

CSRF Analysis: Biometric Registration and Conflict Sensitivity: Potential Risks and Opportunities for Aid Actors in South Sudan

S. E. Freeman

Introduction

Biometric registration — or the collection and storage of identity data such as fingerprints, iris scans, and demographic information — is increasingly used as a prerequisite for the receipt of humanitarian assistance globally. The World Food Programme (WFP), for example, has registered the biometric data of over 64 million people worldwide while the United Nations High Commissioner for Refugees (UNHCR) has the data of almost 12 million across the agency's country programs.¹ In addition to its use across the UN system, biometric registration is also a foundation of food assistance, cash programming, and other interventions implemented by both international and local non-governmental organizations (NGOs). The practice's widespread acceptance and usage within the humanitarian system has not come without debate, however. The collection of such sensitive bodily measures for humanitarian purposes has been and continues to be contested throughout the aid sector, with contrasting approaches adapted by different agencies.² This paper seeks to outline some of the conflict sensitivity concerns related to the use of biometrics in South Sudan,³ where the collection of identity data is a prerequisite for most assistance in the country and over six million South Sudanese have been registered by humanitarian organisations to date.

Background

The scope of biometrics in South Sudan

Biometric registration was introduced in South Sudan by the International Organisation for Migration (IOM) in 2014, originally designed to calculate and verify the number of individuals living in the former Protection of Civilian sites. Since that initial introduction, its use has expanded significantly, now implemented by a variety of organisations across South Sudan both within and outside of camp-like settings, with over six million people currently registered country wide.⁴ In South Sudan, the biometric data collected consists of fingerprints, photographs, and demographic information, which is used to verify the identity of South Sudanese eligible for food assistance, cash distributions, shelter/non-food items, and 'cash for work' programs. This data is collected digitally and stored through several systems, with WFP's SCOPE, IOM's BRaVE, and UNHCR's 'beneficiary management' systems housing the majority of data in the country. Many national and international NGOs, however, serve as implementing partners for registrations, in addition to financial providers who require biometrics for certain cash programs. The use of digital systems and the collection of identity data are both intended to make aid delivery more efficient and effective than its paper predecessor by preventing resource leakage, mitigating fraudulent or duplicate requests, and increasing agency accountability to donors. While biometric registration might achieve some of these goals, it also poses potential risks with its prevalence.

¹ WFP (2021), UNHCR (2023).

² The New Humanitarian (2019), ICRC (2019), The Engine Room (2018, 2023).

³ This paper draws on research conducted from November 2022 through April 2023. The author would like to thank those who provided logistical support at different points during this period. Funding for the research was provided by the Social Science Research Council and the Wenner-Gren Foundation.

⁴ WFP alone has 5.99 million people registered in its database in South Sudan. That does not include refugee registration (conducted by UNHCR) or other organisations that store biometrics outside of the SCOPE system. WFP (2023).

As CSRF has argued in previous papers,⁵ aid interventions cannot be thought of independently from the political environment in which they operate and the use of biometrics is no exception. Such registration practices, as a prerequisite for the majority of assistance given in South Sudan, must be set within the context of a politicised aid infrastructure and long history of population management in order to realistically assess the risk of its use.⁶ While emphasis on the efficient use of resources, accountability to donors, and deduplication might indeed contribute to a better aid system, an overriding focus on these dimensions of biometrics by aid actors can work to obscure the disproportionate risk placed on the South Sudanese whose data is collected. This paper aims to outline such risks and opportunities for humanitarians as they continue to rely on biometric registration to facilitate aid delivery.

How does biometric registration work?

