



## Final Country Report

# UNDP & UNCDF

## DFS Ecosystem Assessment in Sierra Leone

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**TABLE OF CONTENTS**

Abbreviations ..... 3

Executive Summary ..... 4

1. Overview of Digital Financial Services..... 7

    1.1 Snapshot of digital financial services and delivery channels ..... 7

    1.2 Key definitions..... 7

2. Introduction ..... 8

3. Sierra Leone Background ..... 9

    3.1 Sierra Leone as a fragile state ..... 9

    3.2 Fragility and financial inclusion..... 10

    3.3 Macroeconomic situation ..... 11

4. Overview of SL Financial sector..... 14

    4.1 Financial institutions ..... 14

5. Overview of SL Telecom Sector..... 16

6. Current state of Sierra Leone DFS Sector..... 17

    6.1 Policy and regulation..... 17

    6.2 Infrastructure ..... 18

    6.3 Providers ..... 20

    6.4 Distribution ..... 22

    6.5 Payment and products / high volume business cases ..... 24

    6.6 Customers ..... 25

7. DFS Vision for Sierra Leone ..... 27

    7.1 SWOT of Sierra Leone DFS ecosystem ..... 27

    7.2 Current state of development of Sierra Leone DFS ecosystem ..... 28

    7.3 Ecosystem approach for the development of DFS in Sierra Leone..... 29

8. Annexes ..... 38

    8.1 Indicative budget for priority activities..... 38

    8.2 List of stakeholders interviewed ..... 40

## ABBREVIATIONS

ATM	Automated Teller Machine
BB	Branchless Banking
BSL	Bank of Sierra Leone
DFS	Digital Financial Services
EDSA	Electricity Distribution and Supply Authority
ERW	Ebola-Response Worker
EVD	Ebola Virus Disease
FI	Financial Institution
G2P	Government to Person payment
GoSL	Government of Sierra Leone
IT	Information Technology
KYC	Know Your Customer
MB	Mobile Banking
MFI	Microfinance Institution
MFS	Mobile Financial Services
MIS	Management Information System
MMO	Mobile Money Operator
MNO	Mobile Network Operator
MoFED	Ministry of Finance and Economic Development
NaCSA	National Commission for Social Action
NATCOM	National Telecommunications Committee
NERC	National Ebola Response Centre
NRS	National Registration Secretariat
P2B	Person to Business payment
P2D	Person to Development (agencies or NGOs) payment
P2G	Person to Government payment
P2P	Person to Person payment
PPERW	Payments Programme for Ebola-Response Workers
SLACB	Sierra Leone Association of Commercial Banks
SLAMFI	Sierra Leone Association of Microfinance Institutions
WAMZ	West African Monetary Zone

## EXECUTIVE SUMMARY

The UNDP Payments Programme for Ebola Response Workers (PPERW), in partnership with the UNCDF, was designed to provide technical assistance and operational support to the Governments in the three Ebola-affected countries (Guinea, Liberia and Sierra Leone) to ensure timely delivery of hazard payments to Ebola Response Workers (ERWs) through a variety of digital channels, including bank transfers and mobile money. To build upon the results of the PPERW, UNDP and UNCDF mandated PHB Development to conduct a country level diagnostic to assess the existing supply of and demand for digital payments services in Guinea and Sierra Leone. The objective of this report is hence to provide a situational analysis of the current state of DFS in Sierra Leone and propose recommendations for its development, not just to address the short-term needs of the emergency response and social cash transfers related to the Ebola outbreak, but to contribute to the medium-long term goals of increasing access to financial services for unbanked and under-banked communities in fragile states.

Indeed, financial inclusion in fragile states is said to be significantly weaker than in other developing countries, with an average of only 15% of the population having an account at a formal financial institution compared to 43% for rest of the developing world<sup>1</sup>. The Ebola outbreak worsened this situation, with many financial institutions reducing or even suspending loan disbursements as a consequence of their deteriorating portfolios.

Digital financial services can make life easier for people in fragile states like Sierra Leone by allowing them to transact locally in tiny amounts and better manage their characteristically uneven income and expenses. The payment, transfer, and value storage services of digital transactional platforms and the data generated by customer usage can enable providers to offer additional financial services tailored to customer needs. Digital financial inclusion can also reduce the risk of loss, theft, and other financial crimes posed by cash-based transactions, as well as the costs associated with transacting in cash. Ultimately, it can advance economic growth by enabling asset accumulation.

In order to assess the current state of the digital financial services landscape in Sierra Leone, the report makes reference to the ecosystem approach developed by UNCDF's Mobile Money for the Poor (MM4P) Programme. This approach breaks down the DFS ecosystem in six different pillars (or workstreams) that all together contribute to shaping the overall sector in a given country: policy and regulation, infrastructure, providers, distribution, payment and products, and customers.

According to MM4P's theory of change, there are four phases in the roll-out of digital financial services in a given country: Inception, Start-up, Expansion and Consolidation. Sierra Leone has passed the Inception phase and is currently in the Start-Up phase. Its main challenges to develop DFS in the coming years are likely to be the following:

1. Building client awareness and acceptance of financial services and DFS, fostering trust in non-cash payment means
2. Improving mobile network coverage and furthering mobile phone penetration, particularly in rural areas

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<sup>1</sup> Global Findex, 2013.

3. Creating a dependable, high quality and widespread network of agents/access points across the country, allowing the conversion of physical cash to e-money and vice versa, especially outside of the Western Area
4. Establishing a national payments system enabling interoperability of payments and transfers between all kinds of players (MNOs, financial institutions, money transfer organizations, etc.)

In light of the above, the focus of an ecosystem approach for the development of DFS must be on making shifts between stages of market development, moving from Start-up to Expansion and eventually to a mature and consolidating market. This requires coordinated actions which will push DFS to a point where societies become “digital” and the industry is consolidated.

The table below summarizes the key challenges and corresponding recommendations for the development of DFS in Sierra Leone according to the above-mentioned six pillars (plus the ecosystem itself) of MM4P’s approach. Challenges and recommendations have been shared and validated with sector stakeholders during a workshop hosted by UNDP and UNCDF in Freetown on 24<sup>th</sup> March 2016.

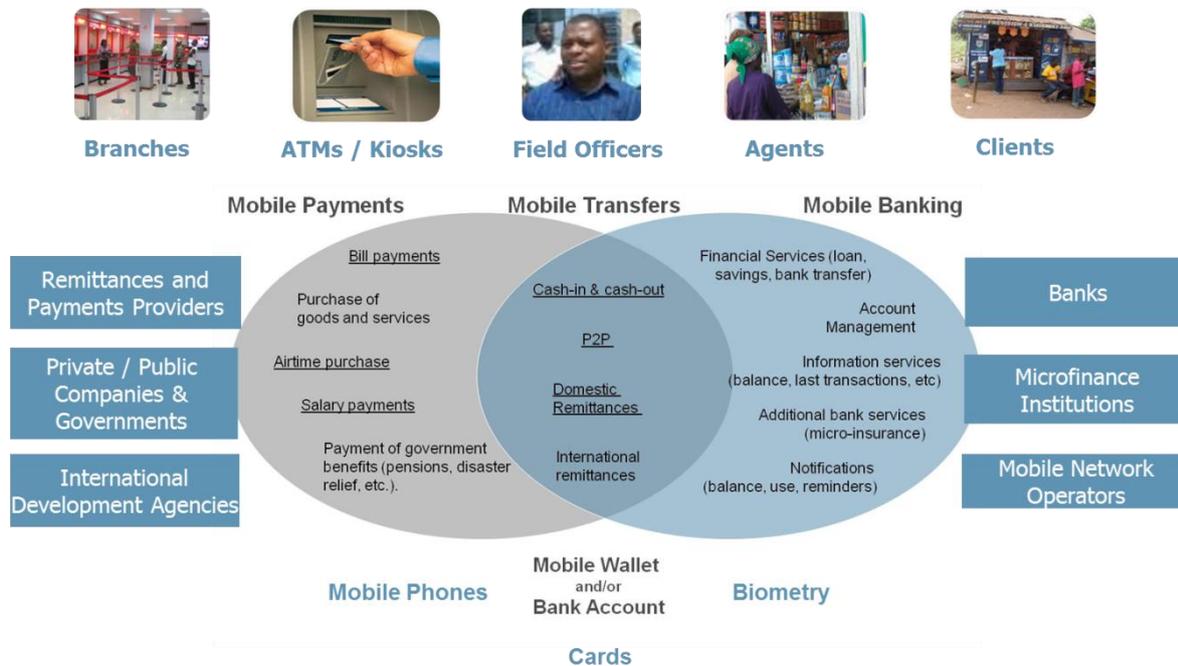
Pillar	Key challenges	Main recommendations
<b>Ecosystem</b>	<ul style="list-style-type: none"> <li>• Weak coordination and partnerships between DFS stakeholders &amp; initiatives</li> <li>• Limited access to external technical expertise to drive DFS sector development</li> </ul>	<ul style="list-style-type: none"> <li>• Establish and run a DFS working group including all industry stakeholders</li> <li>• Recruit resident advisor to guide the overall country DFS strategy and activities and mobilize additional international experts</li> </ul>
<b>Policy &amp; regulation</b>	<ul style="list-style-type: none"> <li>• Limited experience of policy and regulatory bodies on DFS</li> <li>• Unclear separation of roles and responsibilities on DFS between MoFED, BSL and NATCOM</li> <li>• Weak legislation on DFS &amp; MM (guidelines vs law), resulting in lack of systems and tools to deal with malpractices (fraud, technological failures, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Build capacity of government &amp; regulators on DFS through trainings, workshops &amp; regional exchanges</li> <li>• Support regulatory improvement &amp; harmonization in coordination with international agencies (WB, UNDP, UNCDF)</li> <li>• Create a regional forum for exchanges on DFS among regulators in West African Monetary Zone (WAMZ)</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>• Lack of national switch allowing for payment interoperability: BSL is working on this, but it is unclear when it will be launched</li> <li>• Persistent gaps in mobile network coverage &amp; penetration between urban and rural areas, which remain constrained by network disruptions, lack of coverage and customer support</li> <li>• Limited availability of national ID cards (&lt; 10% of the population)</li> </ul>	<ul style="list-style-type: none"> <li>• Organise stakeholder workshops on a) national payments system, b) MNO interoperability &amp; collaboration, and c) customer due diligence to discuss status and progress for each, develop collaborative solutions and establish common action plans</li> <li>• Advocate for improved mobile network coverage countrywide (esp. in rural areas), for e.g. encouraging MNO tower-sharing in more remote, dispersed areas</li> <li>• Expedite the issuance of ID cards to the population, in collaboration with National Registration Secretariat</li> </ul>

<b>Providers</b>	<ul style="list-style-type: none"> <li>• Limited number and experience of DFS providers <ul style="list-style-type: none"> <li>○ Africell and GTBank just launching</li> <li>○ Airtel in operational slowdown due to Orange takeover</li> <li>○ Splash in the process of developing a new platform but experiencing challenges on integrations with other providers (MNOs, banks)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Organise strategy &amp; business modelling workshops for DFS providers to improve/fine-tune their business models</li> <li>• Provide technical and financial support to selected providers in entering the market and/or improving their DFS strategy</li> </ul>
<b>Distribution</b>	<ul style="list-style-type: none"> <li>• Weak footprint of existing branch and agent networks (mainly concentrated in Western Area)</li> <li>• Insufficient liquidity of mobile money agents to satisfy customer cash-in/out requests</li> <li>• Insufficient training and monitoring of mobile money agents</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct an assessment of existing agent networks</li> <li>• Organise workshop/trainings on developing &amp; managing agent &amp; merchant networks</li> <li>• Provide technical and financial support to selected providers to improve their agent and merchant networks (footprint &amp; liquidity)</li> </ul>
<b>Products &amp; payments</b>	<ul style="list-style-type: none"> <li>• Payments and transactions in SL almost exclusively based on cash</li> <li>• E-money mainly used for airtime top-up, with a few exceptions (DsTV, EDSA)</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct high-volume payment streams study to identify payments with most potential to go digital (e.g. government payments)</li> <li>• Identify and support selected partners to pilot-test digital payments, for e.g. <ul style="list-style-type: none"> <li>○ Government/MDAs (salaries, pensions, benefits, taxes, etc.)</li> <li>○ Private sector (salaries, benefits, goods/services, etc.)</li> <li>○ Financial institution (loan disbursement/ repayment, savings deposit/ withdrawal)</li> </ul> </li> </ul>
<b>Customers</b>	<ul style="list-style-type: none"> <li>• Low customer education and trust/ understanding of digital payments</li> <li>• Weak mobile phone ownership among rural, low income households</li> <li>• Existing DFS offer insufficiently tailored to customer needs (e.g. cash-out fees perceived as prohibitive)</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct workshop on customer-centric research and product development</li> <li>• Collaborate to launch and implement a phased financial literacy campaign to educate customers on banking &amp; DFS</li> <li>• Undertake customer profiling &amp; needs study on DFS in urban and rural areas</li> </ul>

**1. OVERVIEW OF DIGITAL FINANCIAL SERVICES**

**1.1 Snapshot of digital financial services and delivery channels**

For the purposes of the present report, the diagram here below provides a reminder of the different players, products and delivery channels related to digital financial services (DFS).



**1.2 Key definitions**

Here below is a list of key terms related to digital financial services and mobile banking, as defined by the Bank of Sierra Leone in its Mobile Financial Services Guidelines.

