

ID4D

Country Diagnostic: Liberia



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Contents

- About ID4D ii**
- Acknowledgments..... iii**
- Executive summary iv**
- Overview.....1**
- 1. What is digital identity?2**
- 2. Potential benefits for Liberia.....3**
- 3. Enabling environment.....5**
 - Governance5
 - National Identification Registry5
 - Biometric identity card.....6
 - Financing6
 - Privacy6
- 4. Functional identity programs7**
 - Ministry of Health and Social Welfare.....7
 - Ministry of Foreign Affairs.....8
 - Civil Service Agency.....9
 - National Social Security and Welfare Corporation 11
 - Ministry of Transport 12
- 5. Additional considerations 13**
- 6. Next steps 14**
- Annex 1: Stakeholders met for consultations..... 16**
- Annex 2: Diagnostic framework for Liberia..... 17**
- Tables and figures**
 - Table 1. Cost and Location of Registration in Liberia.....7
 - Table 2. Number of Records in Liberia’s Civil Registry8
 - Table 3. Snapshot of Liberia’s Passport System9
 - Table 4. Snapshot of Civil Service Agency Enrollment10
 - Table 5. Snapshot of NASSCORP Electronic Database 11
 - Table 6. Snapshot of Driver’s License System 12
 - Figure 1: A National Vision for Economic and Social Development.....2

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.

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To find out more about ID4D, visit worldbank.org/id4d.

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Executive summary

The Government of Liberia (GOL) enacted the *National Identification Registry Act* in 2011 to establish national identification in the country. The law called for the setup of a National Identification Registry (NIR) to be responsible for issuing a biometric-based identification card to each citizen and resident in Liberia. Since the enactment of the law, a Board of Registrars (BOR), headed by the Minister of Internal Affairs, has been set up as a governing body and has convened multiple times. In 2015, the government put in place a management team for the NIR and allocated provisional funding for the setup of a national registry.

Today, no official identity card is issued to people in Liberia. Roughly 10.6 percent of the population of Liberia is registered in a civil registry, managed by the Ministry of Health and Social Welfare, and only 26 percent of children are registered at or around birth.

The development of digital identity in Liberia can help the country's economic and social development. The use of an official identity can improve the efficiency and reduce the cost of conducting census, collecting taxes, issuing passports, delivering pensions, managing elections, controlling the country's border, and delivering financial services. In the future, digital identity can help the implementation of effective safety net programs that provide for the country's poor.

About five digital identity programs are being run by different government agencies in Liberia. These programs provide useful services and are specific to the individual needs of each government agency. They help operate a civil registry for birth and death, a passport system, a human resource management system for civil service, a pension system, and a driver's license system. Each 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 functional programs to national coverage is likely to be difficult. In contrast, a well-developed national identity program can help harmonize the functional identity programs.

In developing a digital identity program for Liberia, the GOL may consider possible next steps: (a) strengthen the enabling environment for identity, including strong provisions for privacy and data protection; (b) develop a business plan and design for NIR, exploiting partnerships, both public and private, where possible; (c) establish the NIR, within a strong institution, with sufficient capacity and resources; (d) enroll people; (e) ensure proper linkages exist amongst the different identity programs in Liberia, in addition with the civil registry; (f) establish electronic authentication of identity; and (g) communicate the benefits of digital identity to people in Liberia.

This report provides a rapid study of the potential and readiness of digital identity in Liberia. The work has been funded by the Korean Trust Fund (KTF) and the Ebola Multi-Donor Trust Fund (MDTF). The report is based on consultations held with the GOL and stakeholders in Liberia during 2014 and 2015. The report provides a preliminary review of the enabling environment and the functional identity programs in Liberia, and discusses next steps. Further assessment of the enabling environment and a detailed action plan would be needed for the GOL to pursue developing digital identity in the country. This report is complemented by *Digital Identity Toolkit: A Guide for Stakeholders in Africa*, a publication of the World Bank.

Overview

This report provides a rapid assessment of the potential and readiness of digital identity in Liberia. The study is based on discussions held with the Government of Liberia (GOL) and stakeholders during May–June 2014 and March 2015. Annex 1 shows the stakeholders who met in Liberia. Annex 2 provides a framework used to assess digital identity in Liberia.

