

# ID4D

## Country Diagnostic: Sierra Leone



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# About ID4D

The World Bank Group's Identification for Development (ID4D) initiative uses global knowledge and expertise across sectors to help countries realize the transformational potential of digital identification systems to achieve the Sustainable Development Goals. It operates across the World Bank Group with global practices and units working on digital development, social protection, health, financial inclusion, governance, gender, and legal, among others.

The mission of ID4D is to enable all people to access services and exercise their rights, by increasing the number of people who have an official form of identification. ID4D makes this happen through its three pillars of work: thought leadership and analytics to generate evidence and fill knowledge gaps; global platforms and convening to amplify good practices, collaborate, and raise awareness; and country and regional engagement to provide financial and technical assistance for the implementation of robust, inclusive, and responsible digital identification systems that are integrated with civil registration.

The work of ID4D is made possible with support from World Bank Group, Bill & Melinda Gates Foundation, and Omidyar Network.

To find out more about ID4D, visit [worldbank.org/id4d](https://worldbank.org/id4d).

# Acknowledgments

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# Executive summary

The Government of Sierra Leone (GOSL) has developed an ambitious plan in 2014 to reform civil registration in the country and to establish a national identity register. The planned reforms showcase significant effort taken by the government and a strong collaboration built with development partners, including namely the United Nations Development Programme (UNDP). A reformed civil registration program would go a long way in offering an official identity to people in the country, and in enabling the electronic delivery of services, both public and private. To date, a national policy for civil registration reform has been established, and a bill to enact civil registration is being prepared by the government.

About 5 percent of people in Sierra Leone are registered in a national identity registry, managed by the National Registration Secretariat (NRS). Roughly 51 percent of people are registered in a birth and death registry, and 78 percent of children are registered at or around birth. Birth certificates are readily available to people who undergo limited vetting.

The development of digital identity in Sierra Leone can help the country's economic and social development. The use of an official identity can improve the efficiency and reduce the cost of collecting taxes, conducting census, issuing passports, delivering pensions, managing elections, controlling borders, delivering financial services, and running effective safety net programs.

Five or more identity programs are being run by different government agencies in Sierra Leone. These programs provide useful services though are specific to the individual needs of each government agency. They help operate a civil registry for births and deaths, a passport system, a national identity system, a pension system, and a voter system. Each foundational or functional program uses its own technologies and processes, with little or no provision for interoperability across the different identity programs. Scaling up any of these programs to national coverage is likely to be difficult. In contrast, a well-developed national identity program can help harmonize the different identity programs.

In developing a digital identity program for Sierra Leone, the GOSL may consider possible next steps: (a) establish an enabling environment enacting civil registration and provision of digital identity in the country; (b) validate the dates of birth, where possible; (c) anchor the digital identity program in a strong institution, with a robust business model and effective capacities; (d) enroll people; (e) link with birth and death registration, and establish authentication mechanisms for identity services; (f) fund the program; and (g) communicate the benefits of digital identity effectively to the people of Sierra Leone.

This report provides a rapid diagnosis of the potential and readiness of digital identity in Sierra Leone, and is funded by the Korean Trust Fund (KTF) and the Ebola Multi-Donor Trust Fund (MDTF). The report is based on consultations held with the GOSL and with stakeholders in the identity ecosystem of Sierra Leone. The report provides a preliminary review of the enabling environment and the functional identity programs in Sierra Leone, along with a discussion of possible next steps. This report is intended to be read in tandem with *Digital Identity Toolkit: A Guide for Stakeholders in Africa*, a publication of the World Bank.

# Overview

This report provides a rapid review of the potential and readiness of digital identity in Sierra Leone. The diagnostic is based on discussions held with the Government of Sierra Leone (GOSL) and with stakeholders in the country's identity ecosystem during May 2014 and March 2015. Annex 1 shows the stakeholders who met in Sierra Leone. Annex 2 provides a framework used to assess digital identity in Sierra Leone.

A companion document, *Digital Identity Toolkit: A Guide for Stakeholders in Africa*, published by the World Bank, provides a broader overview of digital identity and the steps necessary for building a digital identity program in a developing country in Africa.