Designed to provide greater efficiency and verification capacity than its paper predecessor, biometric registration both digitises beneficiary lists and integrates location-specific identity data into an online database for cross-checking at the time of distribution. While different agencies have their own specific protocols, a general summary of the process is as follows:⁷ individuals are ‘targeted’ for the program for which registration will be conducted, according to organisation-specific eligibility criteria often determined in partnership with the communities to be

registered. Once a beneficiary list is finalised and agreed upon, those individuals chosen are called to a centralised location for registration, where one ‘principal’ and one ‘alternate’ from each household come to register. At this site, the agency collects demographic information from these two household members, including name, age, sex, family size, as well as fingerprints for all ten digits and photographs of the individuals’ faces (including children present) for future recognition.⁸ The data are logged in a digital database and each person is given a system profile linked to the specific program and the location where it is being implemented. The fingerprint scans collected onsite are cross-checked with the existing entries in the beneficiary database and are flagged if the individual is already linked to a different aid program. In most cases, households are limited to registration for one program in one location at a time, for the duration of that program. Once everyone at the site has been registered, the registration team will generate ration cards (similar to a plastic ID or credit card) for each principal and alternate, printed with their names and a QR code linked to their digital database profile. When the distribution of goods — such as food, cash, or other items — is scheduled, on that date either the principal or alternate must present their ration card in person for scanning to receive assistance, often accompanied by a digital scan of their fingerprints to verify identity.

⁵ Craze J (2018), CSRF (2018).

⁶ Ibid, Duffield M (2002), Johnson D (2011), Kindersley N (2017, 2019), Pendle N (2017).

⁷ The processes and risks discussed in this paper represent a collated summary from multiple biometric registration systems. While WFP’s SCOPE is the largest UN-run database, organisations also work through RedRose, their own internal systems, as well as financial providers to collect biometric beneficiary data. What follows are general conclusions identified across systems, having conducted research with humanitarian providers working across such systems as well as in different areas of the country.

⁸ The amount of data collected and for how many household members can vary depending on the agency and type of program. The number of fingerprints taken can range from none to all ten, and some agencies require all household members to be present and registered instead of just representatives. Demographic information collected can also include marital status, displacement status, type of vulnerability, and, if the household was displaced, where they came from, how long they’ve been in the new location, and where they intend to go. Humanitarian workers reported collecting ethnicity data during registration in two instances, though to what extent this information is collected response-wide could not be confirmed.

Humanitarian staff implementing biometric registration noted that the process itself is quite similar to earlier paper registration processes. What is different in the biometric system is that names and demographics are entered and stored digitally, in addition to adding electronic verification measures — in the form of fingerprint scans and photographs — as forms of ‘de-duplication.’ In order to check that the household has not already received services, fingerprints are cross-checked in real time to prevent ‘double dipping,’ replacing the ink-stained fingers that signaled receipt in the analog system. Digital profiles are also collated and stored in centralised databases, often located on servers in Juba, to create a mass list of beneficiaries across the country. While the registration process might look similar to the paper version, aid workers reported that — compared to paper registration — biometric systems can save time (especially during distributions), improve data storage capacity, reduce duplicative requests for services, and provide a more accurate number of people served by a given program than the manual process.

The promise of infrastructure: system rigidity and its limitations

While aid workers reported these improvements, the biometric system does not remove many of the issues previously linked to paper-based registrations, such as their infrequency in certain areas, long wait times in the hot sun, and last-minute communication about the logistics of both registrations and distributions by aid actors. During biometric registrations, people are often still left to wait for hours without food or water, unable to leave the registration site for fear of missing the opportunity to register. The process can sometimes take days depending on the size of the program and number of people able to benefit.⁹ In order to reach the registration site,

individuals must cover their own transport costs to get to the location of registration, which in some cases can exceed the cash distributed through the project.¹⁰

While there are several similarities and shared challenges between analog and digital registration practices, biometrics can introduce additional obstacles to receiving services. Biometric registration is very resource-intensive because of the cost of equipment — including generators, scanners, laptops, and servers that need to be flown from Juba — and the cost of sending specialised team members trained to use that equipment (often based in the capital) to more rural registration sites. The logistical lift and higher cost of the process can result in registrations being conducted and updated infrequently. New arrivals might not be registered after the initial exercise was conducted, and those eligible but unable to be present at the time of registration — due to barriers to mobility or having fled to another area temporarily — can be left out as well.