A companion document, *Digital Identity Toolkit: A Guide for Stakeholders in Africa*, published by the World Bank in 2014, provides a broader overview of digital identity and the steps necessary for building a digital identity program in a developing country in Africa.

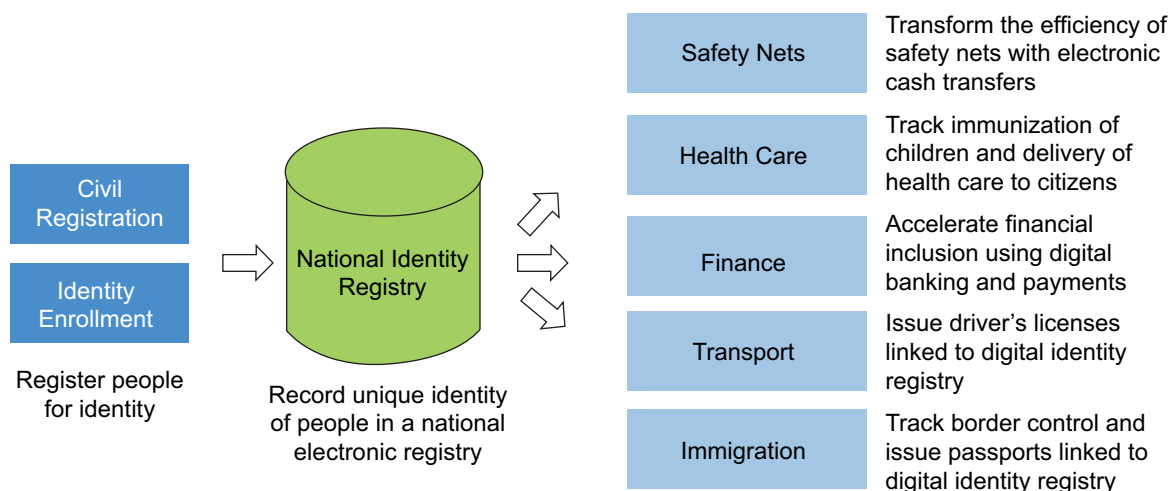
1. What is digital identity?

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 in the form of an electronic database. Once the registry is established, the government may issue an official identity credential, such as a national identity card bearing a unique identification number, to each person, and operate identity services that verify people’s identities electronically. A national registry thus established 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.¹

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 Liberia

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

Digital identity in Liberia can help in the following ways:

- **Improve human resource management within government:** Government payrolls are known to have ghost workers at times. In Liberia, a biometrics registry was established within the Civil Service Agency (CSA), as discussed in Section 6, to track ghost workers and reduce or remove redundancies in the human resource system. The biometric registry has proven to be useful. Since the launch of the system, about 3,000 employees have been identified and removed from the payroll, easing the burden on the government budget. More can be achieved under the system once the registry is linked to a national digital identity program, is run on a real-time basis, and has further coverage of people.
- **Lower the cost of election registration:** In the absence of a national identity registry, Liberia faces the cost of re-registering voters for each election cycle. Based on discussion with the GOL, election registration can cost up to US\$5 million per election cycle. The Ministry of Justice incurs an additional cost of deploying investigators to nearly 2,000 locations across the country to investigate and resolve voting issues. Voter registration is done frequently for national elections every six years, for midterm elections, and for referendums. Though voter ID cards present a form of identification in Liberia, the reliability of the voter ID card requires further review. Digital identity can help reduce the cost of voter registration and offer greater efficiency during electoral cycles.
- **Improve border control and electoral management:** Liberia has 176 official land crossing points of which 36 are manned. Border control is thus needed to prevent unauthorized entry at the country's borders, and at major transport hubs, such as airports. Because Liberia shares a common ethnic background with neighboring countries, border control can also affect the country's elections. According to the Bureau of Immigration and Naturalization of Liberia, inspectors are sent to 1,877 voting locations during an election period across the country in order to prevent noncitizens from voting. Digital identity can be used to verify the identity of people and screen unauthorized access at border checkpoints, thus improving national security and electoral management.
- **Improve the delivery of financial services:** Liberia 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. The Central Bank of Liberia (CBL) maintains a credit watch list in form of a basic Excel file. To determine the creditworthiness of people, banks request a check against this credit watch list or issue frequent inquiries to other financial institutions. The process is time intensive, costly, and not efficient. Neither banks nor the government has a comprehensive view of the level of indebtedness of creditors in Liberia. Without a robust credit bureau, the level of consumer lending remains low. To help clear financial transactions amongst banks, the CBL is in the process of setting up a financial switch. Digital identity can improve the delivery of financial services in Liberia, including strengthening credit bureau functions, and facilitating the use of electronic financial transactions.
- **Improve the reliability of travel documents:** The use of digital identity can improve the quality of travel documents, such as passports. Several European nations require the citizens of Liberia to appear for visa interviews in neighboring countries in order to attest the authenticity of the travel documents used. Since 2007, the Ministry of Foreign Affairs (MOFA) has been using biometrics to