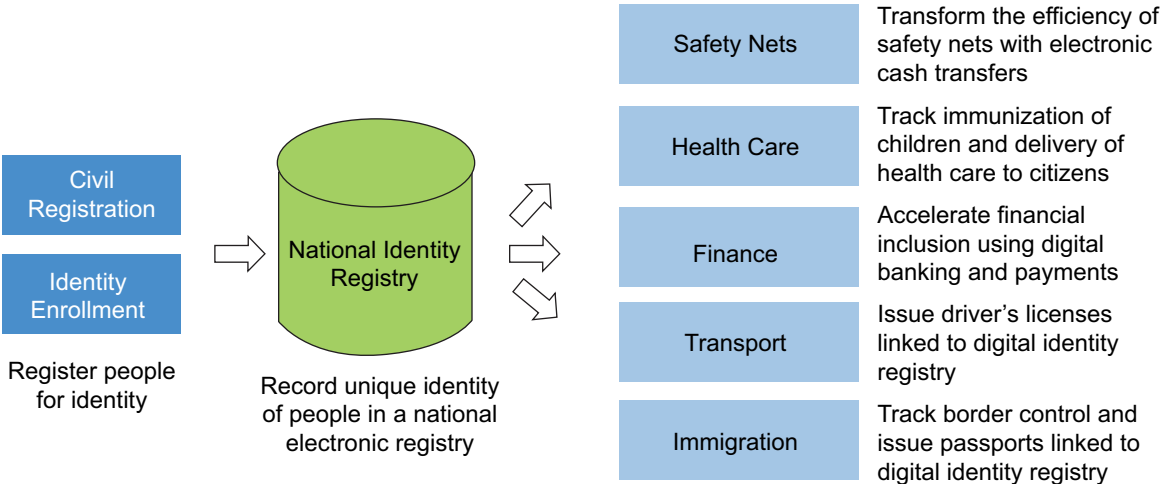
# 1. What is digital identity?

A digital identity system involves capturing the unique identity of each individual in a country and storing the information in a national identity registry, usually an electronic database. Once the registry is established, the government may issue official identification to each person in the form of a national identity card with a unique identification number, and it may also operate identity services that verify personal identities online. A national registry can then be used across sectors—from education and health care to transportation and urban development—for the delivery of services, both public and private (see Figure 1). For example, a government offering safety net transfers to the country’s poor can use the national identity registry to help identify the target population and issue cash transfers electronically. A financial institution can use the national registry to validate identity, thereby addressing a key aspect of Know Your Customer (KYC), and can offer a host of financial services, such as opening an account, securing credit, taking deposits, or paying for services, whether at a bank branch, on a computer, or on a mobile phone. Immigration authorities may track who enters and exits the country, and link national passports with the unique identity of each person.

Identification is thus necessary for modern development. Without a reliable way of proving one’s identity, exercising basic rights, claiming entitlements, accessing a range of governmental services, and conducting many daily activities could be hampered. Governments play an important role in facilitating the development of such identification systems and in inculcating trust, primarily through regulations, for the broad adoption and use of identity.<sup>1</sup>

A digital identity program consists of two types: (a) *foundational identity*—which is built in a top-down manner with the objective of bolstering national development by creating a general-purpose identification for use across sectors; and (b) *functional identity*—which evolves out of a single use-case, such as voter ID, health records, or bank cards, and has potential for use across sectors. A detailed discussion on the pros and cons of the two programs can be reviewed in *Digital Identity Toolkit: A Guide for Stakeholders in Africa*.

**Figure 1: A National Vision for Economic and Social Development**



Source: World Bank analysis.

1 See Organization for Economic Co-operation and Development Report “Digital Identity Management for Natural Persons: Enabling Innovation and Trust in the Internet Economy” (2011).



## 2. Potential benefits for Sierra Leone

Digital identity can be beneficial for economic and social development of Sierra Leone. A reliable and robust form of identification at a national scale can benefit multiple sectors in Sierra Leone. To achieve this, an official form of digital identity would be needed. The identity of every individual in Sierra Leone could then be captured in an electronic database and accessed by authorized ministries and government agencies to electronically deliver services to people.

Digital identity in Sierra Leone can help in the following ways:

- **Improve human resource management within government:** Government payrolls are known to have ghost workers at times, creating a fiscal burden on government and inefficiencies in the human resource system. In Sierra Leone, a systematic way of determining the existence of ghost workers in government is not in place. No biometric registration of civil servants is done. Government employees include 17,000–20,000 civil servants, and 77,000–80,000 public service employees, including teachers, health workers, and police. The Human Resource Management Office (HRMO) is working with the Ministry of Education (MOE) to help clean up the teacher's payroll, though work is still in progress after several years. A Teachers' Service Commission is established, focusing on human resource management of teachers, including verifying active engagement, and certifying credentials and qualifications of teachers. A reliable, real-time identity system can significantly improve the outcomes of these programs.
- **Lower the cost of election registration:** Without a national identity registry, Sierra Leone faces the cost of re-registering voters and re-enrolling biometrics during each election cycle. This is redundant and costly. The UNDP has been supporting the GOSL in voter registration, as part of the *"Support to the Electoral Cycle in Sierra Leone, 2011–2014 Programme."* The ongoing work has the potential to lead to a permanent register of digital identities that can be used to produce a dynamic list of voters for each cycle, helping to significantly reduce the repetitive costs of electoral registration.
- **Improve border control and electoral management:** Sierra Leone has a porous border. Unauthorized access to the country's border can undermine the country's national security and electoral management. Effective border control is thus needed. Because Sierra Leone shares a common ethnic background with neighboring countries, border control can affect the country's elections. The government has to employ effective means to prevent noncitizens from voting during election cycles. Digital identity can be used to verify the identity of people and screen unauthorized access at border checkpoints.
- **Lower the cost of census:** Census can be costly. The cost of census can be significantly reduced or eliminated with the help of a reliable digital identity system that registers every individual in the country.
- **Improve the delivery of safety nets and universal health care:** Sierra Leone uses a social safety net program to provide benefits to the country's poor and vulnerable. A digital identity program can improve the effectiveness of safety nets, helping improve identification of targeted beneficiaries, electronic delivery of benefits, and the use of funds. Digital identity can also improve the delivery of health care, including for infants and children.
- **Harmonize identity programs across government agencies:** Five functional identity programs are being operated under different government agencies in Sierra Leone. A person in Sierra Leone can thus hold several identity numbers: (a) a passport number; (b) a social security number; (c) a birth registration number; (d) a national identity number; and (e) a voter registration number. Though each program offers valuable services, the multiplicity of identity programs raises questions about the cost and efficiency of identification in Sierra Leone. Most of these programs are not developed for interoperability or cross-linkage. A national identity program can harmonize the workings of these

various identity programs, and provide a unified view of an individual to both the government and private firms for the efficient delivery of services.

- **Improve tax collection:** Building a robust revenue collection program can be difficult in the absence of a comprehensive identity system in a country. Without an identity system, the GOSL does not have a full view of the tax paying population. In such scenario, tax evasion can be easier and can contribute to a loss of revenue to the government. A national digital identity program can point to the roster of people who may be eligible to pay taxes, and could link with an electronic system managed by the tax authorities.
- **Improve the delivery of financial services:** Sierra Leone currently does not have a credit bureau. A credit bureau is used to assess the creditworthiness of people in determining whether an applicant for a loan is eligible to borrow money. In the absence of digital identity, banks have to do their own vetting and inquiry of each credit application. The process can be time intensive, costly, and less efficient. Banks and the government also do not have a comprehensive view of the level of indebtedness of creditors in Sierra Leone. Digital identity can improve the delivery of financial services in Sierra Leone, including strengthening credit bureau functions, and facilitating the use of electronic financial transactions.
- **Improve harmonization with the ECOWAS region:** In March 2013, the Economic Community of West Africa States (ECOWAS) proposed the use of biometric national identity cards in place of travel certificates. The approach can help improve regional integration, cross-border identification, and the use of electronic services, such as digital commerce, across ECOWAS states. Digital identity in Sierra Leone can thus help the country be aligned in the way services are delivered within ECOWAS and in neighboring countries, such as Ghana and Nigeria, where digital identity is being used. Digital identity can also be an enabler for a digital economy with potential regional linkages.

### 3. Enabling environment

The current identity landscape of Sierra Leone is highly fragmented, though significant efforts are being made to reform civil registration in Sierra Leone. Presently, several government agencies, both within and across Ministries, offer identity solutions. Each organization operates with its own mandate given by overlapping laws that were enacted over a long period of time. Despite their respective mandates, the organizations offering functional identities stay understaffed and underfunded. Most of the organizations operating identity registries are centrally based, with little or no coverage in distant population centers to serve a cross section of people in Sierra Leone. There are no mechanisms in place to interlink the various identity registries in Sierra Leone, creating challenges of cost and efficiency. The data captured by the identity organizations require close review of reliability and need to incorporate a standards-based approach.

Sierra Leone is currently planning to reform its civil registration program and consolidate digital identity under a single institutional framework. UNDP has provided technical expertise and funding support, along with UNICEF, Plan International, and development partners. The work is at an advanced stage. The National Registration Secretariat (NRS), currently under the Ministry of Internal Affairs (MOIA), has prepared a proposal for reform, in collaboration with UNDP. Based on discussions with the GOSL, the proposal is being reviewed by the Cabinet, and could help update legislations for bringing about digital identity in Sierra Leone. The proposed reform is backed by a detailed operational plan for the launch of a national registry for digital identity.