<b>E-money</b>	electronically stored monetary value issued against receipt of funds in local currency, accepted as a means of payment by persons other than the issuer and redeemable for cash
<b>Escrow account</b>	bank account held by a licensed institution for and on behalf of the participants in the mobile money service (who have deposited cash in exchange for e-money they receive on their mobile wallet)
<b>Interoperability</b>	technical compatibility between systems
<b>Mobile banking</b>	the use of a mobile phone as a channel to access and conduct financial transactions on one’s account held in a licensed institution
<b>Mobile financial services</b>	the use of a mobile phone both for mobile banking and mobile payments and remittances
<b>Mobile money</b>	e-money available to a user to conduct transactions through a mobile phone
<b>Mobile money agent</b>	third party acting on behalf of a mobile money service provider to deal directly with customers
<b>Mobile wallet (M-wallet)</b>	customer’s virtual account maintained by the mobile money service provider on the mobile money platform, also known as a “mobile money account”
<b>Third-party provider</b>	Agents and others acting on behalf of a mobile financial services provider

## 2. INTRODUCTION

The UNDP Payments Programme for Ebola Response Workers (PPERW), in partnership with the UN Capital Development Fund, was designed to provide technical assistance and operational support to the Governments in the three Ebola-affected countries (Guinea, Liberia and Sierra Leone) to ensure timely delivery of incentives to Ebola Response Workers (ERWs) and to fill gaps where Government capacity needed strengthening.

The programme started in November 2014 and followed the evolution of the crisis to benefit over 35,000 ERWs, including Ministry of Health employees, Ebola Response workers and community engagement beneficiaries through multiple payment channels, including mobile and branchless banking. The program and other paying organizations experienced a number of challenges to keep pace with and adapt to this highly dynamic crisis response. Timely and accurate payments to ERWs are the key objectives to ensure unhindered and continued willingness of ERWs to perform their highly risky response work.

To capitalize and build upon the results of the PPERW, UNDP and UNCDF mandated PHB Development to conduct a country level diagnostic to assess the existing supply of and demand for digital payments services in Guinea and Sierra Leone. The objective of the country level diagnostics is to identify issues, opportunities and constraints not only to address short-term needs of the emergency response and social cash transfers related to the Ebola outbreak, but also for the medium and long-term development of the regulatory environment, capacity building challenges, partnerships and financial education supporting digital payments in the two fragile states.

This report stems from a comprehensive desk review of existing documentation and a range of in-depth interviews with stakeholders in the countries conducted by PHB Development and UNDP/UNCDF in March 2016. It aims to assist UNDP and UNCDF to develop country strategies, work plans and budgets for their digital finance activities in Guinea and Sierra Leone. At the same time, it aims to help donors to harmonize their approaches to DFS development so that together they may achieve the ultimate goals of improving access to financial services for unbanked and under-banked communities, with a particular focus on women and rural households.

### 3. SIERRA LEONE BACKGROUND

#### 3.1 Sierra Leone as a fragile state

The civil conflict in Sierra Leone, which officially ended in 2002, left the country's economy, as well as its social fabric, devastated. If the country was not already a 'fragile state'<sup>2</sup>, the effects of the war definitely left it as one. It created thousands of internally displaced persons (IDPs), as well as economic hardship in rural areas because of and at the same time leading to, increased rural-urban migration. The substantially increased rural-urban migration put a huge strain on the already strained resources of the capital Freetown and the few other major towns. According to the Fragile States Index 2015, Sierra Leone ranks as 31<sup>st</sup> most fragile state globally.

The OECD<sup>3</sup> identifies 5 clusters of fragility indicators: 1) violence; 2) access to justice for all; 3) effective, accountable and inclusive institutions; 4) economic inclusion and stability; 5) capacities to prevent and adapt to social, economic and environmental shocks and disasters. Sierra Leone has been on every fragile state list since 2007 and has felt the effects, to varying degrees, of each of these clusters.

Most recently, the Ebola Virus Disease (EVD) outbreak that hit Guinea, Liberia and Sierra Leone – all on the fragile states list – and led to over 11,000 deaths<sup>4</sup>, demonstrates fragile states' acute vulnerability to shocks, and underlines the importance of steady investments in basic health, disaster response and public administration systems.

In fact, the three countries' fragile health system made it harder to combat the epidemic, due to (among others): 1) shortages of trained medical personnel that caused critical lags in diagnosing and treating patients; 2) poor clinical infrastructure and a lack of basic medical supplies and protective equipment that contributed to spreading the infection, including among health workers and volunteers, 3) weak disease surveillance systems that caused some outbreaks to go undetected, making hotspots more difficult to eventually bring under control.

There is also evidence that lack of trust in state institutions stymied efforts to stop Ebola transmission, leading some people to disregard government warnings about how to protect themselves against infection. Health workers, government officials and journalists were attacked while responding to Ebola, while conspiracy theories flourished among populations disinclined to believe official statements on the nature and causes of a complex emergency (Ammann, 2014). Indeed, faster and more concerted investment early in the crisis could have flattened the epidemic curve and better contained the outbreak.

The Ebola epidemic will have lasting consequences for states across West Africa. Trade and livelihoods have been disrupted; the World Bank estimated economic impacts ranging from USD 1.6 to 5.2 billion in 2015. Fragile states are likely to be hardest hit (Jonas, 2014), and will face the greatest challenges in repairing strained health and governance systems.

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<sup>2</sup> According to the OECD, a state is defined as fragile when state structures lack political will and/or capacity to provide the basic functions needed for poverty reduction, development and to safeguard the security and human rights of their populations.

<sup>3</sup> States of Fragility: 2015 Meeting Post-2015 Ambitions - The Development Assistance Committee: Enabling effective development. OECD 2015.

<sup>4</sup> Ebola Situation Report, 30 March 2016, WHO.

The outbreak provides opportunities to draw lessons for addressing fragility, using the example of what the World Health Organization called Nigeria’s “spectacular success” in containing the disease. Building capacity to respond to future outbreaks will require significant investment to fill gaps in basic health systems (Kruk et al., 2010). Such investments would have a direct impact on well-being by expanding public access to basic health services and contributing to national and community-level resilience, especially if they are combined with broader reforms that build public trust in governments.

### 3.2 Fragility and financial inclusion

Poverty rates in fragile states are said to be on average 20% higher than countries with comparable levels of economic development<sup>5</sup>. Such fragility affects these countries’ capacity to provide basic financial services through different channels including formal and informal suppliers of financial services. Very often, financial institutions struggle to offer affordable and appropriate financial products when macroeconomic indicators are unfavorable, including high inflation rates, slow growth and high unemployment rates. As a result, long term financial transactions are replaced by short-term credits, relation-based credits and cash transactions. The hardest-hit are the poor and SMEs, which already struggle to access funding under normal economic conditions. Indeed, only 15% of the population reports having an account at a formal financial institution in Sierra Leone today, compared to 23% for the entire continent<sup>6</sup>.

The United Nations has developed a set of 17 goals to end poverty, protect the planet and ensure prosperity for all. These set of goals are referred to as the ‘Sustainable Development Goals’ (SDGs) and are to be achieved in the next 15 years. To varying degrees, Digital financial services have a significant role to play in achieving the SDG targets, especially in relation to goals 1 (End poverty in all its forms everywhere), 8 (Promote sustained, inclusive and sustainable economic growth, full & productive employment and decent work for all) and 17 (Strengthen the means of implementation and revitalize the global partnership for sustainable development). For example, by increasing financial inclusion, DFS can enable broader economic growth and individual financial empowerment. Digital payments can also help enhance the financial independence of women by moving them from the limitations of a cash-only economy and connecting them with the mainstream financial market, leading to a range of other related benefits, such as better access to savings, credit and insurance that in turn can result in increased business opportunities and improved management of household finances. For a fragile state such as Sierra Leone, achieving the SDGs is critical if it is to become more resilient and achieve its Agenda for Prosperity, making it a middle income country by 2025.

The digital payments and financial inclusion landscape in Sierra Leone and other Ebola-affected countries (Guinea, Liberia) received significant attention during the height of the Ebola crisis in November 2014 to March 2015. In an effort to tackle the challenges in delivering hazard payments to Ebola Response Workers (ERWs), who threatened to strike daily over non-payment, underpayment or late payment of dues, the Payment Programme for Ebola Response Workers (PPERW) set out to leverage digital payments as a way to ensure timely and efficient payments. In fact, while resources were available to pay the increasing number of volunteer workers, ERWs were not captured by national payroll or

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<sup>5</sup> UNCDF, 2016.

<sup>6</sup> Global Findex, 2013.

public sector registration systems, and many did not have bank accounts. To further complicate the situation, even identification of workers was a challenge without national ID cards, a key Know Your Customer (KYC) requirement for access to financial services in the three countries. The PPERW was hence able to deliver considerable yet varying results in the digitization of hazard payments in the three countries, as shown by the table below. In particular, the programme was very successful in Sierra Leone, where more than 30,000 ERWs were paid through digital means.

March 2015	Total ERWs	Direct cash	Mobile Money	Bank accounts	Avg monthly hazard disbursement
<b>Sierra Leone</b>	<b>30,058</b>	<b>0%</b>	<b>73%</b>	<b>27%</b>	<b>US\$ 4.0 million</b>
Guinea	14,400	78%	0%	22%	US\$ 1.2 million
Liberia	21,393	43%	0%	58%	US\$ 1.8 million

Whilst the delivery of outcomes to date by PPERW has been significant, lessons have been learnt and several areas of improvement have been identified as essential to the recovery of Sierra Leone. In particular, the low level of financial inclusion and the prior lack of attention to creating a robust digital finance ecosystem highlighted the instantaneous nature of payments and unveiled the steep challenges that the GoSL and development partners had to face to make accountable, accurate and real time payments in an emergency situation.

Digital financial services can make life easier for customers in fragile states like Sierra Leone by allowing them to transact locally in tiny amounts and better manage their characteristically uneven income and expenses. The payment, transfer, and value storage services of the digital transactional platforms and the data generated by customer usage can enable providers to offer additional financial services tailored to customer needs. Digital financial inclusion can also reduce the risk of loss, theft, and other financial crimes posed by cash-based transactions, as well as the costs associated with transacting in cash. Ultimately, it can advance economic growth by enabling asset accumulation.

### 3.3 Macroeconomic situation

<b>Population</b>	6.2M	
<b>Human Development Rank 2015 (out of 188)</b>	181	
<b>% rural population</b>	62%	
<b>% under national poverty line</b>	52.9%	
<b>GNI/Capita</b>	\$260	
<b>Literacy rate</b>	35%	
<b>% access to financial services</b>	15%	
<b># of bank branches per 100 000 inhabitants</b>	2.92	
<b># of ATMs per 100,000 inhabitants</b>	0.43	
<b>% mobile penetration</b>	70%	

Sources: CIA World Factbook, Global Findex, World Bank, UNDP.

The Ebola outbreak and the sharp drop in iron ore prices have dealt a severe blow to Sierra Leone's economy. Preliminary analysis shows that economic growth dropped from 20% in 2013 to 6% in 2014 – compared to the original projection of 11.3% for 2014 – and is projected to go as low as -2.5% in 2015. The economy is projected to recover slightly in 2016, reaching a GDP growth of 2.8%. Inflation is revised upwards from 8.8% to 10% for 2014 and is projected at 9.4% and 8.3% for 2015 and 2016, respectively.

Prior to the Ebola outbreak, which started in May 2014, the authorities in Sierra Leone had made considerable progress since the end of the civil conflict. The outlook for the economy in the medium term, however, is unfavourable following the EVD crisis. The confirmed number of Ebola cases reached 8,704 at end-September 2015, including at least 3,589 fatalities. The epidemic disrupted production and distribution channels for basic consumer goods (limited working hours, movement restrictions for goods and people, banning of trade fairs or market days, etc.), leading to lost incomes and heightened inflationary pressures. According to a Mercy Corps study in July 2015, petty traders reported a reduction in sales of more than 30% compared to before the outbreak (April 2015 compared to April 2014), with informal and smaller business more severely affected than larger ones.

The population of orphans, food-insecure, and the vulnerable has also increased significantly, stretching thin the social protection system. The death of many healthcare workers has severely impacted the nation's healthcare system. Last but not least, as economic activities slowed in 2014, the momentum that followed the commencement of iron ore mining in 2011 was lost, resulting in the cessation of production at end-March 2015.

Infrastructure deficiencies pose a serious threat to private-sector development although some progress had been made in improving the business environment prior to the outbreak of EVD. Public debt levels (domestic and external) remain sustainable but, historically, public finances have been stressed as total revenue has consistently been lower than total spending. This has attendant implications on monetary policy and the external position, which had been improving prior to the EVD outbreak.

There are potential monetary policy upsides and downsides of DFS development. On the plus side, digital payments bring into the mainstream financial system those transactions that were previously outside the system, thereby helping to stimulate the economy. It also reduces the almost exclusive use of cash in the economy, which would result in a decrease in government expenditure through the reduced printing of currency notes. On the other hand, a potential downside is the danger that regulation and its effective management may not keep pace with the growth of DFS in the economy which could lead to losses, fraud and poor consumer protection and ultimately loss of confidence in the digital financial services. If the DFS ecosystem is properly managed however, the positives outweigh any negatives.