Although humanitarian workers reported advocating for more frequent registrations and updating their databases with deaths and newborns, it is a slow process. In Western Equatoria, for example, violence in Tambura in 2021 displaced over 80,000 people over the course of the conflict,¹¹ yet only one round of biometric registrations was conducted over that period.¹² IDPs who arrived in other towns in the state after the round of registrations took place were unable to access food assistance when they arrived in the new locations. This put strain on the food assistance that was distributed, as many registered households shared with relatives and neighbors who arrived later but did not have ration cards.¹³ This practice of sharing and the

⁹ The registration of one household reportedly takes an average of 20–30 minutes, which aligns with in-person observations of the process. While there are multiple staff registering people, the duration quickly multiplies if you have a program with hundreds or thousands of beneficiaries in one location.

¹⁰ Focus group discussion with IDPs from Tambura, Western Equatoria State, March 2023.

¹¹ OCHA (2021), REACH (2021).

¹² Interviews with humanitarian actors working in Western Equatoria, March 2023.

¹³ Interviews with IDPs from Tambura, Western Equatoria State, March 2023.

consequent strain on resources for those unregistered was reported in other areas of the country and persists as assistance levels countrywide continue to decline.¹⁴

In addition, the design of the digital profile, with the goal of verifying registrants more easily, unintentionally creates an inflexible system that can generate barriers to access. Households can only be registered for one program in one location at a time for the duration of that program, information which is coded and linked to the household's ration card. While this might be designed to limit 'duplication' of service provision, it can prevent families from benefitting from more holistic assistance. A UN FAO agricultural program, for example, can last three years, requiring individuals to be biometrically registered to receive tools and seeds. If they use the seeds, but the harvest is poor and cash would be beneficial the next year, it could be hard for them to access another program's services in that three-year period. Individuals can also inadvertently be blocked from emergency assistance because they were previously registered for a different program or not present on the day of registration. A woman who travelled to Yambio from Tambura in 2021, for example, reported being blocked from receiving emergency food aid earmarked for IDPs in Yambio town because she had been biometrically registered as part of an agricultural cooperative program in Tambura the year before. The same issue, she said, happened to her husband and, while she was able to have her status changed in the online system, her husband was never able to access services. Others in the focus group reported similar challenges in registering for the new assistance due to previous registration in resilience programs.¹⁵

Lost cards or errors with card functionality can result in delays in service acquisition (as cards often need to be printed in Juba and flown to the service location), which, especially in very food insecure areas, can have significant consequences. While South Sudanese have sophisticated ways of coping with food insecurity unrelated to humanitarian assistance,¹⁶ in locations where communities do rely on food aid, delays caused by scanning or human error can compound hunger or place further strain on existing resources.

Conflict sensitivity issues and risks

While many of the challenges outlined above are the result of rigid registration systems, paper or otherwise, there are certain risks amplified with the use of this biometric technology due to both the system design and increased collection and storage of sensitive data. Biometric registration's influence on movement patterns, its method of verification, and the security risks posed by the data's possible compromise have the potential to put South Sudanese at disproportionate risk of harm, prompting the question of whether biometric data is always fit for purpose.

To stay or go: Biometric influence on movement patterns

Humanitarian assistance — and particularly food aid — has functioned as a strategic 'pull factor' in South Sudan for decades, drawing people to certain geographic areas with the promise of assistance for political purposes.¹⁷ Although this is not new, aid's influence on family decision-making around where to move and when, or whether to stay if humanitarians respond following an initial period of displacement, is compounded by biometric registration as a location-based prerequisite for assistance. A household's data is tied to a geographic area,

¹⁴ OCHA (2023).

¹⁵ FGD with IDPs from Tambura, Western Equatoria State, March 2023.

¹⁶ Thomas E (2019).

¹⁷ Johnson D (2011), Macrae J and Zwi A (1992). The widespread narrative of South Sudanese 'dependency' on food aid is largely unsupported, however, the persistence of food distributions (now linked to biometrics) across the country makes this a relevant concern. See also: Bailey S and Harragin S (2009).

making it both crucial that they reach the registration site initially, and that they stay or return to that same location to ensure receipt of assistance at future distributions. Where registrations and distributions are held is also limited to areas where humanitarian organisations can or are allowed to access, which can inadvertently exclude certain geographic areas and vulnerability groups while privileging others.