#### Proposed reform of civil registration

The proposed plan for reform of civil registration in Sierra Leone focuses on the following:

- **A harmonized legal, policy and regulatory environment:** Currently, the legal framework in Sierra Leone is covered by a number of overlapping laws. The reform aims to harmonize the legal landscape of identification and define digital identity as a legally recognized category. Provisions are being added for important topics, such as privacy and data protection.
- **Institutional framework for digital identity:** A harmonized legal framework would dictate the institutional setup for digital identity. According to the plan, NRS would be responsible for digital identity in Sierra Leone. NRS would serve as a single unified authority for all civil registration and digital identity of Sierra Leone. It would be an autonomous body governed by a Board with stakeholder representatives, and would report directly to the President's office. NRS would work with other key government agencies, including the National Election Commission (NEC) and National Social Security Insurance and Trust (NASSIT). The NRS is expected to have the following functions: (a) establish and maintain the digital identity registry of Sierra Leone; (b) issue certificates for birth, marriage, death, adoption and change of name; and (c) issue credentials as applicable. NRS would also provide identity services to public and private organizations.
- **Integrated National Civil Registration System (INCRS):** According to the proposed reform, NRS would develop INCRS as the national identity registry of Sierra Leone. NRS would establish the necessary technology and systems for digital identity, and build technical and operational capacities for INCRS. Currently, about 400,000 civil registrations occur on average per year in Sierra Leone. NRS would also be tasked to integrate INCRS with the functional identity registries being run by different government agencies. As part of its launch, NRS is expected to integrate the following three key databases: (a) voter registry at NEC; (b) national identity registry at NRS; and (c) social security registry at NASSIT. These databases would be merged on a priority basis. A backup of consolidated data would be housed at NEC for disaster recovery. People already enrolled in one of these three

databases could easily claim their printed ID card after presenting their biometrics. All other people would be enrolled. Children, as young as 6 years old, would be biometrically enrolled. Since fingerprints of children change over time, children would be re-enrolled at an older age.

- **Enrollment of entire population with biometrics:** NRS would launch a registration program to enroll people in Sierra Leone and record their biometric information in INCRS. NRS is expected to use the same biometric enrollment kits and information technology equipment that the UNDP had used during election registration in 2012. NRS would benefit from the birth registration program implemented by the Ministry of Health and Sanitation (MOHS). To support registration, MOHS would provide the use of its distributed facilities throughout the country, including 90 BEmONC (Basic Emergency Obstetric and Neonatal Care Centres), and 1,200 Peripheral Health Units (PHU) where traditional birth and death registrations currently take place.
- **Credentials for the population:** NRS is expected to issue credentials based on age: (a) birth certificates for children aged 0–5 years; (b) non-smartcards for children aged 6–16 years; and (c) multi-application smartcards for people aged 17 and above.
- **Privacy and security:** The reform seeks to establish an omnibus *National Data Protection Act* to supplement what is found in the NASSIT Act on privacy and data protection. An information and communication technology (ICT) act is also being drafted and supports privacy and data protection related to electronic data.

The planned reform is a significant step forward for Sierra Leone and is at an advanced stage of preparation. It is based on strong political will and a collegial cooperation strategy among the identity stakeholders of the country. In addition, it has a detailed operational plan for the launch and operation of the INCRS. Preliminary review of the plan shows that it is well developed. One potential area of review is the validation of the dates of birth. The current information about the date of birth in the NEC database is declarative and highly unreliable.<sup>2</sup> That data could be validated by verifying against the birth and death register. But such verification would require digitizing the birth and death register, and those resources are currently not allocated.

Until 2015, the government has made progress on the following fronts, in partnership with UNDP:

- **Policy and law:** The government has passed a national policy on civil registration reform, and is currently preparing the National Civil Registration Act.
- **Steering committee:** The government has set up a Steering Committee, consisting of several government agencies and stakeholders, to oversee development of civil registration, NRS, and INCRS.
- **Digital identity platform development:** The government has procured 1.9 million smartcards, computer servers, an automated fingerprint identification system (AFIS), and equipment, with support from the UNDP, in preparing to set up the INCRS.
- **Planning:** The government has conducted detailed planning of the civil registration and national identity program, and estimated the need of US\$13.6 million of funding for the first phase of program implementation.

## Stakeholders

The core stakeholders in the identity ecosystem of Sierra Leone include:

- National Registration Secretariat (NRS), within the Ministry of Internal Affairs (MOIA)
- National Election Commission (NEC)

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<sup>2</sup> The information tends to cluster around milestone numbers like multiples of 10.