Regarding regional integration, challenges remain in the free movement of people and capital across the Economic Community of West African States (ECOWAS) countries, but the situation had been improving in recent years until the advent of the emergency restrictions imposed in the wake of the EVD outbreak. Likewise, governance, gender, environment, and social indicators had been improving prior to the outbreak. Considerable effort needs to be exerted by government and development partners in implementing the emerging Post-Ebola Recovery Plan.

The spatial nexus in Sierra Leone is essentially rural/urban. The urban population has the

lion's share of services, assets and earned income and is likely to bequeath more to successor generations compared to the rural population. In 2010 the rural population was estimated to account for 62% of the overall population while urban was 38%. Freetown accounts for roughly 40% of the urban dwellers. There is no dedicated strategy for spatial inclusion in Sierra Leone but the essential elements of it are subsumed in the country's medium-term plan, the Agenda for Prosperity (A4P 2013-2018).

A Post-Ebola Recovery Strategy, developed with the support of development partners, has also been developed with the aim of putting the economy back on a path toward economic growth and stability. The strategy focuses on three elements: i) getting and staying at zero new Ebola cases; ii) implementing immediate recovery priorities; and iii) transitioning back to the Agenda for Prosperity in the medium term.

Key macroeconomic indicators	2013	2014 (e)	2015 (p)	2016 (p)
Real GDP growth	20.1	4.6	-21.5	2.8
Real GDP per capita growth	18.2	4.1	-4.3	1.1
CPI inflation	9.8	10	9.4	8.3
Budget balance % GDP	-2.4	-1.2	-3.2	-3.5
Current account balance % GDP	-37.3	-35.6	-33	-40.6

Source: African Economic Outlook 2015 and IMF. (e) estimated, (p) projected.

#### 4. OVERVIEW OF SL FINANCIAL SECTOR

With the end of the civil war, a viable financial sector started to materialize in Sierra Leone and the number of banks and other financial institutions has grown considerably.

The financial system consists mainly of the banking and insurance sectors, each under the supervision of a separate regulatory authority. Sierra Leone adopted a comprehensive strategy for reform of the financial sector in 2008, aimed at strengthening banking supervision, enhancing competition, increasing access to commercial bank credit, and improving the payment system. The Central Bank also raised the minimum capital requirements for all licensed financial institutions in an effort to strengthen financial system stability. Despite significant improvements and impressive expansion, the financial sector still remains constrained by high costs of financing and high operational costs, a low share of credit to the private sector, limited bank branch infrastructure, and lack of competition due to the limited number of players in the banking sector.

##### 4.1 Financial institutions

Provider	Commercial Banks	Microfinance Institutions	Community Banks	Financial Service Associations
<b>Total no.</b>	13	13 (2 deposit-taking)	17	51
<b>Total branches</b>	97	81	17	51
<b>Clients</b>	970,000	82,500	16,200	70,000
<b>Loan portfolio (SLL)</b>	N/A	93 billion	14.5 billion	16.9 billion
<b>Regulator</b>	BSL	BSL	Apex Bank	Apex Bank

Access to financial services is still low in SL, with only 15% of adults having an account at a formal financial institution – be it a bank, credit union, cooperative, post office or MFI<sup>7</sup>. Most transactions in the economy are cash-based, with limited use of electronic payments. Banks are engaged mostly in retail business and tend to extend only short term credits. Credit to the private sector is low and has decreased further following the Ebola outbreak, going from 7.6% of GDP in 2011 to 5.2% of GDP in 2014<sup>8</sup>.

The financial system in Sierra Leone is dominated by the banking system, with 13 commercial banks, the assets of which represent around 20% of GDP. The commercial banks between them have 97 branches countrywide and some 670,000 accounts in total<sup>9</sup>, which represents a banking penetration (no. of banks accounts per total population) of merely 10%. Almost all the branches are in district headquarters. Asset quality and capital have deteriorated in recent years, with NPLs doubling in 2 years, reaching 40% at end-June 2015. This rising trend was driven by the two largest banks, Sierra Leone Commercial Bank and Rokel Commercial Bank, whose respective portfolios deteriorated significantly over the period and which were put under administration by BSL in December 2014.

<sup>7</sup> Global Findex 2013,

<sup>8</sup> According to the World Bank definition, credit to private sector refers to financial resources provided to the private sector by financial corporations, such as through loans, purchases of non-equity securities, and trade credits and other accounts receivable, that establish a claim for repayment.

<sup>9</sup> Sources: BSL Annual Report and interviews with stakeholders.

In addition to the commercial banks, there are 13 microfinance institutions (MFIs) in the country, with a total of 81 branches between them, of which 43% are in the Western Area. Of these MFIs, two are deposit-taking and therefore under BSL's supervision, while the other 11 are registered with, but not under central bank supervision. As of December 2015, total number of borrowers was 82,500 with loan portfolio outstanding of SLL 92.9 billion<sup>10</sup>.

Similarly, MFIs were also heavily impacted by the Ebola outbreak, with the average portfolio at risk greater than 30 days (PAR30) doubling from 11% in June 2014 to 22% in December 2014. Loan disbursements dropped by 36%, and active borrowers declined from 83,000 to 73,000 by December 2014. On the whole, most MFIs reduced or partially suspended loan disbursements and implemented some restructuring on a case-by-case basis, striving to continue collecting what they could. The MF sector recovered quite well in 2015, with both number of borrowers and PAR30 going back to pre-Ebola outbreak levels (82,500 borrowers and PAR30 of 12% in December 2015). Nonetheless, on a more general level, concerns over timely access to funds, stringent collateral requirements, low trust in financial institutions and low financial literacy still inhibit many traders and small businesses from using MFIs.

Apart from banks and MFIs, SL's financial sector also comprises 17 community banks and 51 financial services associations (FSAs), which are supervised by the Apex Bank that also provides technical and financial support. These institutions serve largely rural communities, especially the FSAs. Community banks have 16,000 shareholders, 14,000 borrowers and loan portfolio of approximately USD 2.9M, whereas FSAs have 70,000 shareholders, 15,000 borrowers and a loan portfolio of approximately USD 3.3M (Apex Bank, December 2015). FSAs do not take deposits and so tend to have greater liquidity problems than community banks.

Finally, there are also well over 200 Credit Unions, even though many are inactive. The movement is now being supported by the Credit Union Development project whose aim is to strengthen Credit Unions in Sierra Leone. When this is achieved, Credit Unions may become a significant player in the financial sector.

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<sup>10</sup> SLAMFI.

## 5. OVERVIEW OF SL TELECOM SECTOR

Sierra Leone's traditional telecommunications infrastructure suffered severe damage and neglect during the civil war, but the mobile sector in particular has experienced excellent growth since the end of the war in 2002. It is thought that one impetus for growth in mobile phones was the return of refugees to the country following the long civil war. Whilst abroad, many had been exposed to more advanced mobile handsets and networks; back in Sierra Leone, they were eager to have similar technologies at their disposal. In 2008, mobile subscribers crossed the 1 million milestone.

Today, the telecommunications market is competitive, with an estimated 4.8M mobile subscribers (approximately 70% of the population), 16,500 fixed lines (0.2% of population) and 85,600 internet users (1.2% of the population)<sup>11</sup>. Over 90% of subscribers use the pre-paid services. Mobile network coverage is reported to be at 82% of the national territory, but remains skewed largely towards urban and semi-urban locations<sup>12</sup>.

The sector comprises four main mobile network operators: Africell, Airtel, Smart Mobile and Sierratel. Some consolidation took place in 2009 when Africell acquired Tigo and then again in 2014, when Comium had its licence suspended following its continued inability to pay licensing fees and bank creditors. More recently, Airtel was bought by Orange, even though it is unclear when the re-branding is expected to happen. The table below provides key information on each MNO.

MNO	Key information
	<ul style="list-style-type: none"> <li>Launched in 2005 and purchased Tigo in 2009. Has subsidiaries in Gambia, DRC and Uganda.</li> <li>Currently has 200 towers across the country and market share somewhere between 50-60%.</li> <li>Reports to have an 82% network coverage.</li> </ul>
	<ul style="list-style-type: none"> <li>Launched as Zain Sierra and rebranded Airtel in 2009 (owned by Bharti Airtel. Recently purchased by Orange.</li> <li>It has 238 towers and market share of between 30-40%.</li> <li>It claims to cover all 14 districts and 149 Chiefdoms, with a total network coverage of 82%</li> </ul>
	<ul style="list-style-type: none"> <li>A fairly new entrant into the market having been launched in 2014.</li> <li>Its market share is about 8%, with a 21% network coverage, mainly in Western Urban, Western Rural and Makeni.</li> </ul>
	<ul style="list-style-type: none"> <li>Created in 1995, 100% state-owned telecoms company operating traditionally as a fixed line provider</li> <li>Entered the mobile market with a CDMA2000 1x network providing fixed-wireless access and broadband internet services, hence becoming the first 3G mobile network in the country.</li> <li>Its market share is estimated at 3%.</li> </ul>

<sup>11</sup> CIA World Factbook.

<sup>12</sup> Source: interviews with stakeholders.

## 6. CURRENT STATE OF SIERRA LEONE DFS SECTOR

In order to assess the current state of the digital financial services landscape in Sierra Leone, we will refer to the ecosystem approach developed by UNCDF's Mobile Money for the Poor (MM4P) Programme. This approach breaks down the DFS ecosystem in six different pillars (or workstreams) that all together contribute to shaping the overall sector in a given country. This approach has already been applied successfully in other low income countries where MM4P currently works<sup>13</sup>.



### 6.1 Policy and regulation

The three key players in the DFS policy and regulation pillar in the country are the Bank of Sierra Leone (the central bank), NATCOM (the telecom regulator) and the Ministry of Finance and Economic Development (MoFED).

BSL has been recently active in the digital finance ecosystem and has formed a **financial inclusion working group**, of which digital finance is a component. The Bank launched Mobile Money Financial Services Guidelines in collaboration with UNDP in November 2015. In March 2016, it also organized a **regional conference on DFS** with participants from the Mano River Union Countries, Gambia and East and Southern Africa to discuss ways of scaling up DFS in Sierra Leone and the other West African countries where it has yet to have any sort of significant impact.

Prior to the launch of the guidelines, NATCOM was responsible for licensing operators to provide mobile money services as “value added services”. Going forward, its role should be limited to evaluating and approving the technical platforms of MM operators. Currently, **NATCOM is working on a new telecoms law which will take into account MFS**, expected to come on stream before the end of 2016.

Through the Ministry of Finance and Economic Development (MoFED), **Sierra Leone has also joined the Better than Cash Alliance (BTCA)** in 2015 and appointed a focal point for related matters within the Ministry. Its exact roles and responsibilities remain however unclear to date.

As far as the MMFS guidelines are concerned, these describe the licensing requirements for Mobile Financial Services providers, their roles and responsibilities and the supervision process. The key points of the guidelines are that:

- **Both the bank-led and the non-bank led models are allowed to operate**, with specific roles and responsibilities outlined for each, including agents.

<sup>13</sup> MM4P's overall objective is to demonstrate how the correct mix of technical, financial, and policy support can assist in scaling up sustainable branchless and mobile financial services that reach the poor in very low-income countries. The programme is currently active in Benin, Lao-PDR, Liberia, Malawi, Nepal, Senegal, Uganda and Zambia.

- In order to open an e-money account, MFS providers must carry out **Customer Due Diligence (CDD)** to comply with international KYC and AML/CFT standards. This requires clients to provide at least one of the following: a valid passport, driving permit, identity card, voter's card, financial card, local administration letter or business registration certificates.
- **Mobile money agents** must be registered businesses (i.e. formal) and have an account in a licensed financial institution. They are not allowed to carry out a transaction on behalf of a customer and cannot charge any fees directly to the customers (agency commission should be paid to the agents by the mobile money service provider).
- As far as supervision is concerned, the partnering licensed institution and the mobile money service provider must **provide periodic reports to BSL** on their mobile money operations.

**The MMFS guidelines are a positive first** step towards a more enabling DFS framework, but it is **unclear to what extent such guidelines are anchored to existing financial sector laws and regulations** (e.g. Financial Services Acts, etc.) and which tools and systems BSL or NATCOM have in place to identify and address malpractices. In addition, **a number of issues still need to be clarified** with regards to DFS regulation. Among these is the issue of **KYC**, which is critical to get more people into the formal financial sector. In fact, while the current MMFS guidelines accept a broad range of identification documents, a number of the more common ones, such as Voter's cards and Local Authority Letters, are not accepted by banks and other financial institutions. The guidelines are also silent on the **limits on transaction amounts** that can be done by e-money, which are crucial to determine what kind of payments (e.g. tax payments, loan disbursements, etc.) can realistically be delivered through e-money. Last but not least is the issue of **interest on trust accounts** held by MFS providers at banks – to whom does such interest belong?

A key challenge for this pillar is hence the **limited experience of both policy and regulatory bodies** in DFS. A clearer demarcation of roles between the three bodies (BSL, NATCOM, MoFED) and a harmonization of the corresponding policies and regulations has to be put in place (for e.g. what type of sanctions can BSL levy against an MNO providing mobile money services without infringing NATCOM's role and vice versa?).

