has also contributed in part to the proliferation of tailor-made registration and data management platforms that are not interoperable. Given that innovation is meant to enhance efficiency and effectiveness, it should be promoted in a context that ensures collaborative approaches rather than competition.

Every donor wants to control what they fund. The majority of humanitarian agencies indicated that the approaches they deploy to collect, process and use data in CTP are, to a great extent, informed by grant contract requirements that allow donors to closely monitor how the funds are spent. For instance, ECHO works with a consortium of humanitarian agencies using common approaches to ensure consistency in reporting and M&E, as well as to enhance the efficiency and effectiveness of its aid. Other donors work with individual agencies such as WFP that have established registration platforms and a network of local partners to implement CTPs. The implication of these arrangements is that humanitarian agencies will continue to use the approaches prescribed by their donors rather than collaborating to harmonise their data systems.

This section has highlighted a number of challenges that hinder or slow the harmonisation of CTP data systems in Somalia. The most significant challenges that must be addressed but will require greater effort are technical, political and legal in nature. These are summarised in Table 6.

Table 6: Summary of the most significant challenges

Challenge	Significance
Lack of a unique identifier	While a unique ID system is key to establishing interoperability, humanitarian agencies have limited control over establishing a reliable system such as a foundational ID, because this is the sole mandate of the government. Biometrics can be adopted as an alternative solution, but this will require investment in the appropriate infrastructure, measures to ensure data protection and adoption of a common standard for collecting biometrics data.
Ownership and control over access to and use of data	Data is considered by humanitarian agencies as a source of competitive advantage rather than a common good that should be used to enhance the effectiveness of CTPs. Changing this mindset and agreeing on a level of data ownership and access that is acceptable to all is a significant challenge.

Lack of a common stance among donors on harmonisation	As funders of CTPs and potential funders of harmonisation efforts, donors have influence that can be leveraged to bring humanitarian agencies to the table to discuss and agree on the best way to harmonise data systems. However, this influence cannot be leveraged effectively when donors lack a common stance.
Data privacy and protection risks	Negotiating a data-sharing agreement can be expensive and time-consuming in a context where humanitarian agencies have different understandings of what should be shared and in the absence of a national legal framework that can regulate using, processing and sharing data.
Limited standardisation of data fields	This is a significant challenge in so far as interoperability cannot be achieved when data variables are defined, measured and recorded differently by various agencies.

Extent to which various stakeholders are willing to harmonise data systems

Table 7 summarises the extent to which humanitarian agencies, donors and the Federal Government of Somalia are willing to harmonise data systems. An important point of convergence among actors is that preventing duplication and overlaps is a priority reform area in CTPs that should be addressed urgently. Accordingly, actors agree that some data should be shared at least for deduplication, coordination and planning to improve the effectiveness of cash transfers.

Table 7: Summary of stakeholders' level of willingness to harmonise data systems

Type of agency	Level of willingness	Reasons/rationale
Humanitarian agencies	The majority of agencies prefer to keep their own databases and use different registration platforms. However, they are willing to share a minimum set of agreed data variables for deduplication, coordination and planning. Additionally, most agencies are not willing to share data with the government due to concerns about insecurity and data protection.	To avoid data protection and privacy risks associated with extensive sharing of data; data quality concerns discourage use of data from external sources; controversies over ownership, control and use of shared data; and a preference for using registration platforms that are customised to organisational needs.
Donors	A few donors are willing to support the development of a registry led by the government in the medium term.	To support government-led social protection programmes; facilitate deduplication; and support CTPs implemented by NGOs where appropriate.
	Many donors are willing to support the enhancement of interoperability between the databases operated by humanitarian agencies in the short and medium terms.	To ensure neutrality, impartiality and independence in a humanitarian context; lack of trust in the government's capacity to operate an integrated beneficiary registry in the short term; and to facilitate deduplication.
Federal Government of Somalia	The government is willing to collaborate with donors and humanitarian agencies to establish its own integrated beneficiary registry.	To support future social protection programmes; to facilitate the scale-up of response during emergencies; and for deduplication.
	The government is willing to develop a digital ID in the medium to long term.	To provide an effective identification system to support access to services and humanitarian aid.

Opportunities for harmonising CTP data systems

First, there are some common data variables that are already being collected by humanitarian agencies in Somalia. These include name, age, gender, contact details (usually phone number), household size and location. These common variables provide an important starting point for harmonising registration forms and sharing data. As a next step, additional variables including biometrics can be identified and standardised across the board for sharing.

Second, some consortia are already using common data collection tools, databases and registration platforms. There is an opportunity to enhance these gains by bringing together various consortia and UN agencies to standardise data fields and agree on what should be shared. An important opportunity will be to establish interoperability between the various consortia (Figure 2) as a starting point in scaling up harmonisation efforts.

Third, there is significant political will among humanitarian agencies and donors to prevent duplication and overlaps. This political will can be leveraged to promote behaviour change towards collaborative efforts and investments in interoperability.

Fourth, key coordination and leadership structures have been established in the humanitarian space. In Somalia, the Cash Working Group (CWG), Food Security Cluster (FSC), Donor Working Group and Technical Assistance Facility have already been created. As discussed below, these structures are already operational and can play a key role in harmonising data systems.

Finally, various open source mobile data collection platforms, such as Ona, ODK and KoBoToolbox, provide an opportunity for humanitarian agencies that are using manual systems to transition to digital platforms, which in turn will enable them to share data more easily with peers who have already adopted digital platforms. Adopting these open source solutions is cheaper than building bespoke systems. For instance, KoBoToolbox can be accessed and used for free.

Establishing biometric identification for Somalia

A biometric is essentially a representation of a characteristic of an individual, such as fingerprints, voice, face or iris patterns, which can be processed into a biometric template or profile – a statistical representation of a physical feature – for identification or verification.⁵³ Identification entails a one-to-many (1:N) matching process in which an individual's biometric template is compared against a database of all templates collected from a population to answer the question, who is this person? This can be achieved by, for instance, comparing the facial images of a person to other images in a database to identify any matches. 1:N matching is relevant in situations where the key objective of using biometrics is to identify duplicate registration (deduplication) of individuals in CTPs. Verification, on the other hand, is a 1:1 matching exercise that involves comparing a newly collected (at the time of verification e.g. on payment day) biometric template with a single template (biometrics of the same person) stored in a programme database (collected during registration). This allows agencies to authenticate that a registered recipient of assistance is who they claim to be. Most humanitarian agencies that have acquired biometric technology in Somalia are using it mainly for verification rather than for identification purposes. However, the recent piloting of biometric interoperability between the Somalia Cash Consortium and WFP indicates that there is some interest in using biometrics for identification and deduplication.