- National Social Security Insurance and Trust (NASSIT), within the Ministry of Labor and Social Security (MLSS)
- Birth & Death Bureau, within the Ministry of Health and Sanitation (MOHS)
- Immigration and Passports, within the MOIA
- Statistics Sierra Leone
- Office of National Security (ONS)

## Financing

Financing for digital identity is expected from legislative appropriations through the national budget, and from development partners. To fund the reform, the GOSL expects to cover labor costs for the initial rollout and for sustainability of NRS. UNDP has supported the GOSL in the development of the digital identity program.<sup>3</sup> The government is currently seeking funding from donors and partners to develop the NRS and INCRS.

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<sup>3</sup> The UNDP is providing up to 800 biometric enrollment stations, 1.9 million smart cards, 250 laptops, 20 servers, the AFIS backend system for deduplication, and the software required to perform enrollment, card personalization, card issuance, and management.

# 4. Functional identity programs

Sierra Leone has a foundational identity program and four functional identity programs at present. Different government agencies run these programs to serve different segments of the country’s population. Each program uses its own standards of identity and operates its own processes. Interoperability across these programs is not well established, and harmonization of these programs could present a potential challenge.

## National Election Commission

In 2012, the National Election Commission (NEC) conducted a nationwide registration of voters using biometrics (with ten fingerprints captured one at a time). The work resulted in a database of 2.7 million identities, as shown in Table 1. Because fingerprints were captured one at a time, sequence errors were possible, and each finger had to be checked against the entire database (of 27 million entries). NEC undertook the costly and difficult task of de-duplicating the entire database to check for uniqueness with the help of an outsourced firm.<sup>4</sup> Once the data was de-duplicated, NEC’s voter registry presented reliable information and a valuable asset.

The proposed reform of civil registration calls for the integration of the NEC database with the INCRS, once established. With an integrated registry, voter registration would be much easier, and would require citizens to simply present themselves for their identity to be verified and be checked for eligibility to vote. Verifying an identity is easier than enrolling or re-enrolling people. A national identity once established may be set as a prerequisite for voter registration.

Integration of NEC’s registry with INCRS presents some challenges:

- Date of births within NEC registry need to be double checked since they are based on less reliable birth certificates;
- Names of people need to be double checked, since a voter registry retains the name for use on a single day (i.e. day of election) and does not require rigorous vetting, as opposed to a national identity which retains the name of a person for a lifetime; and
- Voter registry can go obsolete over time without being regularly updated, as some voters pass away, and new voters become eligible and need to be enrolled.

NEC’s voter registry is an important functional identity database in Sierra Leone, and would serve as a valuable input to the country’s national identity registry.

Table 1. Snapshot of Sierra Leone’s Voter Registry

Area	Description
Registered individuals (total)	2,700,000 unique entries
Type of biometrics	10 fingerprints taken one at a time

Source: Sierra Leone NEC (2014).

4 Zetes Biometrics of Belgium conducted the outsourced task for a cost of over US\$2 million.

# National Social Security and Insurance Trust

In 2001, NASSIT was established by an Act and serves as a semiautonomous agency within the Ministry of Labor and Social Security (MLSS). NASSIT is responsible for issuing a social security number to working individuals (primarily in the formal sector) who contribute to the social security scheme during active employment, and to beneficiaries who receive social security benefits upon retirement.

NASSIT operates multiple registration systems, including a Biometric Registration System (BRS). BRS captures 6-fingerprints (one at a time from 3 fingers of each hand), two irises, and a digital photograph of each active member. A mini AFIS is used to prevent duplicate enrollment.<sup>5</sup> The photograph is used for manual verification. The iris is currently not used. The BRS system enrolls both active contributors and beneficiaries of the social security scheme. Table 2 provides a snapshot of the NASSIT registry. NASSIT requires that each beneficiary reconfirms his or her identity once a year to keep records up to date and account for people who may have passed away.

The NASSIT database is considered the most reliable within Sierra Leone since it contains accurate names of people, social security numbers, dates of birth, and biometric data. The proposed reform of civil registration calls for NASSIT's social security registry to be linked with INCRS, once it is established. NASSIT is working to secure full access to the data obtained during enrollment,<sup>6</sup> and can rely on standardized data formats for a possible integration.

Table 2. Snapshot of Sierra Leone’s Social Security Registry

Area	Description
Registered individuals (total)	200,000 primary members 800,000 dependents (spouse, etc.) 1,000,000 total
Type of biometrics	6 fingerprints taken one at a time (3 fingers per hand) 2 irises 1 digital photograph
Biometric records (total)	162,000 primary members (dependents or proxies are currently not registered)
Registration type	90% active contributors 10% beneficiaries

Source: Sierra Leone NASSIT (2014).