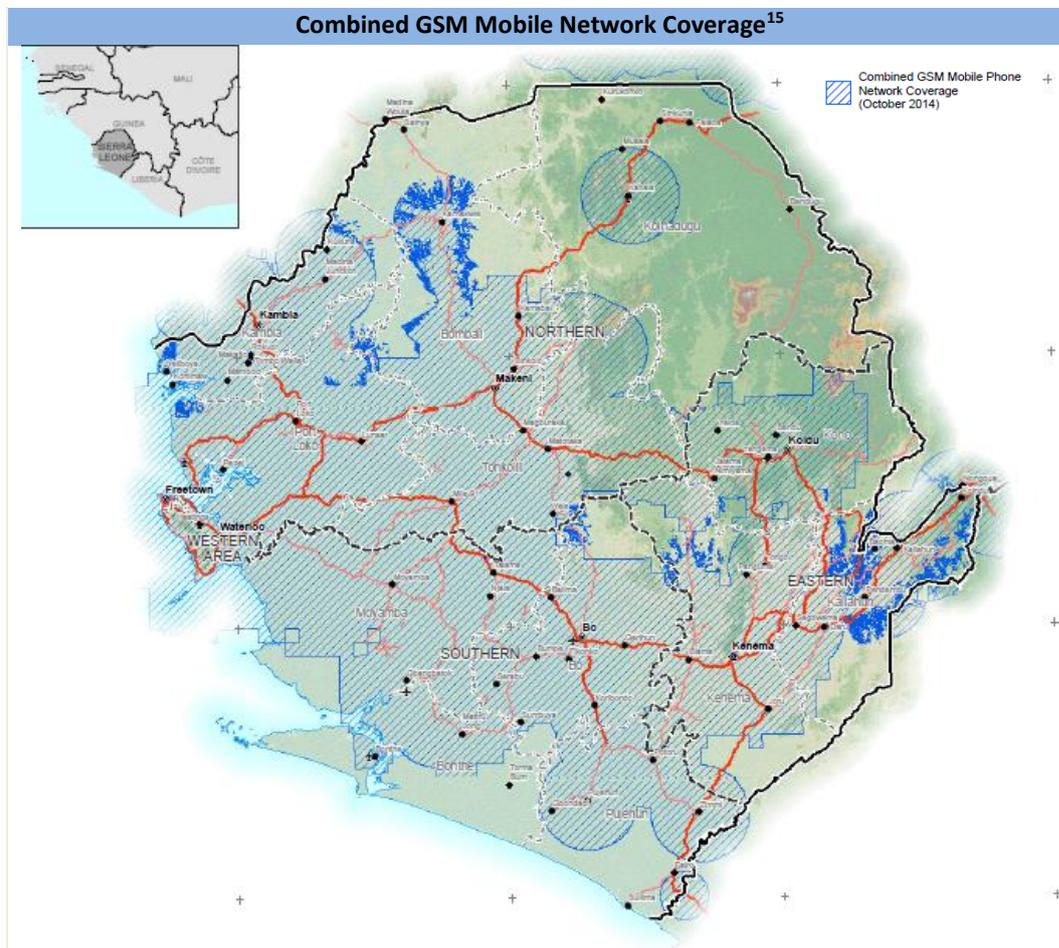
## 6.2 Infrastructure

There are three main infrastructure-related aspects that can have significant impact on the development of the DFS ecosystem in SL: the development of a **national payments switch**, the improvement of the **mobile network coverage** and the issuance of **national ID cards**.

**The central bank is leading the development of a National Switch** which will, among other things, enable inter-operability between commercial banks, allowing for example, to use one bank's cards to make transactions and/or payments at another bank's infrastructure (ATM, POS, etc.). It would also allow mobile payments between mobile money operators. On the other hand, the national switch is not expected to include non-bank financial institutions (NBFIs), such as MFIs and community banks, at least in the short term. Moreover, it is still **unclear** at this stage **when the switch could realistically be launched**.

As far as mobile phone network coverage is concerned, despite its improvement, **mobile coverage in Sierra Leone remains disproportionately skewed towards urban or semi-urban areas** of the country. The two largest MNOs (Airtel and Africell) claim to have at least 438

towers between them covering around 80% of the country<sup>14</sup>, but as can be seen in the map below, Freetown and Kenema District (Eastern Province) remain the areas with the highest coverage, whereas large parts of Northern and Southern Provinces still have limited/no coverage (Bombali, Koinadugu, Kono districts in the North, Bonthe, Pujehun in the South).



The above obviously affects the possibility of using mobile payments in **rural areas**, which remained **heavily constrained by network disruptions and/or lack of coverage**. In this regard, NATCOM recently fined one of the leading MNOs for poor quality of service<sup>16</sup>. There also appears to be a reluctance among MNOs to share the costs of erecting and maintaining towers where it may not be immediately profitable. In addition to the network coverage, power supply remains a challenge in several parts of the country and more so in rural areas and deters residents in those areas from owning mobile phones, or if they do, from using them much.

Last, the limited availability of national ID cards – **currently less than 10% of the population has ID cards** – is another barrier to the development of DFS. In this respect, the National Registration Secretariat (NRS) is planning to launch a **national registration campaign in September 2016** with the aim of registration and providing national ID cards to the entire population by Q3 2017. Nevertheless, this **timeframe seems exceedingly ambitious**,

<sup>14</sup> Source: interviews with stakeholders.

<sup>15</sup> Source: MapAction, October 2014.

<sup>16</sup> Source: [natcom.gov.sl/images/images/regulator\\_slams\\_usd\\_1\\_1.pdf](http://natcom.gov.sl/images/images/regulator_slams_usd_1_1.pdf)

especially for the rural areas, where the process is expected to be considerably longer than in urban ones. Complicating things further, the ECOWAS, of which SL is a member, has recently issued a new regulation requesting members states to provide **ECOWAS-compliant ID cards** to their nationals. Given that NRS has already purchased the necessary equipment to print the traditional ID cards (printers, consumables, etc.), the new regulation would require the purchase of new equipment for the more expensive ECOWAS-compliant cards, adding additional expenses and delays to the process.

### 6.3 Providers

As of March 2016, there are two main mobile money providers active in SL (Splash and Airtel Money) and another two in the process of (re-)launching (GT Simpay and Africell Money).

Provider	Splash	Airtel Money	Africell Money	GTBank
<b>Solution &amp; launch</b>	<ul style="list-style-type: none"> <li>E-wallet solution</li> <li>Launched in 2010</li> </ul>	<ul style="list-style-type: none"> <li>E-wallet solution</li> <li>Piloted in 2009 as Zain</li> <li>Launched in 2012 as Airtel Money</li> </ul>	<ul style="list-style-type: none"> <li>E-wallet solution piloted in 2014 for ERW payments</li> <li>Revamped solution to be launched</li> </ul>	<ul style="list-style-type: none"> <li>GT Simpay (SIM skin solution)</li> <li>Launched in February 2016</li> </ul>
<b>Technology</b>	<ul style="list-style-type: none"> <li>SMS-based (currently reviewing)</li> <li>Connected to all MNOs</li> </ul>	<ul style="list-style-type: none"> <li>USSD</li> <li>SIM toolkit</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>SMS-based</li> </ul>
<b>Customers</b>	<ul style="list-style-type: none"> <li>240,000 total clients</li> <li>40,000 active (90-days)</li> </ul>	<ul style="list-style-type: none"> <li>365,000 total clients</li> <li>119,000 active (30-days)</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
<b>Services offered</b>	<ul style="list-style-type: none"> <li>P2P</li> <li>Bulk payments (salaries, allowances, social transfers)</li> <li>Bill payment (utilities)</li> <li>Loan disbursement/repayment</li> </ul>	<ul style="list-style-type: none"> <li>Airtel top-up</li> <li>Bill payment</li> <li>merchant payments (supermarkets, schools)</li> <li>Bank-to-wallet (link to bank accounts)</li> </ul>	<ul style="list-style-type: none"> <li>Plans to offer</li> <li>Airtel top-up</li> <li>P2P</li> <li>Bill/merchant payments</li> <li>Loan disbursement/repayment</li> </ul>	<ul style="list-style-type: none"> <li>Access to GTB accounts through m-phone for</li> <li>Account-to-account transfers</li> <li>Merchant payments (to be developed)</li> </ul>
<b>Agents/distribution</b>	<ul style="list-style-type: none"> <li>1,000 total agents</li> <li>400 active agents (90-days)</li> <li>80 roaming agents (for rural areas)</li> </ul>	<ul style="list-style-type: none"> <li>3,500 total agents</li> <li>1,500 active (30 days)</li> </ul>	<ul style="list-style-type: none"> <li>Splash agents for cash in/out (initial)</li> <li>Own agent network (2nd step)</li> </ul>	<ul style="list-style-type: none"> <li>GTBank ATMs</li> <li>Selected merchants</li> <li>Airtel Money agents</li> </ul>
<b>FI partners</b>	<ul style="list-style-type: none"> <li>GTBank: CDA account &amp; agent</li> <li>EcoBank MF: CDA account &amp; agent</li> <li>CBs &amp; FSAs: agents</li> </ul>	<ul style="list-style-type: none"> <li>GTBank: CDA account &amp; bank-to-wallet</li> <li>Zenith Bank: CDA &amp; bank-to-wallet</li> <li>CBs &amp; FSAs: agents</li> <li>SMT: agent</li> <li>Send: agent</li> </ul>	<ul style="list-style-type: none"> <li>GTBank: CDA account</li> <li>EcoBank: CDA account &amp; agent</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
<b>Other partners</b>	<ul style="list-style-type: none"> <li>Bulk payments: NACSA, USAID-SNAP, IPA</li> <li>Revenue collection: EDSA, DsTV</li> </ul>	<ul style="list-style-type: none"> <li>Revenue collection: EDSA, DsTV</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>

**Splash was the first to launch its e-wallet solution in 2010.** It initially planned to provide mainly P2P transfers, but due to the very slow uptake from clients, after a couple of years **decided to focus mainly on corporate transactions (bulk payments and revenue collections)**, in order to drive usage and target agent network building and maintenance efforts in the areas where volumes concentrated. It now works mainly with large players providing salaries, allowances and social transfers (NACSA, USAID-SNAP) or collecting payments for utilities and other public services (EDSA, DsTV). It is also **working on a new technical platform** which would be made available to all aggregators (e.g. MNOs, financial institutions), but is experiencing challenges with the integration to other platforms.

**Airtel**, the other main MMO at the moment, launched its rebranded mobile money service, Airtel Money, in 2012 (it was previously operating as Zain) and currently **provides airtime top-up, P2P and bill/merchant payments** for selected players (DsTV, EDSA, supermarkets). It also has a **bank-to-wallet solution** in place with GTBank and Zenith Bank, allowing customers to move money from their Airtel Money e-wallets to their bank accounts and vice-versa. Airtel Money is currently in a **transition phase following the acquisition of Airtel in Sierra Leone by Orange**, which may slow down its operations in the market in the short-medium term.

As for **Africell**, it created and **piloted its e-wallet solution in 2014** to provide hazard payments to Ebola-response workers in the framework of the PPERW, and is now **working on a revamped solution** (Africell Money), based on the successful results of the project, which it expects to go live very soon. Finally, **GTBank** has recently launched its own mobile banking product (GT Simpay), a SIM skin solution which allows GTBank account holders to access and perform transactions on their accounts from their mobile phones simply by SMS (mainly account-to-account transfers for now, but merchant payments are expected to be developed soon).

Aside from these core mobile money providers, **other players**, mainly financial institutions, are trying to tap into this market, either by integrating their platforms with those of MMOs to link their accounts to e-wallets (bank-to-wallet), such as Zenith Bank and EcoBank, or aiming to develop their own mobile banking solutions at the group level (e.g. EcoBank MF).

In summary, despite the increasing interest towards DFS from different players, the **number and experience on DFS providers remains limited**. As of today, **only two providers** (Splash and Airtel Money) **are currently in a position to play a significant role** in the sector, and these providers too are experiencing some important challenges, as mentioned above.

At the sector level, **MMOs agree that UNDP and UNCDF's PPERW played a significant role in creating or strengthening the momentum for DFS and mobile money in particular, encouraging collaboration between providers, enhancing awareness and acceptance among the beneficiaries, and reinforcing the case for non-cash payments at the country level.**

DFS providers report the following **main challenges** to the development of their activities in SL:

- **Low customer education and acceptance of non-cash payments:** despite the high penetration of mobile phones in SL (80%), the low literacy levels (35%) and even lower bank account penetration (10%) implies that both the financial and technological literacy of the population remains low. The majority of the population is hence wary of non-cash

payments, even more so if they are based on mobile phones. At the same time, even urban customers who may be financially-included and more technologically savvy, tend to be hesitant in making mobile payments on their own. As a result, **more than half of bill payment transactions (e.g. EDSA, DsTV) still take place over the counter (OTC)**, meaning that customers prefer to hand cash to an agent to carry out the payment for them, rather than doing it themselves from their phones. DFS providers agree that considerable efforts need to be devoted to the sensitization of customers on the meaning and benefits of financial services in general and digital payments in particular;

- **Insufficient mobile phone penetration in rural areas:** even though, as mentioned, mobile phone penetration across the country has significantly improved in recent years (4.7 million mobile cellular subscriptions in 2014<sup>17</sup>), rural areas remain characterized by a **lower number of mobile phone holders**, specifically among low income households. This is particularly a **challenge in providing social transfers via mobile payments** to such households, as underscored by NACSA and Splash’s experience.
- **Lack of payments interoperability:** the current impossibility of performing inter-bank (from bank to bank) and inter-network (from MNO to MNO) transfers and payments is considered as one of the major barriers by stakeholders and providers alike. The launch of the national payments switch is expected to address such challenges, but providers report a lack of information on the progress of development of the switch and when exactly it will be launched.