In Somalia, biometric identification is hindered by a lack of standardisation of the way that biometric data is collected and saved. There is also no consistency in the amount of and type of biometric data captured or the method of capture, and no agreement on the data that can be exchanged to ensure biometric interoperability. The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) have developed the ISO/IEC 19794-1:2011 standard to guide the standardisation of biometric data.⁵⁴ The standard defines how the content, meaning and representation of biometric data formats across systems and organisations can be standardised for identification and verification. Adopting this standard will be important for establishing a biometric identification system in Somalia.

The process of recording biometrics is subject to error, and the probabilistic matching technique used in biometric identification and verification is subject to statistical variance.⁵⁵ This means that the success of biometric identification depends on the design of the technology, the accuracy of enrolment of biometric data and how well the matching parameters are set. On the one hand, when parameters are set too high, false negatives are likely to be produced, thereby denying individuals access to cash assistance. On the other hand, failure to set the parameters high enough exacerbates the risks of false positives that can lead to fraud. These risks are real in Somalia, where aid diversion is a major concern. Fortunately, accuracy can be improved significantly by using more than one biometric technique, such as using fingerprints alongside iris or facial scans.⁵⁶ For instance, FAO in Somalia is transitioning from recording two to 10 fingerprints for each person, which will be used alongside a facial recognition system to improve accuracy.

Rolling out a biometric ID system that can be used at scale involves significant upfront costs. This includes the cost of acquiring the needed hardware and software. While the cost of key hardware such as fingerprint scanners has come down in recent years, the identification process relies on a complex algorithm that is often provided by vendors as proprietary software that can be expensive.⁵⁷ Therefore, a clear funding framework should be developed to build and operate a biometric identification system sustainably.

The use of biometrics is also facing resistance due to concerns about data protection and identity theft. Although a central database of biometric templates is desirable as a single source of data that can be accessed remotely through a network, monitoring and enforcing access control and data protection policies can be difficult when the database is used by many programmes or agencies. A database of biometrics can be a target of attack by hackers and scammers who are interested in identity or personal data theft. While identity theft is not unique to biometric ID systems, the concern is that, once compromised, a biometric identifier cannot be reissued like a password can. For instance, an individual's fingerprint cannot be changed if an imposter gains access to and starts using that data. Criminals can also exploit other identifying information linked to stolen biometric data, thereby exacerbating the risk of abuse of personal data. Nonetheless, technologies such as biometric encryption can help to mitigate these data protection and identity theft risks.⁵⁸ Additionally, protecting biometric data by law and committing to processing it in a manner that does not violate the fundamental human rights of individuals, including the right to privacy, is important.

Biometric identification may also lock out some people from access to services. For instance, amputees or manual labourers with worn or scarred fingers may not be registered or verified successfully through fingerprint scans, and diseases or conditions such as cataracts may affect the quality of verification and identification based on iris scans. While the proportion of the population who cannot use biometric systems is relatively small, humanitarian agencies must establish an alternative identification system for those affected to ensure equitable access to aid.⁵⁹ Another concern is that biometric sensors that rely on contact may spread infectious diseases such as cholera. Thus, alternative sensors that do not require contact, such as palm vein scanners, or that can be cleaned easily may be considered.

Overall, biometric identification can be used in Somalia, but it is associated with technical, cost and data protection challenges that must be addressed at the outset. The government should also be involved in biometric identification initiatives for ownership and support through the development of supportive legislation. There should also be plans and a strategy to transfer biometric data to the government in future, upon the establishment of adequate capacity and data protection measures to support the development of national ID systems. Essentially, it is a waste of resources if multiple actors collect biometrics that cannot be used by the Federal Government of Somalia in the long term.

Fiduciary, ethical, reputational and legal risks associated with harmonising data systems

Cash transfer programming, especially when underpinned by electronic registration and payment systems, has inherent privacy-related risks associated with collecting, processing and sharing recipients' data. These risks are compounded when databases are integrated, and recipients' data is shared with financial services providers. Vulnerable people do not waive their right to privacy and confidentiality by enrolling in humanitarian CTPs. Ethical risks in a harmonised data system can arise due to unauthorised sharing of data, covert surveillance and social control on aid recipients. Additionally, integrated databases can be hacked or scammed.⁶⁰

Another ethical risk relates to whether consent has been obtained to collect, process and share data. Adequate consent should be freely provided and should be specific, informed and unambiguous.⁶¹ Consent is considered to be freely given if it is provided voluntarily, without undue pressure or influence. Informed and specific consent means that the recipient must be provided with information about the identity of the entity that is collecting the data, how the data will be used and the right to withdraw consent at any time. For consent to be unambiguous, a statement or an affirmative act should be required. This means that consent cannot be implied. Sharing data without consent also exposes agencies to reputational risks, as they may be held responsible for any harm caused to recipients as a result of unauthorised sharing of their data.

Fiduciary risks may arise when inaccurate data – either as a result of mistakes during registration or deliberate manipulation such as adding militias or ghost recipients to a beneficiary list – obtained from a third party is used to inform aid delivery decisions. This can lead to aid diversion, at the expense of the most vulnerable populations. Given that donors are very sensitive to the loss of any amount of aid, transferring cash to undeserving recipients due to poor data management poses significant reputational risks to humanitarian agencies, as it can affect their ability to access funding,⁶² while the donor may suffer a backlash for poor management of taxpayers' money.

The legal risks associated with harmonised registration processes include the possibility of breaching international data protection legislation. In Somalia, most agencies must comply with EU's GDPR. In addition, INGOs have data protection policies that are used globally by their offices. These affect the extent to which data can be shared.

Case studies

Mali's unified registry

Mali's unified social registry, the Registre Social Unifié (RSU), is an MIS that includes a national database of recipients of various kinds of social assistance, including cash transfers. RSU facilitates access to registration data by authorised parties (government and NGOs) and information that supports targeting and M&E. As of 2019, there were 870,569 people registered in the RSU.⁶³ The registry is hosted by the Ministry of Solidarity and Humanitarian Action (MSAH) and operated by the Technical Unit of the RSU. The registry is overseen by a steering committee and a technical committee. Development of the RSU has benefited from strong political will, demonstrated by the fact that it was considered a key output of the national social protection strategy. The RSU was established to (1) provide on-demand lists of potential recipients who meet predefined selection criteria to support the implementation of social protection programmes; (2) prevent duplication of benefits by integrating data from various decentralised databases; and (3) support programme management by providing information and reports on programme activities and outcomes for decision-making purposes.