issue passports, improve the reliability of documents, and detect and prevent fraud. The system has been useful. MOFA reports that roughly five attempts for duplicate passports are detected on average per day with the use of biometrics, though no punitive steps are being taken to prevent future attempts. More can be achieved when MOFA's passport system is linked with a digital identity program.

- **Harmonize identity programs across government agencies:** Five functional digital identity programs are being operated under different government agencies in Liberia. A person in Liberia can thus hold several identity numbers: (a) a passport number; (b) a civil servant registration number; (c) a social security number; (d) a driver's license number; (e) a birth registration number; and (f) a voter registration number. Though each program is useful, the multiplicity of identity programs raises questions about the cost and efficiency of identification in Liberia. Most of these functional programs are not developed for interoperability and linkage with other systems. 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.
- **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. Liberia plans to conduct the next census in 2018.
- **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 government does not have a full view of the tax paying population. Tax evasion can thus 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 safety nets and universal health care:** Liberia currently has a limited social safety net program. In case the GOL launches a broader safety net program to help protect the poor and vulnerable of the country, a digital identity program could be used to reduce leakage of funds and improve the efficiency of safety nets. The use of digital identity can also improve the delivery of health care, including for infants and children.
- **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 Liberia 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

Liberia has taken important steps towards setting up the enabling environment for digital identity. On August 1, 2011, the President signed into law the *National Identification Registry Act of 2011*. The law recognizes that a reliable and effective system for identifying people in Liberia is essential for rule of law and for social planning, including the efficient delivery of services. The new law repeals PRC Decree #65 and calls for the creation of a National Identification Registry (NIR) in Liberia.

According to the law, PRC Decree #65 was promulgated in 1981 to represent the first national effort to implement a national identification system in Liberia. At the time, a Bureau of National Identification Registry (BNIR) was established and empowered to issue national identification cards with a focus on revenue collection. The BNIR no longer exists. The national identification cards issued by the BNIR were found to be inadequate for the country's national development objectives and did not fully account for the technology and processes required for producing identity cards.

Since the enactment of the law, several progressive steps have been taken. A Board of Registrars (BOR), chaired by the Minister of Internal Affairs, has been set up to govern identification in Liberia. The Board has met several times to define the strategic and operational priorities of the NIR. The law represents a significant milestone in establishing a national identity in Liberia.

Further work may be needed in the enabling environment for digital identity in Liberia. The enacted law currently does not define digital identity as a legally recognized category, though it defines biometric identity as a digital construct of identity. The law is silent on how the digital identity is to be used or asserted, i.e., through online identity services. The law is explicit about the need to control access to biometric information which is collected or used for identification purposes.