#### 6.4 Distribution

For the purposes of this assessment, we consider the (potential) distribution network for DFS in SL to include all access points of financial institutions and MNOs alike, hence including branches, agents, ATMs and POS machines.

This being said, **financial institutions** (banks, MFIs, CBs and FSAs) currently have a network of close to 250 total branches/access points countrywide. Whereas banks and MFIs’ presence is concentrated mainly in the Western Area with 87 branches (48% of total bank/MFI branches), community banks and financial service associations are exclusively based in the other provinces, with a total of 68 branches/access points. In addition to brick and mortar branches, there are a total of 58 ATMs operating in the country, which are concentrated in the capital and urban centres. Only four banks have rolled out POS terminals to date. The table below presents the geographical distribution across provinces of the different financial institutions. As can be seen, on the whole, financial institutions’ footprint remains **largely concentrated in the Western Area and Northern Province**, with the Southern Province having the lowest number of access points.

**Financial institution presence across provinces (2015)**

Type of FI	Western Area	Northern Province	Eastern Province	Southern Province	Total
Banks	52	20	13	12	<b>97</b>
MFIs	35	26	11	10	<b>82</b>
FSAs	-	19	25	7	<b>51</b>
CBs	-	5	8	4	<b>17</b>
<b>Total</b>	<b>87</b>	<b>70</b>	<b>57</b>	<b>33</b>	<b>247</b>

<sup>17</sup> Source: ITU Mobile Cellular Statistics, 2000-2014.

As far as **MMOs' agent networks** are concerned, Splash and Airtel Money combined claim to have **more than 4000 mobile money agents** across the country, but only about half of them are reportedly active (i.e. performed at least a transaction in the last 30 days). In rural areas, **agent liquidity is considered as a major barrier** to mobile money adoption, as agents frequently do not have sufficient liquidity to satisfy cash-out demands of clients, particularly because the latter generally tend to withdraw the entire amount from their e-wallets as soon as they receive any form of mobile transfer or payment. Agent liquidity is also affected by the fact the mobile money services are still not regularly used by consumers and so the MNOs and their agents are still in the process of deciding what the average cash-in and cash-out payments volumes are over a given period. Further, agents are not yet convinced by mobile money as a regular and profitable revenue stream and hence are unwilling to invest significant funds (and liquidity) for mobile money transactions. Agent liquidity is particularly problematic in rural areas, where, coupled with the already mentioned challenges in mobile phone ownership and network coverage, the majority of payments still have to take place in cash. As an example, Splash, which currently has an agreement with NACSA to deliver social transfers to its beneficiaries, is currently still obliged to physically transport cash to beneficiaries in these areas through roaming agents.

In an effort to alleviate agent liquidity challenges, both Splash and Airtel Money have partnered with **CBs and FSAs to act as agents and aggregators** for their mobile money clients, particularly given their relatively widespread network outside of the Western Area. However, this has not solved the problem as FSAs also often have liquidity challenges (given they do not collect deposits, unlike CBs) and hence prefer to maintain cash for loan disbursements to their own clients rather than to satisfy MMOs' clients' cash-out requests.

Again, the agent liquidity issue is closely linked with the building of client awareness and acceptance of electronic money and payments. As clients build trust in e-money and mobile payments and the network of merchants and shops accepting e-money expands, the need for cash-in/out would reduce, putting less strain on agents to satisfy large and simultaneous cash-out requests (e.g. a group of mobile payment beneficiaries in a given area all requesting to cash-out their entire amount from the same agent).

Other than the issue of agent liquidity issues, there are two other issues which affect agent management and potentially, performance. First, **agents are non-exclusive**. This is unusual in countries where mobile money is still at its nascent stage. The dangers of non-exclusivity are:

- It could be a disincentive for an MMO to invest in a large and high-quality agent network and MMOs may be more inclined to recoup their investment costs from customers through higher service fees;
- It could increase liquidity constraints for agents in keeping adequate floats for each MMO they work with;
- No single MMO has responsibility for monitoring agent behavior and enforcing discipline or has liability for agents' fraudulent practices.

The other side of the coin, of course, is the cost of developing a high quality and exclusive agent network, as well as the danger that exclusive agent networks may lead to too many agents with too little business, especially in the early mobile money development stages.

Second and perhaps due to the fact that agents are non-exclusive, is that the **MMOs provide only basic training to their agents**. Splash reported that it provides only basic agent training.

Airtel too did not report any specific training, other than the basics, especially as the agents are not directly selected by Airtel but by the super-agents or aggregators.

### 6.5 Payment and products / high volume business cases

The table below seeks to provide an overview of the different payment streams existing in Sierra Leone, taking into account the 3 main payers/payees (government, businesses and individuals) and providing estimated figures where possible (i.e. where data was available).

Payments matrix with estimated figures (SLL per year)

		PAYEE		
		Government	Business	Person
PAYER	Government	<b>G2G</b> <ul style="list-style-type: none"> <li>Transfers to MDAs: 680B</li> <li>Transfers to local councils: 64B</li> </ul>	<b>G2B</b> <ul style="list-style-type: none"> <li>Supplier payments</li> <li>Utility payments</li> </ul>	<b>G2P</b> <ul style="list-style-type: none"> <li>Public worker wages: 1,445B</li> <li>Pensions: 88B</li> <li>Welfare payments                             <ul style="list-style-type: none"> <li>NaCSA: 1.3B</li> <li>NASSIT: 74B</li> </ul> </li> </ul>
	Business	<b>B2G</b> <ul style="list-style-type: none"> <li>Corporate tax: 270B</li> <li>Fees for licenses/permits</li> </ul>	<b>B2B</b> <ul style="list-style-type: none"> <li>Supplier payments</li> <li>Utility payments</li> <li>Pension contributions</li> </ul>	<b>B2P</b> <ul style="list-style-type: none"> <li>Salaries and benefits</li> <li>MFI loan disbursements: 67B</li> </ul>
	Person	<b>P2G</b> <ul style="list-style-type: none"> <li>Personal income tax: 618B</li> <li>Utility payments                             <ul style="list-style-type: none"> <li>EDSA: 182B</li> <li>Salwaco</li> </ul> </li> </ul>	<b>P2B</b> <ul style="list-style-type: none"> <li>Utility payments                             <ul style="list-style-type: none"> <li>DsTV</li> <li>Guma Valley Water</li> <li>Petroleum products</li> </ul> </li> <li>Goods/services payments                             <ul style="list-style-type: none"> <li>Supermarkets</li> <li>School fees</li> </ul> </li> </ul>	<b>P2P</b> <ul style="list-style-type: none"> <li>Domestic remittances: 1,200B (formal and informal channels)</li> <li>International remittances: 840B to 2000B (formal channels only)</li> </ul>
	Development	<b>D2G</b> <ul style="list-style-type: none"> <li>Utility payments</li> </ul>	<b>D2B</b> <ul style="list-style-type: none"> <li>Utility payments</li> </ul>	<b>D2P</b> <ul style="list-style-type: none"> <li>Salaries, allowances &amp; social transfers                             <ul style="list-style-type: none"> <li>USAID/SNAP</li> <li>IPA</li> <li>Tony Blair Foundation Malaria Prevention Project</li> <li>LEAP grants (UKAid)</li> <li>World Food Program</li> <li>Int'l Rescue Committee (IRC)</li> <li>NGOs (Goal NGO, etc.)</li> </ul> </li> </ul>

Sources: Interviews with stakeholders, MoFED (figures for Dec 2014), PHB (2013), UNDP (2010)

As can be seen, the **government is by far the largest payer**, if we consider both the G2G (payments to MDAs and local councils) and the G2P (salaries and wages, pensions and welfare payments) payment streams.

The **G2P payment stream** in particular presents huge potential for digitization, given that the large majority of these payments are now exclusively in cash. A notable exception is **NACSA**, which started experimenting with Splash in 2014 to deliver social payments to low income households and Ebola-affected youth through mobile payments. However, due to

the mentioned challenges on m-phone coverage and penetration, as well as the scattered and very rural locations of recipients, NACSA and Splash decided to revert back to using bulk cash payments for the NACSA beneficiaries. Nevertheless, some of these challenges are likely to be reduced for government salaries or social security payments (NASSIT), as many recipients would probably have better access to and experience with financial institutions and/or mobile phones.

As an illustration of the potential to digitize G2P payments, according to MoFED's Budget Profile 2014-2018, budgeted figures for **government payments to individuals** for 2016 are equal to **SLL 1,650 billion**, subdivided as follows:

- SLL 327 billion for civil servants, of which health workers represent the most significant category
- SLL 409 billion for teachers. In this regard, it should be noted that the Ministry of Education, Science and Technology recently issued a public notice stating that all teachers residing in areas with bank presence would be paid through banks transfers as of April 2016. This represents a promising first step towards payments digitization, to be closely observed
- SLL 242 billion for police and military forces.

The other high volume payment stream with strong potential for digitization is the **P2P** one, for both domestic and international remittances. **Domestic remittances** estimated at over **SLL 1,200 billion per year**<sup>18</sup>, of which 92% is transferred through informal channels only, with the remaining 8% split between money transfer organizations and banks. As for **international remittances**, estimates vary significantly – **SLL 840 to 2000 billion through formal channels only**, meaning that the total figure including informal channels must be considerably higher – with 86% of overseas Sierra Leoneans sending money home regularly (mainly from US and UK)<sup>19</sup>. Despite such potential, however, the already-mentioned low level of trust in non-cash means and low financial literacy of the population make this payment stream particularly difficult to tackle, at least in the initial phases, as demonstrated by Splash's experience.

Last, additional payments streams with significant potential to go digital could be the **P2G and B2G** ones, particularly with regards to **tax payments (personal income and corporate taxes)**. These streams could easily leverage and learn from EDSA's – the national electricity company – experience, which outsourced revenue collections (i.e. recharging of pre-paid meters) in 2011 to a network of aggregators and mobile money agents (Splash and Airtel Money). Today, over 75% of its payments come through the aggregators and MM agents, with the remaining 25% coming from banks and EDSA outlets (even though the latter are gradually disappearing).

## 6.6 Customers

The team conducted focus groups discussions (FGDs) with three segments of potential and actual DFS and MFS users – women, rural dwellers and Ebola response workers (ERWs) – for a total of 27 participants. The main findings are presented below.

### Women – clients of Salone Microfinance Trust MFI, Waterloo branch – 12 participants

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<sup>18</sup> Source: Sierra Leone Mobile Money Transfers Market Study for Cordaid, PHB Development, 2013.

<sup>19</sup> Source: Remittances Strategy Framework for Sustainable Development in Sierra Leone, UNDP and GoSL, 2009.

- Low literacy. Mostly do not have bank accounts (except those in formal employment, e.g. teachers). Have several and frequent cash needs, which are costly in terms of opportunity costs and bank charges; hence, even those with bank accounts tend to leave only bare minimum
- All have mobile phones, mainly used only for calls. Little use of SMS due to low literacy levels, All have heard of Airtel money, but very few have used it-
- Do not feel MM will make a difference since they are located close enough to MFI branch where they access most of their financial services. Concerns: security of MM, e.g. losing phone, fraud esp. since they are not very literate, commissions
- Prefer the current system of receiving cheques, cashing at a bank/MFI, etc.

#### **Ebola-response workers – UNFPA contact tracers – 7 participants**

- All literate, secondary or tertiary education. Some have bank accounts.
- Were “obliged” to use MM for Ebola payments and appreciated it. They continue using it now, mostly for P2P transfers, especially men (women seem less receptive to DFS/MM).
- Prefer MM to bank accounts, as banks are seen as unreliable (system always ‘down’), expensive, rigid, poor service and not always located close enough.
- MM payments have the advantage of close enough proximity, convenience of collection/cashing out and in through flexible ‘opening’ hours;

#### **Rural dwellers – Moyamba Town – 8 participants**

- Save with both formal (bank accounts) and informal means (Osusu), but prefer the informal ones. Osusu forces them to save, is convenient and meets urgent needs.
- Bank liquidity (cash in vault) is often a problem. Cash is rationed. Desired withdrawal cannot be served in full or clients wait for 1 to 3 days for the cash to arrive.
- Are interested in a service that will allow to make financial transaction directly from their phones (MM).
- There is a serious lack of customer service support by MNOs for rural clients (e.g. no customer service office and no answer from hotlines).

All in all, the overall findings can be summarised as follows:

- The **educational level of the potential DFS/MFS user** matters and sensitisation campaigns should hence take this into account;
- Similarly, **gender considerations** should be noted, as women appear more cautious and therefore less receptive and may need more sensitisation;
- **Mobile money commissions**, especially cash-out fees, are perceived to be high;
- Unreliability of **network coverage** and the frequent power cuts are perceived as key challenges for clients to take up MFS.

More generally, there appears to be across user segments a significant degree of fear of the unknown or the unfamiliar. Even where the familiar option may be not particularly cheap or safe (e.g. standing in line at the bank, sending money informally), clients seems to prefer this option rather than trying a new, unknown one.

## 7. DFS VISION FOR SIERRA LEONE

This chapter describes the overall state and proposed vision for the development of DFS in Sierra Leone according to UNCDF’s Mobile Money for the Poor (MM4P) approach. Even though such programme is currently not operating in SL, we believe that its approach brings insight on the challenges and strategies adopted in other countries that can be very relevant for SL too.