How the registry was established

Harmonisation of humanitarian and social protection programmes implemented by international NGOs and the government of Mali respectively laid the foundation for establishing the RSU. In response to the humanitarian crisis in 2012, ECHO supported two successive CTPs that were implemented in northern Mali by a consortium of five INGOs – DRC, Action contre la Faim, Oxfam, Solidarités International and Handicap International. This programme covered the period 2014–2015 and was known as the Common Framework for Seasonal Social Safety Nets or Cadre Commun sur les Filets Sociaux (CCFS). In 2015–2016, IRC joined the consortium and the programme was rebranded as the Common Framework for Seasonal Social Transfers or Cadre Commun Transferts Sociaux (CCTS).⁶⁴ The INGOs harmonised their interventions, including the targeting approach, transfer values and registration process. The World Bank and the government of Mali were also piloting a poverty-targeted cash-based social safety net project called Jigisemejiri.

The aims of the CCFS and CCTS were to contribute to institutionalising the social protection system in Mali. Accordingly, the programmes were aligned to Jigisemejiri by harmonising targeting and registration, as well as adopting a common unique household identifier and a common transfer value in 2016.⁶⁵ Additionally, programming aspects such as log-frames, questionnaires and M&E approaches were harmonised. Jigisemejiri was also aligned to other government social protection programmes.⁶⁶ The targeting and registration processes and tools of existing programmes were reviewed to determine the variables to be included in the RSU's registration form. The initial data used to establish the RSU also came from existing humanitarian and social protection programmes. For instance, the CCFS handed over a database of nearly one million recipients to the MSAH in 2015.⁶⁷ In 2016–2017 the implementing team began to integrate the database into the RSU. Other programmes from which data was drawn included Jigisemejiri.

Challenges experienced in developing the registry

The challenges encountered included the following: (1) transferring the CCFS's database to the government took a long time because measures had to be put in place to protect personal data; (2) the MSAH lacked the capacity to manage, use and share on demand the data received from the CCFS; (3) there were resource constraints including inadequate staff and information technology infrastructure; (4) there were concerns about the quality of the data from the CCFS due to inclusion and exclusion errors that were made during the targeting and registration process.⁶⁸ To address capacity constraints, the World Bank provided resources to build capacity in the government. In 2017, UNICEF supported five officers from MSAH to participate in a study tour to Kigali to learn from Rwanda's experience in creating interoperability among databases.⁶⁹

Lessons learnt and their implications for Somalia

A key lesson from this case study is that harmonisation should be driven by a clear long-term objective. In Mali, the overarching objective was to institutionalise social protection interventions. Having such a clear goal could enhance harmonisation outcomes in Somalia by promoting collaborative and well-coordinated efforts. Additionally, a multi-stakeholder approach is key to effective harmonisation as it enhances ownership and access to resources, capacity building and sharing of data. Such an approach could help in addressing capacity gaps in the Federal Government of Somalia. Harmonisation can start with a few agencies, such as the five CCFS agencies and scaled up over time. Moreover, a quality assurance mechanism must be put in place to facilitate effective use of data from existing databases.

Palestine's unified registry

Palestine's unified registry is used by the Ministry of Social Development (MoSD) to host data for the recipients of a national social assistance scheme, the Palestinian National Cash Transfer Programme (PNCTP). The registry is also used by NGOs that provide assistance in Palestine, and facilitates coordination between MoSD's headquarters and its 17 district offices.⁷⁰ Currently, the registry hosts data for 200,000 households collected by social workers, government ministries and organisations providing social

assistance. The registry was established to (1) facilitate deduplication and coordination of social assistance programmes; (2) reduce targeting errors by providing reliable socioeconomic data for determining eligibility through proxy means testing (PMT); (3) reduce corruption and favouritism by providing a transparent mechanism for targeting and selecting recipients and information for M&E.

How the registry was established

The registry was developed through consolidation of various CTPs that were supported by donors (the EU and the World Bank) and delivered through the Palestinian Authority. The establishment of PNCTP was informed by the need to harmonise and consolidate social assistance programmes, which were being delivered in a fragmented manner through a group of government ministries and NGOs.⁷¹

The PNCTP was created by merging the Special Hardship Case programme funded by the EU and the Social Safety Net Reform Project funded by the World Bank.⁷² This involved harmonising various aspects of the two programmes, including adopting uniform transfer amounts and a common approach to targeting and registration. The MIS of the two programmes were consolidated and upgraded by incorporating a targeting database to facilitate conducting proxy means tests, as well as modules for generating payment lists, reporting and accounting. The registry's MIS connects MoSD's headquarters with all of the 17 district offices, thereby facilitating real-time access to data. MoSD also cooperated with WFP and the United Nations Relief and Works Agency for Palestine (UNRWA) to harmonise targeting tools.⁷³ In its collaboration with the Palestinian Authority, WFP built the capacity of MoSD's staff to implement a food voucher programme to complement the PNCTP. This collaboration led to the use of a common database and targeting mechanism by WFP and MoSD to implement the food voucher programme.⁷⁴ The data used in the unified registry are collected at the district level by MoSD's social workers through interviews⁷⁵ and updated regularly through home visits to re-verify the vulnerability of recipients.

Challenges experienced in developing the registry

The challenges experienced include resource constraints, particularly an insufficient number of social workers with the required skills to collect accurate data for updating the registry. Limited interoperability was also a challenge. For instance, humanitarian agencies were initially able to obtain data from the registry but were not able to upload data to it.⁷⁶ However, this challenge is being addressed. The registry was designed to support targeting mainly through proxy means testing, making it difficult to use its data to assess eligibility for programmes where proxy means tests are not appropriate.

Lessons learnt and their implications for Somalia

The key lessons include the fact that data systems can be harmonised successfully in phases. Palestine began with enhancing interoperability, which led to the development of a unified registry. Moreover, a mechanism for regular re-verification of household vulnerability is key to enhance data quality. In Somalia, updating data regularly is important because of the rapid changes in household vulnerabilities due to the frequent occurrence of shocks. Finally, investment in a robust MIS should be prioritised to facilitate access to and use of data in an integrated data system.