Organisations are presented with many obstacles to access across the country. Access for any program is always mediated by local authorities, in addition to being influenced by current insecurity, the quality of roads, flooding, and transport limitations at the start of the program. Biometric registrations themselves are heavily resource-intensive, requiring generators, laptops, scanners, and a local server that are often flown into the area to be registered. This limits the locations that humanitarians can conduct registrations to those made accessible at the time of programming. This limitation risks facilitating the politics of population movements aimed at gaining political constituencies or exerting rights over land. It is critical for aid actors to do a thorough conflict sensitivity analysis prior to planning registrations, in order to prevent unconsciously reinforcing perceptions that aid is privileging one group over another.

At the same time, the locations accessible to humanitarian actors can be inaccessible for others. Some older persons, mothers with children, or persons with disabilities — often considered the most vulnerable groups by organisations — are unable to move or make a longer journey to the site of registration and are, thus, prevented from accessing future services in that program. When they can travel, people are often left to walk for several hours, sometimes through insecure areas, to access the registration site as well. Family members might have to leave their children with relatives or carry their elderly or sick in order to physically attend on the day or days of registration. Such barriers to access

increase the risk of excluding vulnerable groups from assistance as well as putting individuals in greater physical danger depending on the routes required to reach registrations.

The way that biometrics function as a pull factor also extends beyond food assistance. There is widespread awareness among South Sudanese — local authorities, community members, and those displaced alike — that biometrics is used both on a massive scale in the country and constitutes a more accurate means of calculating the number of individuals in a given area. This has led to the perception that biometrics, despite being held and managed solely by humanitarian agencies, will be used to calculate the population figures of constituencies in advance of the planned 2024 election. While there is no evidence to support the use of biometric data for elections at the time of writing, such perceptions have led some communities, upon the announcement of a biometric registration, to call their relatives living in neighbouring counties to return to their areas of origin for the registration, to bolster the figures in case they are ultimately used in population counts.¹⁸

Lastly, the emphasis on the fixed location of registrations, combined with the rigidity of the system, can serve to limit, rather than facilitate, freedom of movement. South Sudanese living in severely food insecure areas of country are forced to consider a difficult tradeoff: stay in a food insecure location where they're registered for the promise of assistance or move further afield to try to find food and lose access to aid. Greater Akobo presents an example of this tradeoff. Following violence in the Great Pibor Administrative Area in late 2022 and early 2023, individuals from different parts of Akobo West and Waat were displaced to Walgak town. Prior to this outbreak, residents were registered for food assistance at four distribution points across Greater Akobo, one in each of the four payams surrounding Walgak town. Despite moving to the town center for greater security, individuals still had to travel to those four distribution points — sometimes

¹⁸ Interviews with humanitarian aid workers assisting with registrations, February 2023.

through insecure areas — to receive food aid because they were biometrically registered at those sites. Those remaining in Waat reported having to travel on foot to Motot in Uror county to receive food assistance, a two-hour walk through heavily forested areas. While others in their community decided to relocate to fishing camps to the north and east or to other more food-secure parts of Akobo County, some individuals reportedly stayed in Walgak, or made plans to return to the distribution area in advance of food drops, in hopes of receiving assistance because they were registered there.¹⁹

By shaping family decision-making around movement patterns and digitally tying households to the location of distributions, biometrics can potentially expose individuals to further risk of both increased physical insecurity — either by staying in insecure locations to receive assistance or having to make the journey through unsafe areas for registration — or prolonged food insecurity, by staying in locations for the promise of assistance or delays in assistance delivery due to system errors.

False sense of security: Verification and aid system bias

One of the most compelling justifications for humanitarian biometrics is as a means of digitally tracking the allocation of resources and verifying beneficiary identity in order to create a more equitable, less fraudulent aid system.²⁰ Research revealed a widespread belief in this promise by aid actors, that biometrics ensure that ‘the right resources go to the right people,’²¹ the most in need getting the assistance they deserve because of this system. Biometric registration, however, is self-referential — functioning as a closed system that verifies the identity only of those already listed in the database — rather than the technical guarantee of an equitable system that effectively

targets the most in need. More accurately, biometrics ensure that the amount of assistance distributed matches the number of beneficiaries receiving services, with electronic documentation to demonstrate that for donor accountability and audit purposes. In this sense, it’s a system that attempts to address fraud at the individual level through verification and de-duplication, rather than address potential bias or inequities that could be introduced at different steps in the aid architecture.