5 SBTS implemented the AFIS system for NASSIT.  
6 Until recently, NASSIT did not have full access to the data from the enrollment software, but the access privileges are being secured from the software supplier.



**Table 3. Snapshot of Sierra Leone's NRS**

Area	Description
Registered individuals (total)	300,000 <i>5% of population of Sierra Leone</i>
Type of biometrics	6 fingerprints taken one at a time

Source: Sierra Leone NRS (2014).

## National Registration Secretariat

In 2008, the National Registration Secretariat (NRS) was established by an Act to conduct mandatory registration of citizens and residents in Sierra Leone and to issue national identity cards. Currently, NRS serves as a semiautonomous authority within the MOIA. According to a proposed plan for reform of civil registration, NRS would serve as a central authority for digital identity in Sierra Leone, reporting to the President's office. As shown in Table 3, NRS currently has about 300,000 registered identities, representing about 5% of the population of Sierra Leone.

## Ministry of Health and Social Welfare

The Birth and Death Bureau of the MOHS manages birth and death registrations in Sierra Leone. The registration is subject to the Birth and Death Act No. 11 of 1983. Three types of registrations are recognized by the Act, as shown in Table 4.

Sierra Leone's birth and death registration is 100% paper based. The system goes back to 1791, at which time the records were kept in a multicolumn ledger, with detailed place of birth, date of birth, name of child, name of parents, and name of person declaring the birth. Today, the system is still paper based but not documented in a ledger. The permanent birth records consist of a single page, per birth, that details information about the newborn and the parents. The registration is done in a decentralized fashion in 14 districts around the country at Peripheral Health Units (PHU), which serve as district health management clinics. The records from the district offices are collected once every four years and archived at the central repository of the Birth and Death Bureau of the MOHS. The death registration works in a similar way, though reporting and notification of deaths are not as active as births.

**Table 4. Cost and Type of Registration in Sierra Leone**

Type of Registration	Age	Cost
Current Registration	Within 30 days of birth	Free of charge
Late Registration	< 1 year	SLL 1200 (equivalent US\$0.28)
Delayed Registration	> 1 year	SLL 3000 (equivalent US\$0.69), detailed interview, and affidavit from a Justice of Peace

Source: Sierra Leone MOHS (2014).

**Table 5. Snapshot of Sierra Leone's Birth and Death Register**

Area	Description
Registration Centers	1,212 locations country-wide
Institutional Births	82% of births take place in clinics
Cost of birth	Free of charge
Births recorded (average, per year)	230,000
Deaths recorded (average, per year)	20,000
Registered individuals	78% of children aged 0-5 years 51% of entire population (2012 study)
<b>Number of records (total)</b>	<b>3 million registrations</b>

Source: Sierra Leone MOHS (2014).

Several government agencies raised doubts about the reliability of birth certificates, owing partly due to the process,<sup>7</sup> and the paper-based nature of the birth and death registry. Though the process for obtaining a birth certificate requires improvement, the register itself contains valuable information. The majority of identity stakeholders in Sierra Leone acknowledge that the register contains a wealth of information that needs to be captured into the new civil register for the country. This would require converting the data into digital form. It could then be used for vetting purposes to link people to original data about their birth bio-graphics.

The birth and death registry is extensive, as shown in Table 5. The information presents a valuable cross-check for the country's national identity registry, once it is established. An integration of the birth and death registry with the national identity registry would require two steps: (a) digitizing *historic* records of births and deaths to be available in electronic form; and (b) developing online interfaces to capture *future* records of births and deaths, along with the supporting systems and processes needed at the PHUs and registration centers. Digitizing birth and death records and integrating with the national identity registry would require significant resources and time.<sup>8</sup>

## Immigration and passports

The Immigration and Passports division of the MOIA is responsible for issuing passports in Sierra Leone. A Sierra Leone passport is an ECOWAS-compliant and machine-readable document. However, the passport is not an ePassport yet, and biometrics is not collected as part of the enrollment process. Issuing a passport thus requires a costly and lengthy process of vetting and investigation. The process can take between ten minutes and a full week. A valid birth certificate is required to obtain a passport. The lower reliability of birth certificates in Sierra Leone affects the reliability of information contained in passports.

MOIA captures data on passports electronically, and has done so for over ten years. The passport registry thus offers an electronic, searchable database of passport holders. As shown in Table 6, about 350,000

<sup>7</sup> A birth certificate is reportedly easy to obtain in the country under any name.

<sup>8</sup> Digitizing 3 million paper records could cost about \$1 million, and would constitute part of the cost of integrating with the NRS.