Roadmap for harmonising CTP data systems

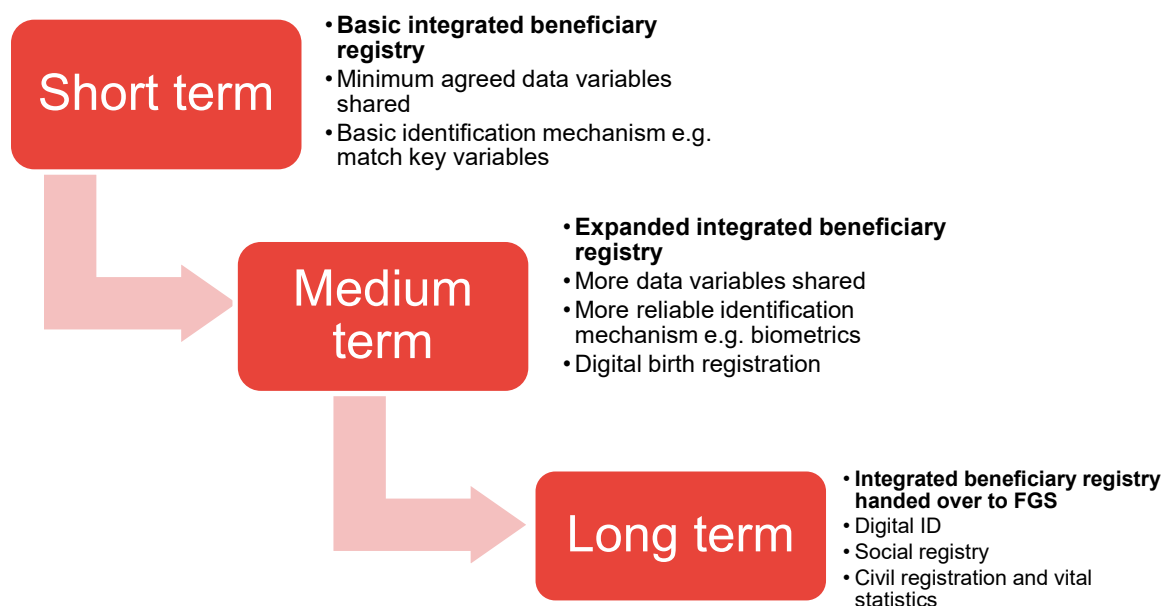
Adequate donor leadership and a dedicated multi-stakeholder entity will be required to spearhead the harmonisation of data systems. The Donor Working Group (DWG) and the Technical Assistance Facility (TAF) can be leveraged to lead this process. Harmonising data systems is aligned to the DWG's mandate of leading the development of a social protection programme for Somalia and the TAF's terms of reference, which include exploring ways of creating interoperable databases. Accordingly, the TAF can be expanded to include experts from humanitarian agencies, with the possibility of co-opting other stakeholders such as the private sector and the government where appropriate. The Cash Working Group (CWG) and the Food

Security Cluster (FSC) are coordination structures where humanitarian agencies can discuss and build consensus on implementation.

In the short term, a key objective of humanitarian agencies and donors is to establish a mechanism that can facilitate deduplication, coordination and caseload planning in cash transfer programming, especially in emergency contexts. Nonetheless, there is no reliable unique identification system, and humanitarian agencies are willing to share only a few data variables. In the long term, there is agreement among actors that a registry that can support the implementation of social protection programmes should be developed. Accordingly, a three-stage approach should be considered (see Figure 3) as follows:

1. **Short-term:** donors and humanitarian agencies should establish a basic integrated beneficiary registry. This registry is basic in the sense that it will host only the few data variables that humanitarian agencies are willing to share for deduplication purposes. Moreover, in the absence of a reliable identification system such as a foundational ID, a short-term solution such as an algorithm based on matching a combination of variables to determine potential duplication can be adopted.
2. **Medium-term:** the integrated beneficiary registry should be expanded as humanitarian agencies agree to share more data variables. A more reliable identification system that incorporates biometric technology should be adopted.
3. **Long-term:** the integrated beneficiary registry should be handed over to the government, a foundational ID should be established and the coverage of the registry should be expanded. Additionally, a social registry could be created to serve as a harmonised targeting database for government-led social protection programmes targeting poverty, depending on the evolving social protection policy direction in the country.

Figure 3: A roadmap to a harmonised data system for CTP in Somalia



Basic integrated beneficiary registry in the short term

Governance

Given the power dynamics in the CTP space in Somalia, the registry should be owned jointly by donors and humanitarian agencies. As the experience of Mali shows, the governance arrangement adopted for the registry must have accountability and oversight structures to ensure effectiveness. However, these structures should be flexible and agile to avoid creating bureaucracies that may slow decisions related to

data sharing. At minimum, a technical committee or equivalent should be established with a primary mandate of providing technical leadership. Moreover, a multi-stakeholder steering committee or management board should be created to provide overall oversight and strategic direction on the development, management and use of the registry. A conflict and complaints resolution mechanism should also be put in place. This should include a dedicated technical support unit to address day-to-day technical hitches experienced by users.

Several options for hosting and managing the basic integrated beneficiary registry, along with their merits and demerits, were cited by various key informants. These options included a private sector firm, a UN agency, the CWG, an international NGO and the government. The majority of key informants concurred that the management and hosting agency should be a neutral entity in the CTP space. The CWG is considered somewhat neutral, but it lacks the capacity to manage or host the registry. UN agencies and international NGOs are considered to have technical capacity and experience, but are not neutral since they participate in the implementation of CTPs; thus, they have an interest in controlling access to and ownership of data. In addition, most key informants considered UN agencies and some international NGOs to be bureaucratic, slow to change and difficult to hold to account. For the government, the concern is limited technical capacity to host and manage the registry.

The majority of key informants considered contracting a private sector firm with capacity and experience to be a neutral and cost-effective way to host and manage the registry. Just like in other countries, humanitarian agencies in Somalia hire private information technology or software companies to develop MIS, payment solutions and feedback and complaints mechanisms. Digital payment companies such as RedRose and sQuid Kenya are already providing technical support and solutions that facilitate the management of CTP processes in Somalia, from registration to payment. Working with the private sector is seen as an avenue to enhance efficiency, promote innovation and ensure access to special skills and technologies that humanitarian agencies lack. However, the private sector is also seen by some as a source of profiteering that contradicts the humanitarian mission. Furthermore, a private sector firm, just like humanitarian agencies, may fail to protect recipients' personal data adequately, leading to data privacy and protection breaches.