Governance

The NIR Act of 2011 establishes a BOR to govern identification in Liberia, and defines the management structure and functions. The BOR consists of the following members:

- Minister of Internal Affairs (Chair of the Board)
- Director General of Liberia Institute of Statistics & Geo-Information Services (LISGIS)
- Minister of Health and Social Welfare
- Minister of Justice
- Director General of National Social Security & Welfare Corporation (NASSCORP)

National Identification Registry

According to the NIR Act of 2011, NIR would serve as an autonomous entity within the executive branch of the GOL, and would be empowered to operate as a legal entity with the full rights to offer services. NIR's functions are stipulated to be:

- Establish, maintain, administer, and implement the National Biometric Identification System (NBIR) of Liberia
- Design, implement, and make provisions for the technology infrastructure, and related processes, needed to set up the NBIR

- Collect, organize, store, secure, and manage access to data, including biometric data, and data obtained from people who apply for a national biometric ID card, or for other key documents, such as a passport, driver's license, or social security card
- Establish the adequacy of information provided by applicants for biometric identification cards in accordance with the law
- Issue a biometric citizen identification card to citizens, or a biometric resident identification card to residents in Liberia
- Issue a social security number (SSN) as part of the biometric citizen identification card, to serve as a unique identifier and the primary government-approved identity number

In March 2015, the government set up an interim management team for the NIR, and issued a request for an expression of interest from suppliers to build the NBIR in Liberia. Subsequently in 2015, the government formalized a management team of NIR within the Ministry of Internal Affairs, and is reviewing partnership arrangements for the NIR. The government has prioritized setting up the NBIR in light of upcoming national elections during 2016–2017. A NBIR based on biometric profiles of registered voters can support the holding of elections in the country.

Biometric identity card

According to the NIR Act of 2011, a person in Liberia is entitled to obtain a biometric national identification card provided that she or he submits the following information: (a) a birth certificate; (b) fingerprints; (c) photograph; (d) proof of citizenship of parents; (e) date of birth; (f) place of birth; (g) gender; (h) color of skin, hair, and eyes; and (i) any other information deemed necessary to verify citizenship. Based on the information provided, a citizen would be issued a biometric citizen identification card bearing a SSN, and a resident would be issued a biometric resident identification card.

Financing

According to the NIR Act of 2011, the NIR is to be financed by legislative appropriations made through the national budget, without precluding the NIR from seeking and accepting assistance, donations, and/or grants from other persons or institutions. During 2015, the government allocated a provisional budget for the setting up of NIR, and continues to seek additional financing from donors and partners for building the NBIR.

Privacy

The NIR Act of 2011 calls to ensure that the collection and issuance of data about people are done in conformity with the freedom of information laws of Liberia and do not infringe upon the rights to privacy guaranteed by the country's constitution.

4. Functional identity programs

Liberia has no foundational identity program (though the *NIR Act of 2011* calls for one), and has *five* functional identity programs at minimum. Different government agencies run these identity programs to serve various 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 known. Harmonization of these functional programs could be a potential challenge.

Ministry of Health and Social Welfare

The Ministry of Health and Social Welfare (MOHSW) operates a civil register to record births and deaths in Liberia. Since 2011, the civil register has been partly decentralized to improve the efficacy of information collected at birth. Prior to 2011, birth registration had to be conducted at the office of MOHSW in Monrovia. Since people in rural areas had difficulty traveling to Monrovia, birth registration was low. Starting in 2011, the GOL has established 14 birth registration centers (as registrars) in different counties of Liberia and maintains a central registrar at the MOHSW office in Monrovia. As shown in Table 1, adults continue to be registered in Monrovia only. The registration process for adults involves screening and interviewing people to determine whether the person was truly born in Liberia. Though progress is made in recording births, further work is needed in recording deaths or marriages in Liberia.

MOHSW maintains an electronic database of births though not in real time. At the time of birth (irrespective of whether the birth takes place in a community or at a county health clinic), a birth notification form is filled out in triplicates. Parents keep one copy of the birth notification form, and the other two copies are sent to the district registrar officer. The district registrar records the birth, transmits the information to the electronic database at MOHSW, and issues a birth certificate to the facility where the child was born. A parent can claim the birth certificate by presenting a copy of the birth notification form. MOHSW has spent considerable effort to create awareness for the need of early birth registration. MOHSW has developed midwife birth facilities at the county health clinics, and is offering birth registration for free (see Table 1).

Today, 10.6 percent of the people of Liberia are registered, and 26 percent of the children are registered at or around birth, as shown in Table 2. The GOL has made significant progress in establishing the civil registry of Liberia. More work is needed to register the remaining population.