While it might verify the identity of already-registered beneficiaries, the process does not remove potential bias in targeting and prioritisation, which could serve to both increase tensions between communities and erode trust in humanitarian organisations. While the faults of biometrics for fraud prevention have been revealed in other aid contexts,²² the emergency response in Western Equatoria in 2021 provides several examples. During that response, there were reports of ethnic bias in aid delivery, including who had access to the biometric registration process during the emergency response. These were issues flagged to aid actors at the time²³ and repeated in interviews with the author in 2023. Host community members in Yambio were reportedly accessing registration instead of the IDPs for whom it was intended, after they had been sharing resources with IDPs for months due to delays in assistance. This prompted resentment among both groups and led to increased hate speech towards IDPs in Yambio town. This tension between IDPs and host community members, fuelled by status-based programming, was also reported in other interviews throughout the research period. In this way, biometric technology has the potential to fuel existing tensions between chosen beneficiaries and host community members,

¹⁹ Interviews with humanitarians working in Greater Akobo, February and April 2023; REACH (2023).

²⁰ There is little evidence to support the claim that biometrics actually reduce fraud through individual verification. See The Engine Room (2018, 2023).

²¹ Multiple interviews with aid workers, January through April 2023.

²² The high-profile fraud case in Northern Uganda’s refugee response is one example: The New Humanitarian (2022).

²³ CSRF (2021), ‘Tambura: Violence, Displacement, Response.’

often differentiated by displacement status for emergency programs.²⁴

The purpose of highlighting such bias is not to suggest that biometrics are inherently inequitable, but to flag the potential for error in overemphasising the system's reliability. Targeting beneficiaries has always been a difficult process in South Sudan, this newer form of registration presenting similar challenges of vulnerability identification highlighted in previous research.²⁵ Biometrics, however, could serve to entrench existing inequities in targeting by enshrining them in a rigid electronic system that can limit access to future assistance. The persistent narrative around the infallibility of identity verification could work to obscure not only the other ways bias might be introduced into the aid system, but also humanitarian responsibility for assuring equitable aid delivery.

'I have no choice': Data sensitivity, protection, and access

South Sudan, like any other conflict context, is an incredibly sensitive data environment, where the collection of information, population counts, and vulnerability data can be dangerous for both enumerators as well as those submitting data.²⁶ Whereas beneficiary lists have always been considered confidential due to the collection of names and other personally identifiable information, the introduction of biometrics raises the stakes, with databases now tying names and demographic data to identity markers such as fingerprints and photographs. If this data is compromised in some way, it provides those with access to it full population registers by location for approximately half of the country's population.

It is critical to set the use of this technology within the context of strategic population management, the politicisation of numbers, and the instrumentalisation of ethnicity as a means of consolidating political power in South Sudan.²⁷ If biometric data was leaked, hacked, or inadvertently seized or shared, this could lead to armed actors possessing databases of identity information, not only of very vulnerable populations but also of individuals or groups who have been systematically moved or targeted as a means of gerrymandering the state. Entire counties are biometrically registered if they meet certain food insecurity criteria, which can overlap with geographic areas historically marginalised and that remain contested sites of political control. Panyijar in Unity State, for example, due to its IPC Phase Classification, has all county residents biometrically registered for food aid, which could pose significant risk for those registered if the data is somehow compromised.²⁸ While one might argue that humanitarian agencies would need to collect ethnicity data for this risk to be of greater concern, organisations don't need to collect such information explicitly for it to be deduced from the information already collected.

Data protection is the obvious counter to these risks, with organisations reporting limited staff access to beneficiary lists, layers of password protection, and centralised management of certain system changes. Even with these safeguards in place, however, the protection of sensitive data is largely reliant on organisational leadership and data protection agreements, which have the potential to change with frequent staff turnover or shifting organisational priorities. What happens to biometric data, for example,

²⁴ Throughout the research, it was generally acknowledged among aid actors that status-based programming presents conflict sensitivity concerns and is not best practice. However, such programming still persists, especially as being an 'IDP' or 'returnee' is understood as an indicator of increased vulnerability in emergency situations.