A feasibility study should be conducted to inform a decision on the role that the private sector should play. While a neutral agency could coordinate use of the registry and run its secretariat, hosting of the registry could be undertaken by a private company, which is a common practice. For instance, in Brazil development of policy and data collection instruments are done at ministry level while Caixa (a bank) manages the registry, Cadastro Unico. An alternative to a private firm is establishing an independent corporation co-owned by donors and humanitarian agencies to host and manage the registry. This proposal, however, could be resource-intensive, since initial investments must be made to establish the corporation, including acquiring equipment and staff. It is worth noting that every option considered to host and manage the registry comes with opportunities and risks. Thus, trade-offs must be made to select an option that can work for all actors.

Implementation processes

An important process that should be prioritised by the DWG and the TAF and implemented with the support of the CWG and the FSC will be creating awareness and buy-in from various actors in the CTP space. Involving the government is an opportunity for creating buy-in that could encourage it to invest in or take forward the harmonisation agenda in the medium to long term. The CWG, FSC and TAF should lead consultations among humanitarian agencies and donors to agree on the minimum data variables that should be collected and shared.

Importantly, the DWG and the TAF should coordinate with the various consortia such as the Somalia Cash Consortium that are already harmonising data systems. The incentive for coordinating with the consortia

include opportunities for discussing and agreeing on the data variables that should be shared due to their relevance for CTPs and building on the gains that have already been realised, such as refining the registration forms that have been harmonised in various consortia rather than developing new ones. It will be important to involve the CaLP to promote peer learning and the sharing of best practices among humanitarian agencies. Additionally, the CaLP can provide technical support and training to address capacity gaps where appropriate. Once the sharable data variables have been agreed, registration forms should be harmonised by standardising data fields.

The DWG, the TAF and humanitarian agencies should develop a unique identification mechanism to facilitate data sharing. Developing a foundational ID in the short term could be a significant challenge due to political, financial and technical constraints, as discussed earlier. Similarly, establishing a biometric identification system in the short term could be a challenge due to the concerns discussed earlier. An alternative solution that could be explored in the short term, therefore, is to design an algorithm that combines a selection of variables ('match key variables') to create a comparable identifier across databases. For instance, in Brazil, where a similar identification mechanism is being used, the match key variables include recipients' name, mother's name, date of birth and codes from key documents.⁷⁷ In the Philippines, probability models for matching data based on date of birth and other identifying data variables are used for identification. In Somalia, the algorithm could use variables such as name, mother's name, location, phone number and date of birth to detect duplication. While these algorithms are not always 100% accurate, they could provide a short-term solution to the identification challenge in Somalia. Harmonisation efforts should also be linked to the digital ID project led by NADRA and the government. This could provide an opportunity to discuss and agree on the data variables that should be included in the ID to facilitate identification in a way that ensures effective sharing of data and does not provide sensitive information that may pose risks to the security of recipients of assistance.

The DWG, the TAF and humanitarian agencies should review data privacy and protection risks and develop a data sharing agreement that clearly specifies roles, responsibilities and rights with respect to ownership, sharing, using and protecting the data submitted to or downloaded from the registry. It is worth noting that formal agreements are not always adequate and can be difficult to reach.⁷⁸ This calls for establishing a mechanism for regular consultations and negotiations geared towards demonstrating to stakeholders the value add for data sharing through the registry.

From the outset, the DWG, the TAF and the CWG should coordinate with the government and the World Bank on the planned development of a unified registry. Key incentives for such coordination would be creating synergies, preventing duplication of effort in harmonising data systems and ensuring that ongoing harmonisation efforts contribute to the development of a long-term government-led solution.

Data and technology requirements

Humanitarian agencies should be responsible for collecting the data to be fed into the integrated beneficiary registry, since the majority of them have already put in place mechanisms for data collection. In Somalia, the minimum data variables required to access aid include name, age, gender, location, phone number and household size. Additionally, details of recipients' entitlements, including the provider's name, transfer amounts, type of assistance and the duration of the assistance, should be shared for coordination and planning. Data should be disaggregated in order to leave no one behind, and should be captured accurately and updated regularly to ensure high quality. An on-demand data collection approach is appropriate for Somalia because it is dynamic in nature, allowing for regular updating of data and registration of more recipients to be done. A mechanism for timely detection and correction of errors in datasets and standardised protocols for data collection and validation, should be established.

Finally, a software application that links the registry dynamically to the MIS of various humanitarian agencies and systematically transforms data into information should be developed. Where possible, technical support and capacity building for humanitarian agencies should be provided to ensure interoperability. Hardware requirements for the registry will include but not be limited to servers, computers and Internet equipment.

Expanded integrated beneficiary registry in the medium term

In the medium term, the DWG, the TAF and humanitarian agencies should focus on expanding the integrated beneficiary registry. More variables should be added to the registry to provide comprehensive information on beneficiaries in order to facilitate effective monitoring and evaluation of CTPs, planning, deduplication and coordination. This will require addressing the data privacy and protection risks, as well as organisational, technical and political factors that prevent data sharing.⁷⁹ A key priority in the medium term is to develop a more reliable identification system that incorporates biometric technology to facilitate the effective exchange of data. Investment in biometric identification should prioritise the enhancement of data protection within the databases of humanitarian agencies and the integrated beneficiary registry.⁸⁰

Although the ownership of the registry can remain with donors and humanitarian agencies in the medium term, deliberate efforts should be made by donors and UN agencies to build the capacity of the government to operate an integrated beneficiary registry and to implement social protection programmes in the long term. This should include the establishment of effective institutional arrangements and legal frameworks to host the registry within a government institution.

Finally, the DWG and UN agencies such as UNICEF should work with the government to establish a civil registration and vital statistics (CRVS) system in phases, starting with an effective birth registration system to facilitate the acquisition of identification documents such as national ID cards and passports.⁸¹ Somalia has a fragmented CRVS system, with paper-based birth and death certificates being issued by mayors of various cities without coordination across regions. The birth registration rate in Somalia – estimated at 3% – is one of the lowest in the world.⁸²

Transition to a government-led registry in the long term

In the long term, donors and humanitarian agencies should hand over the integrated beneficiary registry to the government to support the implementation of social protection programmes. This will require connecting the registry to the MIS of government-led social protection programmes, budgetary allocations by the government to run the registry and continuous capacity building within government institutions to operate the registry effectively.