The civil register of Liberia can serve as an important cross-check for establishing the digital identity program of Liberia, as envisioned under NIR. A linkage between the civil register and the NBIR would be important. The civil register would not be sufficient to establish the unique identity of people in Liberia. NIR would require a technology, such as biometrics, to determine the unique identity of people at the stage of enrollment.

Table 1. Cost and Location of Registration in Liberia

Age	Cost of Registration	Location of Registration
< 12 years	LRD 0	County Registrar or Central Registrar
Adults	LRD 500 (equivalent US\$5.60)	Central Registrar

Source: Liberia MOHSW (2014).

Table 2. Number of Records in Liberia’s Civil Registry

Age	Number of Records
0–5 years	244,000 (estimated: 26 percent of child population)
6–12 years	290,000
All ages	287,939 (from county registrars) 127,657 (from central registrar) 415,596 (total, estimated: 10.6 percent of population)

Source: Liberia MOHSW (2014).

Ministry of Foreign Affairs

Since 2007, the Bureau of Passports and Visas at the Ministry of Foreign Affairs (MOFA), has been using biometrics to issue passports to citizens in Liberia. Applications for passports are received at five enrollment stations in Liberia and in two countries outside. Table 3 shows a snapshot of Liberia’s passport system. Ten fingerprints and one photograph are collected as biometrics at the time of application. MOFA uses proprietary scanners to collect fingerprints in five steps per applicant. MOFA sends the fingerprints to an Automated Fingerprint Identification System (AFIS) within MOFA. At AFIS, the fingerprints are checked against an electronic database of people to whom MOFA has previously issued passports. If a match is found, the request for passport is seen as a duplicate and a possible fraudulent attempt. Otherwise, MOFA reviews issuing a passport, based on the validity of additional information provided.

According to MOFA, about five attempts are made on average per day to obtain a fraudulent passport. The applicant faces no penalty for a fraudulent attempt, and is denied a passport.

The electronic system for passports under MOFA has been set up using a build, operate and transfer (BOT) model. The GOL has partnered with a local firm to issue passports.² The local firm has made an up-front investment in the equipment, systems, and training for the passport system. In return, the firm collects the greater part of the revenue generated from the passport fees. The firm is expected to transfer ownership of the passport system to MOFA after 300,000 passports have been issued. The cost of the passport system is thus estimated to be US\$5–6 million.³

The development of the passport system is an accomplishment for the GOL. Thus far, 130,000 passports have reportedly been issued, and fraudulent attempts are prevented daily, as shown in Table 3. Based on the brief assessment done, it is not known whether the fingerprints are stored in a standard data format, are readable without vendor intervention, or the images captured are of reasonable quality. These areas would need to be further examined to determine a potential linkage of the passport system under MOFA with a digital identity system under NIR. With good interoperability, the passport system could be useful in validating the identity of people who already have a passport and seek an official identification from NIR.

2 Innovetrics is the supplier of AFIS. The AFIS is reported to have a response time of less than 1 minute, and a capacity of less than 400,000 records.

3 Buck Price is the local firm providing the passport system in partnership with MOFA.

Table 3. Snapshot of Liberia’s Passport System

Area	Description
Passport application centers	1 station in Monrovia (with 3 windows) 3 stations in the U.S. 1 station in London 5 stations in total Note: 1 station in Brussels is planned 1 station in Asia is desired
Passport fee	US\$23 in Liberia US\$205 outside Liberia
Validity of passport (years)	5
Length of time for obtaining passport (days)	7
Type of biometric collected	10 fingerprints and 1 photograph
De-duplication (to check for uniqueness)	Using AFIS ⁴
Number of passport applications (per day)	150–200
Fraudulent attempts (average, per day)	5
Number of records (biometric, and passports)	130,000

Source: Liberia MOFA (2014).

Civil Service Agency

Since 2009, the Civil Service Agency (CSA) has been operating a biometric-based electronic register to improve human resource management within the government. The purpose of the register has been to clean up civil servant payroll, ensuring that there are no ghost workers. The exercise was a high priority for the post-war administration, and has been intended to reduce the burden on the government budget due to human resource inefficiencies. The exercise has involved enumerating the employees, verifying their active enrollment, and registering their biometrics into an electronic database. CSA uses multiple

4 Note that a conservative estimate of the cost of the passport system is used. A passport fee of US\$23 for 300,000 passports generates US\$6.9 million of revenue. A passport fee of US\$205 for 300,000 passports generates US\$61.5 million of revenue. The fraudulent attempts of five applications per day on average generate additional revenue without increasing the count of passports issued.