²⁵ Harragin S and Chol C (1999), Maxwell D and Burns J (2008), Santschi M, Gworo R, and White E (2017).

²⁶ Twelve health workers were abducted and killed in Yei in 2022 because they were mistakenly thought to have been conducting a population census on behalf of the government, instead of the vaccination campaign they were in the region to complete. UN Panel of Experts (2022).

²⁷ Felix da Costa D (2023), Jok J and Hutchinson S (1999), Marko F (2015), Santschi M (2008), Thomas E (2015).

²⁸ Interview with humanitarian worker working in the county, March 2023.

when aid programming is ultimately transitioned to government management? Who gains access and to what information? While this is a concrete question that demands an answer from aid actors, there is already an existing perception among those registered that biometric data is accessible to the South Sudanese government. While I found no evidence that this is true, the perception alone has the potential to erode trust in humanitarian agencies and NGO staff. Individuals in Pibor, for example, were reported burying ration cards for fear that they could be tracked by armed actors,²⁹ in addition to the perception that biometric data collected by humanitarian agencies could be used by the state as a source of population data in advance of the 2024 elections.³⁰

Given such risks, is the amount of data humanitarians collect necessary to ensure adequate resource allocation? Is the collection of this data worth the potential risks outlined here? Of those South Sudanese who have been registered, people in both Yambio and Juba expressed confusion about the amount of data that's required to receive services. There were questions as to why the collection of so much data — fingerprints and photographs, in addition to demographic information — was necessary, as well as a lack of understanding of how and for what purpose their data was to be used by humanitarian actors. How much data is truly needed is a question especially relevant for programs where the services provided are not substantial, such as where only seeds and tools are distributed, for pilot projects that might not come to fruition, or for minimal cash distributions. In addition, the duration of data storage prolongs the risk of its compromise. The data collected by humanitarian actors is kept for the purpose of cross-checking new registrants, without being deleted from the system. Is such long-term storage necessary and for how long?

The question of data protection, notably, is made more salient by the inability of South Sudanese to opt out of submitting their data. The collection of biometrics is conditional, rather than consensual: it is a requirement for the reception of assistance rather than a choice. Meaningful consent, despite agency claims to the contrary, does not exist within a humanitarian environment where aid agencies possess the power to grant or deny aid to vulnerable populations. As one woman described to me, "I felt I have no choice in order to take assistance. What shall we do? If the food means taking this [data] then what shall we do?"³¹ A significant segment of the South Sudanese population, in addition to refugees living in the country, have had to submit their biodata in exchange for humanitarian services. As the percentage of the population registered in this manner continues to rise, what kind of accountability biometrics assures and for whom remains a concern of particular relevance.

Recommendations

The use of biometrics as a prerequisite for humanitarian assistance renews several challenging questions central to humanitarian response more broadly. How do organisations improve the efficiency and effectiveness of aid delivery without exposing beneficiaries to additional risk of harm with new interventions? Is the impact of collecting such sensitive data on service provision worth the risks it poses to the South Sudanese population? These questions have been relevant since the introduction of biometrics in 2014 yet have renewed resonance as the technology's use continues to expand both within South Sudan and beyond. At the same time, such questions also present opportunities for aid actors to leverage the benefits of a technically advanced system to improve service delivery as intended.

The following recommendations aim to provide aid actors with opportunities for mitigating some

²⁹ Interview with humanitarian worker with programming in the area, December 2022.

³⁰ Interview with humanitarian worker in Unity State, March 2023; interview with IDPs in Juba who had been biometrically registered, April 2023.

³¹ Interview with woman registered for assistance, Western Equatoria State, March 2023.

of the conflict sensitivity risks mentioned in this paper.