Importantly, the government should complete the digital ID project in the long term. The digital ID can be linked to the integrated beneficiary registry and used with biometric data to provide reliable identification and verification. The ID's MIS can provide an application programme interface that allows providers of cash assistance to retrieve the identification records or details of recipients upon providing an ID number for verification.⁸³ This can facilitate an audit trail down to the recipients of cash transfers, thereby enhancing transparency and accountability.

As Somalia transitions from humanitarian to government-led and poverty-targeted social assistance schemes, a social registry could be developed to provide socioeconomic information on households for targeting purposes, depending on the long-term policy objectives of the country. This is in line with the plan by the World Bank and the Federal Government of Somalia to develop a unified registry which is a form of a social registry. While the role of the integrated beneficiary registry is to facilitate monitoring, evaluation, coordination and deduplication by providing information such as who receives what, from where and over what period, a social registry provides a mechanism for targeting by generating information on households

ranked according to their well-being, in order to target social assistance to the poor.⁸⁴ Accordingly, a social registry hosts the information for potential recipients of assistance. To develop the social registry, an independent institution can be mandated to collect the data, clean it and feed it to the registry, to be drawn upon by various programmes.

Alignment with humanitarian principles

In Somalia, humanitarian principles⁸⁵ have historically been compromised due to the political economy of aid in the country. The operations of humanitarian agencies are influenced by local power dynamics which, contrary to the principles of neutrality, independence and impartiality, perpetuate structural inequalities.⁸⁶ Needs assessment, targeting, registration, negotiating access and distributing aid in Somalia entail direct engagement with power holders who are keen on diverting aid for their own benefits. Accordingly, humanitarian principles are often inevitably compromised in order to ensure operational access to vulnerable populations. For instance, although negotiating with and paying militias to gain access is key to reaching vulnerable populations, such approaches are seen by critics as legitimising or supporting outlawed groups.⁸⁷

For the harmonisation of CTP data systems to be consistent with the principle of humanity, humanitarian agencies must avoid causing harm to recipients of assistance through, for instance, data privacy or protection breaches. From the outset, an oversight mechanism should be established to ensure that data is collected, shared and used in a manner that does not favour a particular demographic group, political entity or certain parties to a conflict. This requires humanitarian agencies to promote professionalism and empower their staff to resist pressure to manipulate targeting and registration processes, which in turn will enhance the integrity of the data collected and shared.

In Somalia, anti-terrorism regulations have led to the withholding of aid by donors such as the USA.⁸⁸ Harmonisation efforts, therefore, should be cognisant of the fact that support from donors may come with conditionalities that affect the ability of humanitarian agencies to uphold humanitarian principles. For instance, donations of hardware, software, data or funds may affect impartiality and independence if humanitarian agencies are required to use such donations to assist certain preferred populations at the expense of the most vulnerable groups for political or economic reasons.

Conclusion

This study explored the ways that different agencies in emergency situations in Somalia are collecting, analysing and sharing registration and identification data, as well as the possible opportunities and implications for harmonising existing CTP-related data systems. The operational practices and policies currently deployed to manage the collection, analysis and sharing of data were also analysed to identify the options for harmonising CTP data systems.

Harmonising data systems presents both long-term opportunities and short-term risks. On the one hand, a harmonised data system holds the key to improving the effectiveness of CTP in Somalia by enhancing cost-efficiency and targeting outcomes to reach the most vulnerable households. Accordingly, the importance of harmonising CTP data systems is appreciated by humanitarian agencies, donors and the Federal Government of Somalia. On the other hand, harmonising data systems comes with increased data privacy and protection risks, potential disruption of power dynamics in the humanitarian space and costs associated with restructuring operations. These risks affect the extent to which humanitarian agencies are willing to harmonise data systems.

Significant progress is already being made by different stakeholders to harmonise data systems. Key achievements include establishing various consortia that have adopted streamlined targeting, registration and distribution approaches underpinned by harmonised data collection tools, common databases and signed data-sharing agreements. Other achievements include bilateral agreements to share registration platforms. Scaling up these initiatives through the involvement of more agencies is an opportunity to enhance interoperability and data sharing.

Despite the progress that has been made, the CTP data system landscape in Somalia is still largely fragmented. This is attributed in part to inadequate technical and financial capacity within the government to develop a government-led solution, as well as competition between humanitarian agencies and a lack of donor cooperation in harmonising data systems. Donors and humanitarian agencies can improve the efficiency of their operations by harmonising CTP data systems in the short term through better political, administrative and technical collaboration. While a short-term solution will be needed, all actors must start working collaboratively towards a sustainable government-led solution in the medium to long term. Current harmonisation efforts should culminate in the establishment of an integrated beneficiary registry led by the government, a CRVS system and improved government capacity to implement social protection programmes.

Recommendations for streamlining and harmonising data systems in CTPs in Somalia

Short-term measures

Adopt measures to protect personal data: To prevent data privacy and protection breaches, humanitarian agencies should (1) encrypt the data stored in internal and external servers and databases, as well as encrypt data during transmission; (2) remove personal identifiers when sharing data – personal identifiers such as phone numbers should only be included when needed for specific functions such as contacting recipients of aid for M&E or deduplication; (3) discard data that is no longer needed for any programme activity due to its quality, or store them in an anonymous format to prevent misuse; (4) adopt role-based access to data – staff should have access only to the data that they need to perform their roles rather than the entire database; (5) restrict the data shared to what has been requested or is needed by the intended

users; and (6) design or adopt data collection and management platforms with adequate security features to ensure data security.

Standardise data fields to facilitate the exchange of data: To harmonise data fields, humanitarian agencies, with support from the CaLP and research institutions, should (1) define the level at which data should be collected – household or individual; (2) develop a dictionary that provides a lexicon of terms, values and syntax to be used across the board; (3) define the semantic meanings of data variables and values; (4) provide metadata explaining the relationships between data elements and the meaning of missing fields – for instance, whether missing fields mean no value or no data; and (5) define and agree on the data structure and formats to be used by all. To standardise biometric data, a common standard such as ISO/IEC 19794-1:2011 should be adopted and applied by all agencies.

Improve data quality to establish meaningful interoperability: Humanitarian agencies, with support from the CaLP, should define and agree on common standards for data collection, cleaning and validation, as well as a framework for providing adequate information on the accuracy, currency, relevance and completeness of shared data. In addition, humanitarian agencies should design or adopt available digital registration platforms that have effective inbuilt data validation tools to prevent errors.