### 7.1 SWOT of Sierra Leone DFS ecosystem

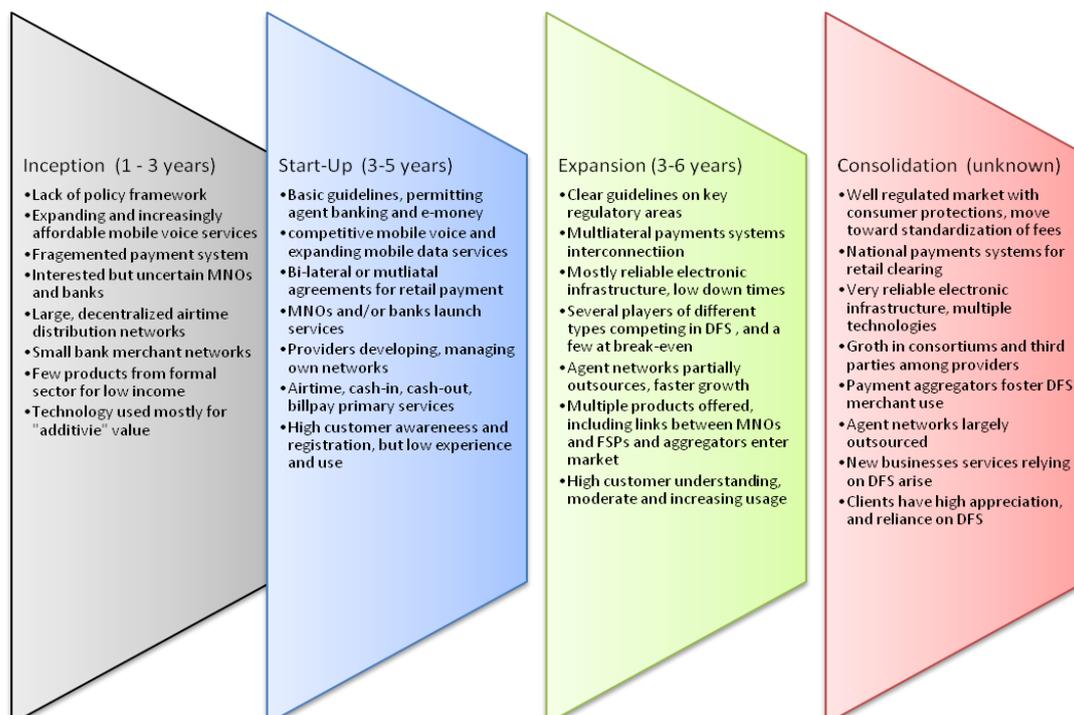
The table below presents the strengths, weaknesses, opportunities and threats (SWOT) of SL’s DFS ecosystem for each of the six MM4P workstreams.

	Strengths	Weaknesses
<b>Internal –SL DFS sector</b>	<p><b>Policy &amp; Regulation</b></p> <ul style="list-style-type: none"> <li>Mobile money guidelines recently introduced by BSL create a clearer framework for DFS</li> <li>Government is committed to digitizing payments: MoFED joined Better than Cash Alliance (BTCA), BSL member of Alliance for Financial Inclusion (AFI)</li> </ul> <p><b>Providers</b></p> <ul style="list-style-type: none"> <li>A number of different providers (MNOs, banks, MFIs, FSAs/CBs) already active/showing interest in DFS</li> </ul> <p><b>Customers</b></p> <ul style="list-style-type: none"> <li>Customers who have been exposed to mobile payments (e.g. ERWs) report positive experiences</li> </ul> <p><b>Infrastructure</b></p> <ul style="list-style-type: none"> <li>Mobile phone penetration is high and increasing (80%), albeit still low among poor, rural households</li> </ul> <p><b>Distribution</b></p> <ul style="list-style-type: none"> <li>Good network of financial service access points (FSAs and CBs) outside of Western Area</li> </ul> <p><b>Products &amp; payments/high volume</b></p> <ul style="list-style-type: none"> <li>Positive DFS experience of certain players (e.g. EDSA) can serve as an example/reference for other pilots</li> <li>Growing interest of NGOs &amp; development agencies (USAID, NaCSA) to use digital means for social payments/cash transfers</li> </ul>	<p><b>Policy &amp; Regulation</b></p> <ul style="list-style-type: none"> <li>Limited experience of government and regulator on DFS</li> <li>Unclear division of roles and responsibilities on DFS between BSL, NATCOM &amp; MoFED</li> <li>Insufficient regulation of DFS and MMFS sector (KYC, transaction limits, etc.)</li> </ul> <p><b>Providers</b></p> <ul style="list-style-type: none"> <li>Limited experience of providers (Africell and GTBank just launching, Airtel in operational slowdown after Orange purchase)</li> </ul> <p><b>Customers</b></p> <ul style="list-style-type: none"> <li>Low level of education among customers on DFS and financial services in general, coupled with very high incidence of cash usage/low trust in non-cash means</li> </ul> <p><b>Infrastructure</b></p> <ul style="list-style-type: none"> <li>Persisting gaps in mobile network coverage between rural and urban areas. Lack of MNO customer service support in rural areas (few offices and long waiting time in hotlines)</li> <li>Lack of national switch allowing for payment interoperability (although BSL is working on this)</li> </ul> <p><b>Distribution</b></p> <ul style="list-style-type: none"> <li>Insufficient liquidity of mobile money agents and other access points (e.g. FSAs)</li> </ul> <p><b>Products &amp; payments/high volume</b></p> <ul style="list-style-type: none"> <li>E-money is mostly used for airtime top-up</li> <li>Payments and transactions are almost exclusively based on cash</li> </ul>
	Opportunities	Threats
<b>External – SL overall environment</b>	<p><b>Policy &amp; Regulation</b></p> <ul style="list-style-type: none"> <li>UNDP/UNCDF and potentially other international donors (WB, AfDB) are willing to support GoSL in developing DFS both technically and financially</li> </ul>	<p><b>Policy &amp; Regulation</b></p> <ul style="list-style-type: none"> <li>Inadequate/unclear regulation of digital technology (network failure, lost data) and agent-related risks (errors, fraud) could hinder building of trust on DFS</li> </ul>

<p><b>Providers</b></p> <ul style="list-style-type: none"> <li>Success of PPERW has strengthened momentum to collaborate to enhance DFS in the country</li> </ul> <p><b>Customers</b></p> <ul style="list-style-type: none"> <li>People in urban areas (particularly youth) are more technologically savvy and can represent an ideal starting point for (new) DFS initiatives</li> </ul> <p><b>Infrastructure</b></p> <ul style="list-style-type: none"> <li>National civil registration campaign and expansion of National ID issuances will improve CDD/KYC and could lead to more people accessing bank or mobile money accounts</li> </ul> <p><b>Distribution</b></p> <ul style="list-style-type: none"> <li>Common challenges on agent liquidity and distribution among providers are an opportunity to collaborate in the creation of a shared, dependable agent network</li> </ul> <p><b>Products and payments/high volume</b></p> <ul style="list-style-type: none"> <li>Government as largest cash payer in SL offers strong potential to pilot DFS payments (e.g. teachers' salaries in bank accounts)</li> </ul>	<p><b>Providers</b></p> <ul style="list-style-type: none"> <li>Competing commercial interests of providers (unwillingness to share infrastructure, knowledge) could hamper collaboration efforts</li> </ul> <p><b>Customers</b></p> <ul style="list-style-type: none"> <li>Low literacy (35%) and poverty of population (53%) can pose structural challenges to m-phone usage and acquisition, esp. in rural areas</li> </ul> <p><b>Infrastructure</b></p> <ul style="list-style-type: none"> <li>Energy distribution and infrastructure is limited and costs are very high (e.g. m-phone charging in off-grid areas)</li> </ul> <p><b>Distribution</b></p> <ul style="list-style-type: none"> <li>Problems in logistics/cash movements due to poor road network will cause persistent challenges in agent liquidity and costs of services (i.e. delivering cash where needed)</li> </ul> <p><b>Products and payments/high volume</b></p> <ul style="list-style-type: none"> <li>Very high incidence (92%) and perceived reliability/efficiency of informal remittances makes the case for digitizing money transfers very difficult (as demonstrated by Splash's experience)</li> </ul>
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## 7.2 Current state of development of Sierra Leone DFS ecosystem

The Mobile Money for the Poor (MM4P) theory of change refers to four phases in the roll-out of digital financial services in a given country: Inception, Start-up, Expansion and Consolidation.



Sierra Leone has passed the Inception phase and is currently in the Start-Up phase. Its main challenges to develop DFS in the coming years are likely to be the following:

1. **Building client awareness and acceptance** of financial services and DFS, fostering trust in non-cash payment means
2. **Improving mobile network coverage and furthering mobile phone penetration, particularly in rural areas**
3. **Creating a dependable, high quality and widespread network of agents/access points** across the country, allowing to convert physical cash to e-money and vice versa, especially outside of the Western Area
4. **Establishing a national payments system** enabling interoperability of payments and transfers between all kinds of players (MNOs, financial institutions, money transfer organizations, etc.)

### 7.3 Ecosystem approach for the development of DFS in Sierra Leone

In light of the above, the focus of an ecosystem approach for the development of DFS must be on making shifts between stages of market development, moving from Start-up to Expansion and eventually to a mature and consolidating market. This requires coordinated actions which will push DFS to a point where societies become “digital” and the industry is consolidated.

This section proposes recommendations for a DFS ecosystem development programme in Sierra Leone. Recommendations are presented according to the six pillars (plus the ecosystem itself) of MM4P’s already-mentioned DFS methodology and have been **validated with sector stakeholders during a workshop hosted by UNDP and UNCDF in Freetown on 24<sup>th</sup> March 2016**. Furthermore, **based on MM4P experience, recommendations are phased according to three stages: Buy-In, Improve and Innovate**.

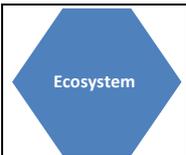
- **Stage 1 – Buy-in: build relationships with all stakeholders in the sector.** This is mainly done through **market research, workshops and trainings** (e.g. on regulatory matters, national payments, agent management, client-centric research, etc.), as well as through the establishment of a **sector-wide DFS working group** including all key stakeholders. During this time, the **DFS programme needs to be institutionalized** in the country, with adequate funding, an on-site DFS Expert, and strong relationships with the government, capable of building a joint vision and channelling the best international experience to Sierra Leone. During this stage, the **focus would be to work with some key stakeholders in launching or improving their current business and building credibility at partner and customer levels, together with a large-scale client education campaign**. The focus would then be to **pilot an urban roll-out with basic services to establish traction** (e.g. some G2P, P2G and B2G models to be tested).
- **Stage 2 – Improve: facilitate and support a nationwide expansion.** With providers gaining confidence around services, the stage would focus on **assisting a national expansion**. This will require **crowding in fairly large scale investment** to expand nationally, outside of a handful of urban centers. This is the most capital-intensive and time-consuming of all the stages and requires continued funding support if rural populations are to benefit from DFS. The stage would be characterized by innovations **in product offerings** and a more **customer-centric approach** to drive positive experience. Large scale integrations and partnerships around **high volume drivers like G2P/P2G** (salaries, social transfers and taxes) **and B2P/P2B** (salaries, allowances, payments for services/goods, loan disbursements/repayments) payments will be

necessary to drive efficiency of transactions, lower the cost of handling cash, and encourage mass customer uptake and usage.

- Stage 3 – Innovate: move to the rural and international scales.** Due to the credibility built in the market, this stage will imply **working with several stakeholders to design and launch innovative concepts and partnership models to further reach low income, rural and unbanked households.** In particular, this should include P2P payments, namely domestic and international remittances, with a view to **shifting money transfers from the informal to the formal channels.** With an estimated diaspora of one million Sierra Leoneans, of which 86% send money home regularly, and 47% of the population declaring to make cash payments only, P2P payments may well be the largest of all payment streams in the country<sup>20</sup>.

This ecosystem approach requires long-term involvement of all stakeholders in the country. The proposed DFS ecosystem development programme is hence planned from 2016 (starting from 2<sup>nd</sup> semester) to 2019.

### Ecosystem Development

	<b>Overall strategy:</b> Provide consistent access to technical expertise on DFS for all stakeholders, raise the level of knowledge within the industry, promote discussions and partnerships between stakeholders and foster innovation in the sector.		
Activity:	Year Planned	Expected outputs	Remarks and comments
<b>All stages: from 1 to 3</b>			
Establish and run a DFS working group including all stakeholders (government, regulators, donors, MNOs, FIs, agents, clients)	2016-2019	<ul style="list-style-type: none"> <li>▪ Exchange and development platform for the industry</li> <li>▪ Market participants are better informed, can lobby together and adopt best practices from other countries</li> <li>▪ Platform for regulator and government to interact with market participants</li> </ul>	Representation at the Ministry level (Finance and others) is particularly crucial to: <ul style="list-style-type: none"> <li>▪ facilitate the move to G2P/P2P payments</li> <li>▪ create a channel for questions from the industry</li> <li>▪ enable broader buy-in</li> </ul>
Recruit resident advisor to coordinate DFS activities	2016-2019	<ul style="list-style-type: none"> <li>▪ Guide and develop the overall country DFS strategy and activities</li> <li>▪ Maintain relationships with all stakeholders to ensure information-sharing and learning</li> <li>▪ Mobilize additional international experts as needed</li> </ul>	
Promote DFS-related events and publications at regional & national level	2016-2019	<ul style="list-style-type: none"> <li>▪ Workshops, publications and study tours to countries with more developed DFS</li> <li>▪ Regular interaction to share knowledge and best practices, promoting discussions and</li> </ul>	West African sub-regional workshop on MFS organised by BSL and International Growth Centre in March 2016 is a good starting point

<sup>20</sup> Sources: Remittances Strategy Framework for Sustainable Development in Sierra Leone, UNDP and GoSL, 2009; and Payments and Money Transfer Behavior of Sub-Saharan Africans, Gallup, 2012.