Table 4. Snapshot of Civil Service Agency Enrollment

Area	Description
Type of biometric	10 fingers and 1 facial data
Number of employees	
Government employees	32,000
Transitional employees ⁵	8,000
Pensioners (regular and armed forces of Liberia pensioners)	15,000
Proxy and beneficiaries ⁶	95,000
Total	150,000
Enrollment	
Number of enrollments (per week)	150
Cost of enrollment	LRD 0

Source: CSA (2014).

types of scanners to collect ten fingerprints in ten steps per person.⁷ AFIS is also used for de-duplication.⁸ Biometric facial recognition is also used. Table 4 depicts the enrollment system used by the CSA.

The CSA registry has shown notable success, though it highlights areas of further development. Since its launch, about 3,000 employees have been removed from the government payroll, demonstrating significant cost savings. Of these employees, 2,000 did not show up for biometric enrollment, and another 1,000 were found to be individuals who were using the identities of employees on payroll that are no longer active. The registry offers a useful offline database to provide an employee roster for human resource management. Greater enumeration of civil servants, namely teachers, could help improve the coverage of the registry. Further work may be needed to improve the interoperability of fingerprint scanners within CSA, or with external programs (such as the passport system). Higher quality images could further improve the performance of the biometric system.

The CSA registry could be used as an important cross-check with the NBIR under NIR. Interoperability of the CSA registry with the NIR would be useful, though could present challenges in case the fingerprint data is determined not to be based on a standard format or does not demonstrate high image quality.

5 The enumeration of teachers is reported to be not complete. Teachers are employees of the Ministry of Education, even at the local level.

6 It should be noted that the database includes a significant number of proxies and beneficiaries that are designated by the primary registered civil servant. In case biometric information is not collected for proxies and beneficiaries, administering benefits, such as health insurance coverage for family members of the civil servants and payment of survival benefits for deceased employees, could be a challenge.

7 The 10 fingerprints are captured one at a time in a sequence. Different types of scanners are used. For the bulk of registrations, a standard single-finger optical scanner (from Digital Persona) is used. For difficult to capture fingerprints, a multi-spectral scanner (Lumidign sensor) is used.

8 AFIS configuration has a response time of 200,000 records per second for a single finger, and 400,000 records per second for facial recognition.

National Social Security and Welfare Corporation

The National Social Security and Welfare Corporation (NASSCORP) serves two sets of people: (a) *active contributors* (i.e. employees of the formal public and private sectors) who participate in the country’s social security scheme and offer monthly withholdings from their respective payrolls; and (b) *beneficiaries* (i.e., mostly retired individuals) who receive monthly benefits from the social security scheme. Table 5 provides a summary of the active contributors and beneficiaries under NASSCORP. For each active contributor, NASSCORP provides a social security number that accompanies the individual throughout their life, from stages of active contribution to beneficiary. At the active contribution stage, NASSCORP collects biographic information only and no biometrics. Once the individual becomes a beneficiary, NASSCORP requires biometric enrollment and issues benefits to the bank account of eligible beneficiaries. NASSCORP requires each beneficiary to re-register every two years.

In the absence of a national digital identity system, NASSCORP faces several challenges:

- There may be duplicate entries of beneficiaries
- The biographic information collected of active contributors may be inconsistent and may undermine identity resolution
- Dependents, such as children, may be difficult to identify and may require varying benefits depending on age
- Spouses may be difficult to identify since marriages are not properly registered and benefits to a spouse can change based on the person’s civil status (such as remarriage)
- NASSCORP may continue to issue benefits to people who may have passed away since deaths are not properly registered in Liberia