Establish data-sharing agreements: Humanitarian agencies should (1) define the data variables that can be shared and who can share them; (2) agree on a framework for monitoring and evaluating the security of data use; and (3) define and agree on the rules for ensuring data security and privacy, as well as how they will be enforced and how conflicts will be addressed when sharing and using data.

Establish an effective legal framework for data protection: The Federal Government of Somalia, with technical support from UN agencies and donors, should enact legislation and a policy to guide the protection, sharing and use of personal data, including biometrics. Such legislation will play an important role in creating clarity on what should be shared to facilitate the establishment of enforceable data-sharing agreements. It will also provide a foundation for the establishment of a foundational ID system, the expansion of integrated beneficiary registry and the potential set-up of a social registry in the long term.

Obtain adequate consent to share data: At the registration stage, humanitarian agencies should explicitly seek consent to share data with third parties for deduplication, planning and coordination purposes or transfer data to different programmes where appropriate for implementation. Adequate consent should be freely given and should be specific, informed and unambiguous. Humanitarian agencies should explain the purpose of collecting data, how the data will be used and protected and the provisions for withdrawing consent. To avoid ambiguity, consent should be obtained through a clear affirmative act such as a written statement.

Adopt a coordinated approach to the harmonisation of CTP data systems: The DWG should facilitate discussions among donors to develop a shared vision and objective to ensure collaborative efforts towards harmonisation. A key priority for the DWG should be to build consensus **at least** among the five largest donors to Somalia – the USA, Germany, the UK, the European Commission and Sweden – to work with humanitarian agencies to implement agreed common principles for the harmonisation of CTP data systems. The CWG, in collaboration with relevant clusters such as the Food Security Cluster, should facilitate discussions among humanitarian agencies to adopt common approaches to harmonising such systems.

Provide financial and technical support to humanitarian agencies: Based on mutual agreements, part of the funding allocated to humanitarian agencies should be earmarked for developing the infrastructure, technology and human capacity to harmonise CTP data systems. This will serve as an incentive for harmonisation, especially for humanitarian agencies that are facing financial and technical constraints. Private firms with relevant expertise should also provide technical support to humanitarian agencies. This

can be provided through secondments of humanitarian agencies' staff to private firms or vice versa to facilitate skills and knowledge transfer. Where possible, the private sector can provide technical support as pro bono or subsidised work as part of their corporate social responsibility.

Promote collaborative efforts to implementing CTPs: To address the competition among humanitarian agencies that prevents collaborative efforts, donors should prioritise working with consortia (where appropriate) to implement CTP using streamlined targeting, registration, distribution and M&E approaches, underpinned by common databases, harmonised data collection tools and data-sharing agreements. Data should be promoted as a common good, though protected due to privacy reasons, to ensure positive change towards data sharing. The incentives for donors include improved cost-efficiency and better coordination and monitoring of CTP performance that may accrue from working with consortia rather than managing a number of different grant contracts with various humanitarian agencies.

Improve targeting outcomes: The targeting stage is important not only for reaching the most vulnerable households but also for the harmonisation of data systems, because inclusion and exclusion errors affect the extent to which data can be shared or reused. Accordingly, humanitarian agencies should (1) invest in research to understand the local political economy of aid in Somalia, including the involvement of their staff and the pressures their staff face during targeting to develop appropriate and supportive strategies to improve targeting outcomes; (2) in their staffing policies, consider a balance in the ethnic/clan composition of local staff as a strategy to avoid favouritism during targeting; (3) equip their staff with adequate skills to negotiate with power holders to ensure fair targeting; and (4) invest in effective third-party monitoring. Donors and humanitarian agencies should work with the CaLP to research and pilot alternative targeting approaches that can be used alongside community-based targeting to reduce inclusion and exclusion errors.

Develop a basic integrated beneficiary registry: Donors and humanitarian agencies should collaborate with the CaLP and the private sector to establish a basic integrated beneficiary registry as a first phase of integrating data systems. The registry will facilitate deduplication, coordination and planning.

Medium-term measures

The Federal Government of Somalia should invest in digital birth registration and the issuance of national identification numbers at birth: Birth certificates that include a national identification number are important for authenticating identity, as well as harmonising CTP data systems. For instance, birth certificates can help in collecting accurate data on age and household or family size by allowing humanitarian agencies to verify or establish the relationships between recipients and their dependants. As the experiences of Uganda, Senegal and Pakistan demonstrate, the fairly well developed mobile phone infrastructure in Somalia can be leveraged to establish an efficient and cost-effective digital birth registration system.⁸⁹ Collaborating with mobile phone companies is an incentive to the extent that it could address some barriers to birth registration such as distance, lack of communication, cost, administrative delays and lack of awareness.⁹⁰ In addition, the government should put in place an adequate institutional framework, including a dedicated agency to verify applications and issue birth certificates.

Expand the integrated beneficiary registry established in the short term: The coverage of the registry should be expanded in the medium term to provide more comprehensive information and data to support CTP, following the establishment of adequate data protection measures.

Long-term measures

Invest in a functioning CRVS system: Building on the digital birth registration system, the Federal Government of Somalia, with support from donors and UN agencies such as UNICEF and the World Health Organization, should establish a reliable CRVS system that records other key events such as deaths,

marriage, divorce and adoption. Recording these events can help to reduce fraud in humanitarian CTP or government social protection programmes. For instance, linking an integrated beneficiary registry to the CRVS system can help to identify registered persons who have died, thereby preventing the transfer of cash assistance to ghost recipients. Importantly, statistics from a CRVS system will provide the basis for effective planning and provision of government services, including health, education and social protection programmes, to reduce vulnerability and reliance on humanitarian aid.

Develop a national ID system for Somalia: The Federal Government of Somalia with support from its development partners – NADRA and the World Bank – should complete the digital ID project to provide a reliable means for identity authentication. This will aid the exchange of data between databases. The digital IDs can be used alongside biometrics to improve identification and verification during payment.

Develop a social registry: Depending on the long-term policy objectives of the country, a social registry should be developed to support government-led social protection programmes in the long term. The registry will provide a mechanism for targeting by providing information on the vulnerability status of potential recipients of assistance.