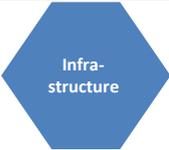
		<ul style="list-style-type: none"> <li>partnerships between stakeholders</li> <li>▪ Invitation of speakers from other organizations/markets to provide insight into key factors of success and failures in early stages of other markets</li> </ul>	
Carry out a ranking of potential key partners in DFS in SL for UNDP/ UNCDF support and engagement		List with priority partners for DFS efforts to focus on in the first 6-12 months	
Conduct and update DFS access point mappings <ul style="list-style-type: none"> <li>• 1 map</li> <li>• 1 update</li> <li>• 1 update</li> </ul>	2016 2017 2018	<ul style="list-style-type: none"> <li>▪ Build on the existing financial institution network</li> <li>▪ Maps are made available to stakeholders and researchers to do cross-data analysis and identify opportunities</li> </ul>	

### Policy and regulation

	<b>Overall strategy:</b> Provide capacity building support on DFS to government and regulators (MoFED, BSL, NATCOM), enhance regulatory coordination and harmonization, showcase solutions and leverage international know-how at the regional level (WAMZ).		
<b>Activity:</b>	<b>Year Planned</b>	<b>Expected outputs</b>	<b>Remarks and comments</b>
<b>Stage 1: Buy-in</b>			
Select one or more DFS focal persons at BSL, so that the regulator has a full time dedicated resource	2016	Stakeholders have a key DFS person at BSL to contact for information and questions	
Build capacity of government & regulators on DFS	2016-2019	Training, workshops, regional exchanges on (but not limited to): <ul style="list-style-type: none"> <li>▪ Retail payment systems</li> <li>▪ Agent banking channels</li> <li>▪ Technology-driven instruments and products</li> <li>▪ Customer Protection and Supervision</li> <li>▪ Interoperability of services to drive growth</li> </ul>	
<b>Stage 2: Improve</b>			
Support regulatory improvement & harmonization to create a conducive DFS ecosystem, enable client uptake & ensure consumer protection	2016-2019	<ul style="list-style-type: none"> <li>▪ Regulatory harmonization workshops between BSL, MoFED &amp; NATCOM</li> <li>▪ Coordination with international agencies: WB, UNDP/UNCDF</li> <li>▪ Improved regulations allowing for (among others):               <ul style="list-style-type: none"> <li>○ Multiple products: loan disbursements/repayments, insurance, etc.</li> <li>○ Lighter KYC requirements for</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ BSL is already working with WB and UNDP on national financial inclusion &amp; literacy strategies</li> <li>▪ NATCOM is updating telecom law with WB</li> </ul>

		<ul style="list-style-type: none"> <li>non-ID card holders to use digital channels (voter's cards, driving permit, etc.) <ul style="list-style-type: none"> <li>○ Other e-payment technologies, e.g. cards &amp; biometrics</li> </ul> </li> </ul>	
Create forum for exchanges on DFS among WAMZ regulators	2016-2019	<ul style="list-style-type: none"> <li>▪ Sharing of lessons learned and best practices within WAMZ</li> <li>▪ Strengthening of BSL confidence to allow innovative DFS ecosystem</li> <li>▪ 1<sup>st</sup> step towards cross-border mobile money transactions</li> </ul>	
<b>Stage 3: Innovate</b>			
Develop standardised regional DFS regulations to enable cross-border transactions	2018-2019	Launch of WAMZ wide regulations allowing international P2P transfers	

### Infrastructure

	<p><b>Overall strategy:</b> Assist all stakeholders to collaborate to create improved infrastructure for payments, personal identification and mobile phone coverage, which will benefit all parties involved</p>		
<b>Activity:</b>	<b>Year Planned</b>	<b>Expected outputs</b>	<b>Remarks and comments</b>
<b>Stage 1: Buy-in</b>			
Organise workshop on national payments system	2016	<ul style="list-style-type: none"> <li>▪ Update all stakeholders on status and development of national switch</li> <li>▪ Establish clear timelines for launch of payment switch</li> </ul>	▪
Organise workshop on MNO interoperability & collaboration	2016	Foster collaboration between MNOs and MMOs	It might be beneficial to engage GSMA as well
Organise workshop on customer due diligence, KYC, AMF/CFT requirements	2016	<ul style="list-style-type: none"> <li>▪ Discuss status and progress of national registration campaign</li> <li>▪ Evaluate alternatives for lighter KYC requirements to allow financial inclusion for non-card holders</li> </ul>	Pros and cons of standard ID cards as opposed to ECOWAS-compliant cards (more expensive) should be considered
<b>Stage 2: Improve</b>			
Advocate for improved network coverage countrywide (esp. in rural areas)	2016-2019	Encourage MNOs to share towers in areas where it is uneconomical for a single MNO to invest	
Expedite the issuance of ID cards to the population	2016-2019	<ul style="list-style-type: none"> <li>▪ Complete registration campaign and provide national ID cards to the entire population</li> <li>▪ Allow poorer and more rural individuals to open bank accounts</li> </ul>	<ul style="list-style-type: none"> <li>▪ Current plans to issue IDs to entire population by end-2017 are very ambitious</li> <li>▪ NRS could be included in DFS working group</li> </ul>
<b>Stage 3: Innovate</b>			
Promote alternative power supply sources (e.g. solar) in rural areas	2018-2019	Coordinate with existing initiatives providing energy to off-grid chiefdoms (solar home systems,	Some countries are already offering solar pay as you go (PAYG) systems

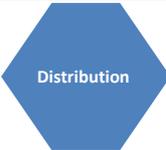
(e.g. for phone charging)		etc.) <ul style="list-style-type: none"> <li>▪ Launch innovative “digital finance plus initiatives”, e.g. solar systems paid through mobile money</li> </ul>	financed through mobile money: Mobisol and M-Kopa
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**Providers**

	<b>Overall strategy:</b> Assist DFS providers to develop and improve digital strategies and roll-outs, build trust to develop partnerships with high potential players and foster cooperation across the sector		
	<b>Activity:</b>	<b>Year Planned</b>	<b>Expected outputs</b>
<b>Stage 1: Buy-in</b>			
Organise DFS strategy & business modeling workshops	2016	Improve and fine tune business models of DFS providers (MNOs, MMOs, FIs)	
Develop potential projects (project concepts) to support DFS providers to enter the market and/or improve current strategy	2016-2017	<ul style="list-style-type: none"> <li>▪ Identify projects with committed partners</li> <li>▪ Through DFS resident advisor, provide direct technical advice to high potential partners</li> <li>▪ Establish a collaborative environment, possibly including 3<sup>rd</sup> party DFS solutions providers</li> </ul>	
<b>Stage 2: Improve</b>			
Support at least 2 partners in entering the market and/or improving their DFS strategy	2016-2017	<ul style="list-style-type: none"> <li>▪ Partners enter the market &amp; improve their strategy</li> <li>▪ Lessons learned for the industry are collected and distilled</li> </ul>	
Pilot selected <u>G2P</u> and/or <u>P2G</u> payment streams	2017-2018	<ul style="list-style-type: none"> <li>▪ Conduct a pilot with a DFS provider to digitalize selected G2P/P2G payment streams (salaries, social payments, taxes)</li> </ul>	<ul style="list-style-type: none"> <li>▪ MDA salaries &amp; allowances</li> <li>▪ NASSIT pensions/benefits</li> <li>▪ Local council tax, market dues</li> </ul>
Pilot selected <u>B2P</u> and/or <u>P2B</u> payment streams	2017-2018	<ul style="list-style-type: none"> <li>▪ Conduct a pilot with a DFS provider to digitalize selected B2P/P2B payment streams (salaries, allowances, payments of goods/services)</li> <li>▪ Build an expanding network of merchants accepting digital payments, in order to decrease cash out needs and keep e-money in the system</li> </ul>	<ul style="list-style-type: none"> <li>▪ Private company/NGO salaries &amp; payments</li> <li>▪ School fees, Water (Guma)</li> </ul>
Pilot selected <u>B2B</u> payment streams	2017-2018	Conduct a pilot with a DFS provider to digitalize a selected B2B payment stream (e.g. loan disbursement/repayment)	<ul style="list-style-type: none"> <li>▪ Loan disbursement/repayment</li> <li>▪ Deposits/withdrawals from bank account</li> </ul>
<b>Stage 3: Innovate</b>			
Build capacity through	2018	Technological advancement will enable	

innovation workshops		new business opportunities, so that providers can innovate	
Pilot a P2P payment stream (e.g. international remittances)	2018-2019	<ul style="list-style-type: none"> <li>▪ Establishing an international working group between banks, MNOs, MMOs, money transfer agencies &amp; regulators to enable int'l remittances</li> <li>▪ Pilot int'l remittances on a selected high volume corridor</li> </ul>	<ul style="list-style-type: none"> <li>▪ Remittances from US and UK (where most of the SL diaspora concentrates)</li> </ul>
Support at least one provider to implement data analytics, operational dashboard and campaign activities	2019	<ul style="list-style-type: none"> <li>▪ Use data analytics to build insights on the agents, customers and services.</li> <li>▪ Use analytics as decision making tool for better marketing interventions</li> </ul>	

### Agent networks / distributors

	<b>Overall strategy:</b> Support providers to create reliable, interoperable and potentially shared agent networks, ensuring optimal distribution, liquidity and motivation of agents (and reducing number of dormant agents)		
Activity:	Year Planned	Expected outputs	Remarks and comments
<b>Stage 1: Buy-in</b>			
Organise workshop on how to set up & manage an agent network efficiently	2016	<ul style="list-style-type: none"> <li>▪ Create awareness on provider level, what it takes to establish an efficient agent network</li> <li>▪ Creating roaming agents to educate consumers</li> <li>▪ Identify traits for developing a tool for agent selection</li> </ul>	
Conduct an agent network assessment (quality level & gaps)	2016-2017	<ul style="list-style-type: none"> <li>▪ Creating a good customer experience by bringing the agent network on a higher quality level</li> <li>▪ Prevent fraud right from the beginning by setting expectations and international standards</li> </ul>	
Develop potential projects (project descriptions) to support stakeholders to improve their agent network	2016-2017	Projects on improved distribution networks identified with committed partners	
<b>Stage 2: Improve</b>			
Support at least 2 providers to improve their distribution network	2016-2018	Support selected agent network managers/aggregators to improve their distribution networks, including footprint and agent liquidity	
Organise agent Interoperability workshop	2017-2018	<ul style="list-style-type: none"> <li>▪ Help agents scale their businesses</li> <li>▪ Encourage agent network sharing among providers</li> </ul>	Exclusivity of agents is prohibited by MMFS regulations
Conduct agent network training at the country level for the service	2017-2018	<ul style="list-style-type: none"> <li>▪ Build knowledge around best practices on agent networks</li> <li>▪ Assist the providers in identifying</li> </ul>	

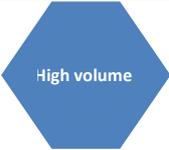
providers		gaps in their current practice and find ways of improving them	
<b>Stage 3: Innovate</b>			
Introduce International Agent Networks	2018-2019	Connecting agent networks across WAMZ will help to scale in terms of international remittances	

### High volume payment providers

	<b>Overall strategy:</b> Understanding key high volume payment streams with potential to drive DFS usage, combining them with convenient or top-down approaches to encourage DFS uptake, reducing cash transactions and increasing financial inclusion			
	<b>Activity:</b>	<b>Year Planned</b>	<b>Expected outputs</b>	<b>Remarks and comments</b>
<b>Stage 1: Buy-in</b>				
Conduct high-volume payment streams study & share findings at a workshop	2016	<ul style="list-style-type: none"> <li>Identify, understand and quantify existing high volume payment streams with most potential to go from cash to digital (payers &amp; payees perspectives)</li> <li>Share learnings on existing experiences (e.g. PPERW, other NGOs in SL)</li> </ul>	<ul style="list-style-type: none"> <li>G2P and P2G are likely to be key</li> <li>Government is largest employer and recipient</li> <li>A top-down approach leaves employees with no other choice than to adopt DFS</li> </ul>	
Develop potential projects (project descriptions) to support stakeholders to switch payments from cash to digital	2016-2017	Projects on switching from cash to digital with committed partners are identified	<ul style="list-style-type: none"> <li>Selected MDAs must be strongly committed</li> <li>Activity will be closely linked with providers workstream</li> </ul>	
<b>Stage 2: Improve</b>				
Identify/support <u>governmental partner</u> to pilot digital payments	2017-2018	Selected G2P and/or P2G payments test switching from cash to digital (salaries, benefits, taxes)	Activity will be closely linked with providers workstream	
Identify/support <u>private sector partner</u> to pilot digital payments	2017-2018	Selected B2P and/or P2B payments test switching from cash to digital (salaries, benefits, payments for goods/ services)	Activity will be closely linked with providers workstream	
Identify/support <u>private sector partner</u> to pilot digital payments – <u>in partnership with a financial institution</u>	2017-2018	Selected B2P, P2B and/or B2B payments test switching from cash to digital (savings deposits/ withdrawals, loan disbursement/ repayment)	Activity will be closely linked with providers workstream	
<b>Stage 3: Innovate</b>				
Support stakeholders to switch <u>remittances</u> from cash to digital	2018-2019	<ul style="list-style-type: none"> <li>Work with all relevant stakeholders (banks, MNOs, MMOs, money transfer agencies &amp; regulators) to switch domestic &amp; international remittances from cash to digital</li> </ul>	<ul style="list-style-type: none"> <li>Activity will be closely linked with providers workstream</li> </ul>	
Develop potential projects (project descriptions) to support stakeholders to develop	2018-2019	<ul style="list-style-type: none"> <li>Projects on innovative payments identified with committed partners</li> </ul>		

innovative payments in specific sectors (agriculture, education, energy, etc.)			
Support at least 1 partner to launch innovative products and services	2018-2019	<ul style="list-style-type: none"> <li>Partners develop innovative payments services</li> </ul>	<ul style="list-style-type: none"> <li>E.g. digitally-financed pay-as-you-go (PAYG) solar home systems</li> </ul>