Political considerations and mitigating perceptions of bias

- **Ensure that there is adequate understanding of political dynamics in the areas in which registrations are planned, that could contribute to biometrics being leveraged for political purposes.** This includes a greater understanding of history of population movement and claims to land in the areas that biometrics are to be used, in addition to more nuanced and thorough conflict analyses conducted in advance of registrations.
- **Clearly communicate why and how biometric data is being collected, used, and shared to local authorities, community leadership, and potential registrants prior to data collection.** Aid actors should expand explanations beyond such data being ‘required for assistance’ to include what the information will be used for, how it is protected, and who it will be shared with, to mitigate the perception that the data will be used for purposes other than service provision.
- **Aid actors should make sure that the registrations are accessible to those seeking assistance, without them having to face additional security challenges to do so.** This includes providing adequate considerations for vulnerable groups (such as older persons, pregnant women, and individuals with disabilities) who might not be able to reach planned registration sites. Additionally, aid actors should ensure that registration and distribution details are provided to communities well in advance of the event, to provide time to plan travel as necessary.
- **Consider how host communities have supported displaced persons or returnees prior to the provision of humanitarian assistance and factor this into registration eligibility.** As mentioned above, host

communities often share resources with new arrivals to then be left out of assistance provision. Including such practices within eligibility criteria can ease tensions and help foster relationships between these individuals and groups.

- **Ensure registrations reflect inclusivity in both targeting criteria and geographic coverage.** As mentioned above, registrations can contribute to the perception that humanitarians are prioritising the needs of one identity group over another. It is important to consider whether planned registrations could inadvertently heighten tensions between different identity or population groups, either by unintentionally leaving gaps in coverage or providing different levels of assistance to some groups over others.
- **Aid actors should also consider the identity group affiliation of team members conducting registrations.** Utilising staff knowledge from the area of registration is critical to ensure conflict sensitivity, however it is important to ensure that this does not create or lead to perceptions of bias in assistance delivery. Registration teams should be diverse, reflecting staff from multiple identity groups as well as international staff.

Increasing system flexibility

- **In more acute circumstances, such as extreme food insecurity or family separation, aid actors should waive the biometric registration requirement or provide an alternative registration method to receive assistance.** Rather than be made to wait until the appropriate agency can come register individuals or require communities to travel under extreme conditions so that biometrics can be used, agencies should create alternative means for individuals to register and access assistance if necessary.

- Agencies should introduce and communicate clear standards for how, when, and why beneficiaries can switch programs and location based on eligibility criteria. Instead of individuals being blocked outright for being previously registered, there should be a standardised process communicated to beneficiaries to facilitate the switching of either programs or location of services if needed (for example, if a household moves or has to split).
- In cases where cards have failed or there's a technical error, provide extra ration cards with 'dummy' QR codes available on site to use as an interim solution until the problem is solved. This could mitigate wait times for replacement cards that put undue burden on beneficiaries.
- In addition to existing layers of internal data protection and encrypted storage, it is important that data is only shared in aggregated and anonymised format *only when necessary*. Data protection agreements should clearly state the terms of data sharing and usage and be vetted at the highest levels of organisational leadership prior to distribution. Criteria for when and why data might be shared, who evaluates data requests, and consequences for breaching data sharing agreements should be clear.
- Aid actors should consider how they would respond, both individually and collectively, to increased political pressure to share sensitive data. As national elections draw closer and discussions of a census continue, agencies should think through different scenarios for ensuring biometric data are protected should requests for data intensify.

Improving data protection and limiting access

- Aid actors should ensure that the collection of biometric data is fit for purpose, assessing if it should be collected at all in certain cases. It is important for humanitarians to ask whether the program can be implemented effectively without the collection of biometric data given the risk of data leakage. If so, another digital method of registration could be utilised without the collection of sensitive information.
- When such data collection is considered necessary, aid actors should adhere to data minimisation (collecting the minimum amount of data necessary) and data destruction protocols (deleting data as soon as they're no longer needed). Organisations should assume that this data will eventually be compromised and, therefore, should only collect and store data that ensures the safety of South Sudanese if leaked. Policies for data storage, including duration and how such timelines are determined, should be published and circulated to maximize transparency.
- Provide an alternative registration method if communities do not want their biometric data collected, in addition to ways to 'opt out' after the fact. To expand individual choice and make consent more meaningful, aid actors should allow potential beneficiaries the option of registering with a more limited data profile as well as the opportunity to remove their data from agency databases without recourse.