**Table 6. Snapshot of Sierra Leone’s Passport System**

Area	Description
Passports issued (average)	250 per day 33,000 per year (including renewals)
<b>Number of records (total)</b>	<b>350,000</b>

Source: Sierra Leone MOIA (2014).

records are currently held in the passport registry, and about 33,000 records are entered on average per year. MOIA plans to issue ePassports and collect biometrics in the future.

As with other functional identity programs, the passport registry could be used as an important cross-check with the national identity registry of Sierra Leone.

## 5. Additional considerations

The following are additional considerations in developing a digital identity system in Sierra Leone:

- **Improved infrastructure for high-speed internet can help:** Digital identity requires a central office to interconnect with regional offices in all counties of Sierra Leone using a high-speed internet link for enrolling people, issuing identity credentials, providing identity services, and running operations. The use of biometrics requires collecting high-quality fingerprint images and cross-checking with a back-end system for uniqueness using a high-speed internet link. The availability of affordable high-speed internet can thus help the development of a digital identity program, though offline solutions are also possible. The connectivity infrastructure of Sierra Leone offers good mobile coverage but lacks reliable high-speed internet. Currently, 71.8 percent of people in Sierra Leone have a mobile phone subscription, and less than 1 percent of people have a high-speed internet subscription. Stakeholders in the ICT sector of Sierra Leone, namely the Ministry of Information and Communication (MOIC) and National Telecommunications Corporation (NATCOM), are working to improve the availability of high-speed internet in Sierra Leone.
- **Outreach throughout Sierra Leone is important:** Several government agencies involved in functional identity programs face challenges in decentralizing their operations. A national digital identity program would require a strong center, potentially in Freetown, with a wide network of enrollment centers, or registrars, throughout the country. ICT applications, in the forms of e-government and e-commerce, aiming to use digital identity for delivery of services, would similarly operate throughout the country and require coverage in urban and rural areas.
- **Public private partnerships are desirable though should be pursued with care:** A public private partnership (PPP) is a desirable approach for developing a digital identity program in order to relieve the fiscal burden on government and to fill in for inadequate technical capacity. The GOSL should consider PPP as a potential approach for developing a digital identity system, though it should ensure preventing lock-in with any one vendor or any specific technology. Before engaging specific vendors, the GOSL should consider preparing a design and technical specifications for the digital identity program, with adequate provisions for scalability, reliability, availability, and affordability.
- **A technology system should be based on international standards, common off-the-shelf components, and standardized data formats:** Interoperability of the national identity program would be a key feature. The GOSL should ensure the use of international standards for all technology systems used in developing a national identity program. Similarly, all data should be captured and stored in standardized data formats.

Additional considerations for developing a digital identity program can be found in *Digital Identity Toolkit: A Guide for Stakeholders in Africa*.

## 6. Next steps

The GOSL may consider the following next steps for developing a digital identity program in Sierra Leone:

- **Establish the enabling environment:** The GOSL has spent considerable effort to plan for reform of the civil registration program in the country. The reform is expected to pave the way to new legislations for digital national identification and for privacy, security and protection of data. The plan provides an operational guide for the launch and implementation of a national identity program. Going forward, the GOSL may need to ensure that the enabling environment for reformed civil registration and digital identity takes shape, and that one government agency is authorized to serve as the national identity agency of the country.
- **Validate dates of birth:** Currently, the dates of birth, as recorded in the various functional identity programs, are not fully reliable. NEC registry holds the dates of birth for voters. NASSIT registry holds for the contributors and beneficiaries of the social security scheme. MOHS registry holds for births and deaths for the larger population. Vetting the dates of birth, and cross-checking against various registries, including births and deaths, would help improve the quality of information and prepare for a national identity registry. An effective way to achieve that is by migrating the birth and death register from paper form to a digital system.<sup>9</sup>
- **Anchor the digital identity program in a strong institution:** According to the proposed plan for reform, NSA is expected to coordinate and manage digital identity in Sierra Leone. Establishing digital identification requires a strong operating arm of the government that demonstrates operational efficiency over time and is resilient to change in the political environment. To build a robust institution, the GOSL may consider authorizing an institution with strong provisions for good governance, change management, managerial and technical capacity, data protection, strong operational controls, monitoring and evaluation (M&E), and long-term operations and maintenance (O&M). Digital identity programs can be costly, in terms of both upfront setup costs and ongoing operations. The GOSL should ensure that a business plan is in place for the authorized institution, taking into account potential revenue streams and the total cost of ownership of digital identity. A clear timeline should also be developed. PPP could be considered as an approach to offset the fiduciary burden and fill in for technical capacity. The technology-centric nature of digital identity requires extra attention to building technical and operational capacities throughout the organization: for enrollment, back-end, de-duplication, credential issuance, certification management, and identity services.
- **Conduct enrollments:** The government will need to enroll people, and collect biographical and biometric data of people into the INCRS. The information will need to be linked with the civil register and will form the basis for issuing identity credentials to people and for offering identity services in the country.
- **Review potential linkage with birth and death, and authentication mechanism for downstream identity services:** A national identity registry would benefit being linked with MOHSW's registry, where information on birth, death, and marriages is collected. Currently, information in the birth and death registry is paper based and not fully vetted or reliable. Additional efforts would be needed to make this information electronic, including by digitizing *historic* records, and electronically capturing *future* records. In addition, an authentication mechanism would be needed for downstream