### Clients

 <p>High volume</p>	<p><b>Overall strategy:</b> Increase financial literacy and understanding of DFS among the population, carry out deep dive market studies to gain insight on what customers actually need and develop products in a customer centric approach</p>		
Activity:	Year Planned	Expected outputs	Remarks and comments
<b>Stage 1: Buy-in</b>			
Conduct workshop on customer-centric research and product development with focus on DFS	2016	<ul style="list-style-type: none"> <li>Review existing research and methodologies on identifying customer needs and developing customer centric products in DFS</li> <li>Discuss with stakeholders how such research impacts their current product offering and how to translate research learnings into concrete actions</li> <li>Establishment of a collaborative environment</li> </ul>	
Support GoSL (BSL, MoFED) in developing & running financial education programs	2016-2019	<ul style="list-style-type: none"> <li>Launch a phased financial literacy campaign through different media (TV/radio, social media, district/ chiefdom-level events) to educate customers on banking &amp; DFS</li> <li>Work in collaboration with other financial education programmes and stakeholders (UN, World Bank, FIs, MNOs, NGOs, associations)</li> </ul>	<ul style="list-style-type: none"> <li>Target first the most likely (early) adopters of DFS to spur uptake (urban, youth, salaried)</li> <li>Then tackle more challenging geographies and market segments (rural, illiterate, etc.)</li> </ul>
Undertake customer journey mapping across a few existing DFS providers and present findings at workshop on improving customer experience	2016	<ul style="list-style-type: none"> <li>Providers are able to gather better perspective of their existing services and products; additionally they are able to look it from the lens of the customers</li> <li>Identify with providers areas of support aimed at improving aspects of service improvement</li> </ul>	
Conduct customer profiling & needs study on DFS for <u>urban areas</u>	2016-2017	<ul style="list-style-type: none"> <li>Enable customer centric development of DFS products                             <ul style="list-style-type: none"> <li>Providing insight on what is needed to make customers switch from cash to DFS</li> <li>Understanding the cost of transactions and how would DFS</li> </ul> </li> </ul>	Potential customer profiles <ul style="list-style-type: none"> <li>Salaried workers</li> <li>Self-employed/ entrepreneurs (trade, services)</li> <li>Youth (e.g. university)</li> </ul>

		<p>allow for efficiency gains for customers</p> <ul style="list-style-type: none"> <li>▪ Create buy-in and perceived usefulness from providers</li> </ul>	<p>students)</p> <ul style="list-style-type: none"> <li>▪ Social payment recipients in urban areas</li> </ul>
<b>Stage 2: Improve</b>			
Conduct customer profiling & needs study on DFS for <u>rural areas</u>	2017	As above	<p>Potential customer profiles</p> <ul style="list-style-type: none"> <li>▪ Salaried workers</li> <li>▪ Self-employed/entrepreneurs (agriculture)</li> <li>▪ Social payment recipients in rural areas</li> <li>▪ Illiterate customers</li> </ul>
Conduct customer DFS experience study & satisfaction survey	2018-2019	<ul style="list-style-type: none"> <li>▪ Provide insight on current adoption rates, experiences and barriers to increased usage</li> <li>▪ Allow DFS providers to understand and improve the customer journey</li> </ul>	
<b>Stage 3: Innovate</b>			
Conduct customer profiling & needs study on DFS for <u>innovative products</u>	2018-2019	As above, with a focus on products as international remittances, energy, education, health, etc.	

## 8. ANNEXES

### 8.1 Indicative budget for priority activities

The budget below presents the tentative costs for priority activities of the above-proposed DFS ecosystem development programme for Sierra Leone, covering the first two years of implementation (2<sup>nd</sup> semester 2016 and 2017).

Budget item	Description	Unit cost/Year	S2 2016		2017		Total
			Unit	Year cost	Unit	Year cost	
<b>Salaries (Multiple Outputs)</b>							
UNDP/UNCDF Service Contract	DFS resident advisor	72.000	0,50	36.000	1,00	72.000	108.000
UNDP/UNCDF Service Contract	Admin assistant	36.000	0,20	7.200	0,20	7.200	14.400
International individual consultants	DFS Experts mobilised by UNDP/UNCDF (\$1000/day*200 days/year)	200.000	0,50	100.000	1,00	200.000	300.000
<b>Subtotal</b>			<b>1,20</b>	<b>143.200</b>	<b>2,20</b>	<b>279.200</b>	<b>422.400</b>
<b>DSA &amp; Travel (Multiple Outputs)</b>							
DSA for international individual consultants	Daily Subsistence Allowances for international DFS experts (\$270/day*280 days/year)	75.600	0,50	37.800	1,00	75.600	113.400
International travel	International flights for DFS resident advisor & experts (\$1,000/flight)	1.000	5,00	5.000	10,00	10.000	15.000
Local travel	Visits to field projects (\$500/visit*12 visits/year)	6.000	0,50	3.000	1,00	6.000	9.000
<b>Subtotal</b>			<b>5,50</b>	<b>45.800</b>	<b>11,00</b>	<b>91.600</b>	<b>137.400</b>
<b>Workstream costs</b>							
<b>Overall Ecosystem</b>							
Set-up and run a DFS working group including all stakeholders	Quarterly meetings among DFS stakeholders: conference room, catering (\$2,000/meeting)	2.000	2,00	4.000	4,00	8.000	12.000
Promote DFS-related events and publications at regional & national level	5 co-sponsored events per year (\$3,000/year) 1 study tour per year (\$20,000/study tour)	35.000	1,00	35.000	1,00	35.000	70.000
Conduct and update DFS access point mappings	1 map 2016, updates in 2017 and 2018: 1 month, 1 consultant (20,000/mapping)	20.000	1,00	20.000	1,00	20.000	40.000
<b>Policy and Regulation</b>							
International individual consultants	TA and training to regulators (BSL, NATCOM, MoFED): \$100,000/year	100.000	1,00	100.000	1,00	100.000	200.000
Regulatory harmonization workshops	Conference room, catering, guest speakers (\$5,000/workshop)	5.000	3,00	15.000	2,00	10.000	25.000
WAMZ regional exchange forum	1 forum per year, participation of BSL delegates and co-sponsoring	20.000	1,00	20.000	1,00	20.000	40.000
<b>Providers</b>							
Workshop	DFS strategy & business modeling workshop (\$10,000/workshop)	10.000	1,00	10.000			10.000
TA Consultants	TA to providers to enter the market/improve DFS strategy	100.000	1,00	100.000	1,00	100.000	200.000

	(\$100,000/provider)							
<b>Financial support for implementation partners</b>	Grants/loans to selected partners for entering the market (\$50,000/provider)	50.000	1,00	50.000	1,00	50.000		100.000
<b>TA Consultants</b>	TA for payment stream pilots (\$100,000/pilot)	100.000	0,50	50.000	1,50	150.000		200.000
<b>Financial support for implementation partners</b>	Grants/loans to selected partners for pilots (\$50,000/provider)	50.000	0,50	25.000	1,50	75.000		100.000
<b>Distribution</b>						-		
<b>Workshops</b>	Workshop on how to set up & manage an agent network (\$10,000/workshop)	10.000	1,00	10.000		-		10.000
<b>Agent Network assessment</b>	TA to conduct assessment (quality level and gaps) - \$20,000	20.000	0,20	4.000	0,80	16.000		20.000
<b>Training</b>	Agent network training at country level (\$4,800/participant*10 participants)	48.000		-	1,00	48.000		48.000
<b>TA Consultants</b>	TA to improve agent network (\$100,000/provider)	100.000	0,20	20.000	1,80	180.000		200.000
<b>Financial support for implementation partners</b>	Grants/loans to selected partners to improve agent networks (\$50,000/provider)	50.000	0,20	10.000	1,80	90.000		100.000
<b>Customer</b>						-		
<b>Workshop</b>	Customer-centric research and product development (10,000/workshop)	10.000	1,00	10.000		-		10.000
<b>Develop &amp; implement financial education programme</b>	Co-sponsoring of TV/radio, social media, awareness-raising events (\$20,000/year)	20.000	1,00	20.000	1,00	20.000		40.000
<b>TA Consultants</b>	TA for studies (Customer Journey Mapping, Customer profiling & needs- Urban, Rural) - \$50,000/study	50.000	1,00	50.000	2,00	100.000		150.000
<b>Infrastructure</b>						-		
<b>Workshops</b>	National payments system, MNO interoperability, customer due diligence (\$10,000/workshop)	10.000	1,00	10.000	2,00	20.000		30.000
<b>Lobbying/advocacy</b>	Towards stakeholders, regulator and MDAs for improved network coverage and ID cards issuance (\$10,000/year)	10.000	1,00	10.000	1,00	10.000		20.000
<b>High Volume Drivers</b>						-		
<b>Studies &amp; workshop</b>	High volume payment flows study & workshop	50.000	1,00	50.000		-		50.000
<b>TA Consultants</b>	TA to pilot digitization of selected payment flows (\$100,000/pilot)	100.000	0,50	50.000	1,50	150.000		200.000
<b>Financial support for implementation partners</b>	Grants/loans to selected partners to pilot digitized payment flows (\$50,000/partner)	50.000	0,50	25.000	1,50	75.000		100.000
<b>Subtotal workstream</b>				<b>698.000</b>		<b>1.277.000</b>		<b>1.975.000</b>
<b>Total</b>				<b>887.000</b>		<b>1.647.800</b>		<b>2.534.800</b>

## 8.2 List of stakeholders interviewed

Institution	Name and position
National Registration Secretariat	<ul style="list-style-type: none"> <li>Rudolf Elbling, UNDP Technical Advisor</li> <li>Elijah Koroma, NRS Project Manager</li> </ul>
Bank of Sierra Leone	<ul style="list-style-type: none"> <li>Momoh Sesay, Coordinator, Financial Inclusion, Banking Supervision Department</li> <li>Alfred Samah, Assistant Director, Banking Department</li> </ul>
NATCOM	<ul style="list-style-type: none"> <li>Senesie Kallon, Deputy Director General</li> </ul>
MoFED	<ul style="list-style-type: none"> <li>Memuna Bangura, MoFED, BTCA Focal Point</li> </ul>
National Ebola Response Centre	<ul style="list-style-type: none"> <li>Ghulam Sherani, Project Manager</li> </ul>
UNDP	<ul style="list-style-type: none"> <li>Sudipto Mukerjee, Country Director</li> </ul>
GT Bank	<ul style="list-style-type: none"> <li>Gbenga Alade, Managing Director</li> </ul>
NACSA	<ul style="list-style-type: none"> <li>Susan Robert, Senior Director, Monitoring &amp; Evaluation</li> </ul>
Ecobank Microfinance	<ul style="list-style-type: none"> <li>Winston Williams, Managing Director</li> </ul>
SL Association of Commercial Banks	<ul style="list-style-type: none"> <li>Shola Taylor-Pearce, Executive Secretary</li> </ul>
Access Bank SL	<ul style="list-style-type: none"> <li>Damos Solaru, Country Managing Director</li> <li>Iliyas Adewale, Country Operations Officer</li> </ul>
Airtel	<ul style="list-style-type: none"> <li>Joseph Saffa Tengbeh, Head of Airtel Money;</li> <li>Madeline Bart-Wwilliams – Asst. Corporate Manager, Airtel Money</li> </ul>
NPA/EDSA	<ul style="list-style-type: none"> <li>Mallay Bangura (Commercial Manager); Musa Jalloh (IT Manager)</li> </ul>
Africell	<ul style="list-style-type: none"> <li>Shadi Al-Gerjawi, CEO</li> </ul>
Splash	<ul style="list-style-type: none"> <li>Daniel Antwi, CEO</li> </ul>
Apex Bank	<ul style="list-style-type: none"> <li>Mohamed Laho Jalloh, Director, Accounts &amp; Budgets Dept.</li> </ul>
World Bank	<ul style="list-style-type: none"> <li>Andrew Mason, WB Consultant on National Payments Systems in Sierra Leone and Guinea</li> </ul>