Appendix

Box 4: Summary of similarities and differences between open source registration platforms

Overview

- CommCare is a mobile application that facilitates data collection, tracking people or entities. It can incorporate images, audio, clips and videos to improve communication. In humanitarian response, CommCare can be deployed to collect, report, analyse and update registration data, and to support the monitoring of programmes such as cash transfers by tracking recipients and their account balances.
- KoBoToolbox is an open source set of tools for data collection and analysis optimised for use in humanitarian emergencies and other challenging contexts. It is an intuitive platform that is compatible with ODK and facilitates data collection via mobile phones and tablets.
- ODK (Open Data Kit) is a mobile data collection platform designed to facilitate rapid, accurate and at-scale data collection in both online and offline modes. Its key components/applications include ODK Collect, ODK Briefcase and ODK Aggregate.
- Ona is a mobile data collection application designed to facilitate effective data collection, analysis and visualisation. Ona is compatible with ODK and has an active team of developers who support users.

Similarities

- They are open source software applications.
- They are Android-based applications.
- They are used mainly (but not always) on smartphones and tablets to collect data.
- They have online and offline functionality.
- They have form-builder functionality to help develop questionnaires.
- They support data analysis, visualisation and reporting.
- Data collection is supported by skip logic and validation capabilities.
- Data collection forms are developed using XLSForm standard.
- They support data storage in cloud-based and local servers/databases.

Differences

These platforms differ in their functionalities and ease of use. For instance, setting up ODK for data collection comes with a considerable learning curve compared with other platforms such as Ona. However, a new version (ODK X) is expected to address this challenge. Similarly, setting up and running CommCare on a local server is often difficult. While KoBoToolbox uses the same form ecosystem as ODK and Ona, it has additional functionalities such as a question library for storing or sharing existing questionnaires. Unlike ODK, Ona and CommCare, KoBoToolbox runs on iOS devices. All KoBoToolbox and ODK tools are free, while CommCare and Ona are partially free.

Box 5: Comparison of aid eligibility criteria using two organisations as examples

International Rescue Committee (IRC)'s eligibility criteria

1. Lost substantial assets i.e. having <20 sheep/goats, <5 camels, <10 cows through drought and conflict
2. Poor households that are not benefiting from any similar or equivalent services from other NGOs
3. Poor households that have no access to social support e.g. remittances from abroad
4. Households who have exhausted their coping mechanisms
5. Households with large family size (at least six members), caring for older people and persons with disabilities and chronic illness
6. Female-headed households with no alternative sources of income
7. Households with pregnant and breastfeeding women who are vulnerable and have no source of income
8. Households with more than five children under the age of five and one or more of the children is malnourished or susceptible
9. Households whose monthly income is estimated to be significantly below US\$50 and who report consuming less than two meals per day
10. Households with orphans and vulnerable children
11. Households employing negative coping mechanisms such as cutting down trees and producing charcoal or selling vital household assets
12. Members of vulnerable marginalised minorities who are poor
13. Child-headed households with no source of income
14. IDP households that are vulnerable to shocks
15. Households that have dropped out of a pastoral lifestyle due to loss of major livelihoods and are now extremely vulnerable to further shocks

Oxfam's eligibility criteria

1. Percentage of livestock lost because of drought
 2. Living in IDP settlement
 3. Not able to find casual labour activities
 4. High dependency ratio – three or more dependants (including older dependents, ill and disabled persons)
 5. Owning a very limited number of livestock
 6. Very limited asset ownership
 7. Female-headed household, single-parent or child-headed households
 8. Children under five in household consuming fewer than three different foods per day
 9. No access to remittances
 10. Lactating and pregnant women
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Acronyms and abbreviations

ACTED	Agency for Technical Cooperation and Development
BAFIS	Beneficiary Automated Fingerprint Identification System
BIMS	Biometric Identity Management System
BITS	Biometrics Technology System
BRCiS	Building Resilient Communities in Somalia
CaLP	Cash Learning Partnership
CCFS	Cadre Commun sur les Filets Sociaux
CCTS	Cadre Commun Transferts Sociaux
CESVI	Cooperazion e Sviluppo Onlus
COOPI	Cooperazione Internazionale
CRVS	Civil registration and vital statistics
CTP	Cash transfer programming
CTPs	Cash transfer programmes
CWG	Cash Working Group
DRC	Danish Refugee Council
DTM	Displacement Tracking Matrix
DWG	Donor Working Group
ECHO	European Civil Protection and Humanitarian Aid Operations
FAO	Food and Agriculture Organization
FEWSNET	Famine Early Warning Systems Network
FSC	Food Security Cluster
GDPR	General Data Protection Regulation
ID	Identification
IDP	Internally displaced person
IEC	International Electrotechnical Commission
INGO	International non-governmental organisation

IOM	International Organization for Migration
IPC	Integrated Food Security Phase Classification
IRC	International Rescue Committee
ISO	International Organisation for Standardisation
KII	Key informant interview
LMMS	Last Mile Mobile Solutions
M&E	Monitoring and evaluation
MIS	Management information system
MoSD	Ministry of Social Development – Palestine
MSAH	Ministry of Solidarity and Humanitarian Action – Mali
NADRA	National Database and Registration Authority
NGO	Non-governmental organisation
NRC	Norwegian Refugee Council
ODK	Open Data Kit
PNCTP	Palestine National Cash Transfer Programme
ProGres	Profile Global Registration System
RAMED	Régime d'Assistance Medicale
RSU	Registre Social Unifié
SADO	Social-life and Agricultural Development Organisation
SCC	Somalia Cash Consortium
SCOPE	System for Cash Operations
SIM	Subscriber Identity Module
SomReP	Somalia Resilience Programme
STREAM	Somalia Resilient Action Consortium
TAF	Technical Assistance Facility
UNDP	United Nations Development Programme
UNHCR	UN High Commissioner for Refugees
UNICEF	UN Children's Fund
UNRWA	UN Relief and Works Agency for Palestine
VRC	Village relief committee
WFP	World Food Programme

Notes

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- ⁸⁵ There are four humanitarian principles: humanity, neutrality, impartiality and independence. The principle of humanity requires humanitarian actors to address human suffering wherever it is found. In order to be neutral, humanitarian agencies should not take sides in hostilities or get involved in controversies of a political, racial, religious or ideological nature. Impartiality means that the implementation of humanitarian response should be based on need alone, giving priority to the most urgent cases of distress and making no distinctions based on gender, race, religion, class or politics. The principle of independence calls for humanitarian action to be autonomous from political, economic, military or other objectives that any actor may hold with regard to areas where humanitarian action is being implemented.
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Cover photo: World Food Programme. A woman holds a World Food Programme e-card in Somalia, March 2017. The e-cards, which are supported by the UK and other donors, are a secure and cost-effective means of supplying cash assistance to people in need of food. The cards come pre-loaded with a small amount of money so that people can choose to buy which basic items they need from local shops and markets.

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