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<sup>9</sup> Based on recent experience of digitizing a birth register in other African countries (using manual data entry, not OCR), converting 3 million records may cost about US\$1.5 million and entail 6–9 months. Further review and detailed assessment would be needed in case of Sierra Leone.

applications to verify people's identity, including for pensions, passports, civil service, driver's licenses, census, taxes, electoral voting, and financial services. These applications would require interfaces with the INCRS.

- **Fund the digital identity program:** The rapid diagnostic, as detailed in this report, did not provide an opportunity to review the funding plan for digital identity in Sierra Leone. The reform of civil registration and the development of a robust and reliable program of digital identity in Sierra Leone would require legislative appropriations from the government budget, and support from donor organizations. The government estimates US\$13.6 million are needed for the first phase of program implementation to set up the NRS and INCRS.
- **Communicate effectively:** As part of the program to develop digital identity, the GOSL should make provisions for good communications with people, including raising public awareness, addressing any misconceptions and concerns, and offering appropriate grievance and redress mechanisms for potential issues.

# Annex 1: Stakeholders met for consultations

During May 2014 and March 2015, consultations were held with the GOSL and stakeholders in the identity community of Sierra Leone. These discussions provided inputs for the preparation of this report.

Officials from the following organizations who met:

- Ministry of Information and Communication
- Ministry of Internal Affairs—Immigration and Passports
- Ministry of Internal Affairs—NRS
- Ministry of Health and Sanitation: Birth and Death Register
- NASSIT
- Ministry of Social Welfare
- The ex-chief Registrar of Sierra Leone, currently chair of the Public Service Commission
- National Commission for Social Action (NCSA)
- UNDP
- Plan International
- UNICEF
- World Bank



# Annex 2: Diagnostic framework for Sierra Leone

Area of Assessment	Findings
<b><i>Economic and social context</i></b>	
Population (in millions)	6
Urban population (% of total)	40
GNI per capita (World Bank Atlas method, US\$)	580
GDP growth (avg. annual %; 2000–05 and 2005–12)	6.3
Adult literacy rate (% ages 15 and older)	43
<b><i>ICT infrastructure</i></b>	
Mobile phone subscriptions (per 100 people)	71.8
Broadband subscriptions (per 100 people)	0
Households with a computer (%)	0.8
Households with access to internet (%)	
<b><i>Status of identification</i></b>	
Official identity holders (% of population)	5
Is identity mandatory for every person?	Yes
Minimum age for identity?	6
Cost of identity to each person?	
Number of functional identity programs in country?	> 5
<b><i>Electronic identity</i></b>	
Does a law govern electronic ID?	No
Coverage of electronic ID (% of population)	0%
Name of institution authorized for identity management	
Type of authorizing institution (government, autonomous, etc.)	
Number of branches of authorizing institution	
Type of biometrics collected (if any)	
Is electronic ID online or offline?	
Does a ministerial steering committee govern electronic ID?	
Operations managed by the public sector (% of total)	

(continued)

## Continued

Area of Assessment	Findings
<b><i>National civil register</i></b>	
Does a law govern mandatory civil registry (for birth & death)?	Yes
Coverage of national register (% of population)	51%
Birth certificate holders (% of population)	82%
Is birth registration stored electronically?	No
Name of institution authorized for civil registry	Ministry of Health & Sanitation
Is national register linked to electronic ID?	No
<b><i>Identity credential</i></b>	
Type of credential issued (none, paper, mobile, smartcard)?	Paper-based
Is there a unique identity number?	No
<b><i>Authentication</i></b>	
What info is used for authentication (password, mobile ID, etc.)?	Not determined
Is there an authentication standard across programs?	No
<b><i>Privacy and security</i></b>	
Does a law govern privacy and data protection?	No
Is there a supervisory body for privacy and data protection?	No
Is there a process for grievance redress?	No

[worldbank.org/id4d](http://worldbank.org/id4d)