Since 2009, NASSCORP has been using four information technology (IT) systems to conduct its daily operations. These systems were developed by a local firm.⁹ NASSCORP owns and operates the IT systems. NASSCORP is working to integrate these modules, and to link with an external banking system. Currently, significant amounts of manual data entry takes place, posing risks of incorrect information. The four IT systems include the following:

- Registration system—to issue the social security number to each active contributor
- Contribution record system—to record payroll withholdings at 7.75% of gross pay uncapped
- Claims system—to cover occupational and disability insurance
- Beneficiary system (with biometric enrollment)—to offer social security benefits

Table 5. Snapshot of NASSCORP Electronic Database

Population	Number of Records
Active contributors	81,309 from the private sector 37,175 from the public sector 118,484 in total
Beneficiaries	7,000 (approximately)

Source: NASSCORP (2014).

9 Mwetna is the local firm that has developed the IT systems of NASSCORP.

For biometrics, 6 fingerprints are captured in six steps per individual.¹⁰ NASSCORP issues a social security card bearing a photograph and a social security number to each person.¹¹ The use of biometrics has reportedly reduced the number of beneficiaries who may be incorrectly claiming social security benefits. Though efforts are being spent to link the CSA registry with the NASSCORP system, the process is thus far manual. The list of people from CSA registry is printed and visually compared on a periodic basis.

As with other functional identity programs, the NASSCORP IT systems could be used as an important cross-check with a NBIR under NIR. Interoperability of the NASSCORP and NIR systems would be useful, though would depend on standardized data formats and higher quality images.

Ministry of Transport

The Ministry of Transport (MOT) manages the driver’s license system of Liberia. MOT relies on a network of license schools that give a certificate to each applicant to attest to their driving abilities. The applicant uses this certificate to request a driver’s license. Currently, no rigorous steps are known to be used to vet the identity of the applicant. As a result, the driver’s license is primarily used as a permit to operate a vehicle, and not as a form of identity in Liberia. Table 6 provides a summary of the information represented by the driver’s license system.

The driver’s license system provides a useful repository of information about registered drivers in Liberia. Given the lack of reliability of information captured of individuals, a cross-check with the driver’s license system could be less significant for the digital identity program under NIR. On the other hand, the availability of a national digital identity system can help vet the identity of people requesting a driver’s license, and improve the quality of transport documents issued.

Table 6. Snapshot of Driver’s License System

Area	Description
Information given on driver’s license	Biographic information (such as name) Driver’s license number
Validity (years)	3
Number of records	14,270

Source: MOT (2014).

10 A supervisor can override biometric enrollment if the individual is unable to provide a readable finger for reasons of image quality.

11 The social security cards given are PVC cards with no security provision.

5. Additional considerations

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

- **Improved infrastructure for high-speed internet can help:** Digital identity requires a central office to interconnect with regional offices in all counties of Liberia 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 Liberia offers good mobile coverage but lacks reliable high-speed internet. Currently, 65.3 percent of people in Liberia have a mobile phone subscription, and less than 1 percent of people have a high-speed internet subscription. Stakeholders in the information and communication technology (ICT) sector of Liberia, namely Ministry of Posts and Telecommunications (MOPT) and Liberia Telecommunications Authority (LTA), are working to improve the availability of high-speed internet in Liberia.
- **Outreach throughout Liberia 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 Monrovia, 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. Several government agencies in Liberia have shown an interest in using a BOT model of PPP. The GOL should continue pursuing PPP as a potential approach for developing a digital identity system, though should prevent locking in with any one vendor or any specific technology. Before engaging specific vendors, the GOL 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 GOL 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 GOL may consider the following next steps for developing a digital identity program in Liberia:

- **Strengthen the enabling environment:** The enactment of the NIR Act of 2011 is a significant step forward for Liberia. Additional work may be needed to ensure that digital or electronic identity is a legally recognized category,¹² and strong provisions are in place for privacy, data protection, and electronic transactions, amongst other considerations.
- **Establish the NIR as an operating entity:** The NIR, as empowered under the NIR Act of 2011, should assume its full range of functions, including building the national registry and executing plans for enrolling the entire population of Liberia. Setting up the NIR requires a viable business plan, institutional development, technology development, and partnerships, amongst other steps.
- **Determine the desirable type of biometrics:** The NIR Act of 2011 has indicated issuing a biometric-based identification card to citizens of Liberia. The GOL should determine the type of biometrics to be used to establish uniqueness of individuals at the time of enrollment, and for authentication, if desired.
- **Conduct enrollment:** The government will need to undertake the sizeable task of enrolling people and capturing biographical and biometric profiles of people into the NBIR of the country. Enrollment is time and cost intensive, and should be effectively planned, preventing the need of reenrollments in the future. The government should consider conducting enrollments in partnership with public or private entities, and in minimizing the cost of enrollment.
- **Determine a credential, if any:** The current legal environment requires further clarity on the type of credential, if any, to be issued to people in Liberia. Possible credentials may be: a simple identity card, a smartcard, a mobile credential, or no physical credential (a unique identity number may be issued in such a case). The GOL acknowledges that the choice of credential would depend on cost and may change with time due to technology.
- **Review potential linkage with the civil registry and authentication mechanism for downstream identity services:** A digital identity program under NIR would benefit from linkages with MOHSW's civil registry system, where information on birth, death, and marriages could be collected and retained in an electronic form. Current birth registration is being retained in an electronic database. Historic birth records may need to be digitized, in case such records are being kept in paper form. Marriage, death, and other changes in the civil status will also need to be captured electronically. In addition, an authentication mechanism would be needed for downstream applications to verify the identity of people, including for pensions, passports, civil service, driver's licenses, census, taxes, electoral voting, and financial services. These applications would require interfaces to link with NBIR under NIR.

¹² Electronic identity should equal paper identity based on law.

- **Fund the development of NIR and build institutional capacity:** The digital identity program should be anchored in a strong institution, with provisions for good governance, managerial and technical capacity, a strong business plan, operational controls, monitoring and evaluation (M&E), and long-term operations and maintenance (O&M). Funding the setup of NIR and building the institutional capacity would be important considerations for the GOL.
- **Communicate effectively:** As part of the program to develop digital identity, the GOL should make provision 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–June 2014 and March 2015, consultations were held with the GOL and stakeholders in the identity community of Liberia. These discussions provided inputs for the preparation of this report.

Officials from the following organizations who met:

- Ministry of Internal Affairs
- National Identity Registry (Board)
- Members of the Senate of Liberia
- Ministry of Posts and Telecommunications
- Liberia Telecommunications Authority
- Ministry of Foreign Affairs, Bureau of Passports and Visas
- Civil Service Agency
- Ministry of Health & Social Welfare (civil registration and health information management system)
- Ministry of Justice, Bureau of Immigration and Naturalization
- National Social Security & Welfare Corporation
- Department of Transportation
- Business Registry
- Bankers Association
- Technical Advisors

Annex 2: Diagnostic framework for Liberia

Area of Assessment	Findings
<i>Economic and social context</i>	
Population (in millions)	4
Urban population (% of total)	49
GNI per capita (World Bank Atlas method, US\$)	370
GDP growth (avg. annual %; 2000–05 and 2005–12)	11.6
Adult literacy rate (% ages 15 and older)	55
<i>ICT infrastructure</i>	
Mobile phone subscriptions (per 100 people)	65.3
Broadband subscriptions (per 100 people)	0
Households with a computer (%)	2.0
Households with access to internet (%)	1.5
<i>Status of identification</i>	
Official identity holders (% of population)	0
Is identity mandatory for every person?	
Minimum age for identity?	
Cost of identity to each person?	
Number of functional identity programs in country?	> 5
<i>Electronic identity</i>	
Does a law govern electronic ID?	Yes (partly)
Coverage of electronic ID (% of population)	0
Name of institution authorized for identity management	National ID Registry (not established)
Type of authorizing institution (government, autonomous, etc.)	Executive Branch
Number of branches of authorizing institution	None
Type of biometrics collected (if any)	Photo and fingerprint (in future)
Is electronic ID online or offline?	
Does a ministerial steering committee govern electronic ID?	A Governing Board is set up
Operations managed by the public sector (% of total)	
<i>National civil register</i>	
Does a law govern mandatory civil registry (for birth & death)?	No
Coverage of national register (% of population)	10.6%

(continued)

Continued

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

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