



# FEED <sup>THE</sup> FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



## DIGITAL TOOLS FOR FOOD SECURITY AND RESILIENCE

### FINDINGS AND RECOMMENDATIONS FOR BURKINA FASO

February 2019



**USAID**  
FROM THE AMERICAN PEOPLE



**DigitalFrontiers**  
SCALING DIGITAL DEVELOPMENT

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## EXECUTIVE SUMMARY

The USAID Sahel Regional Office (SRO) in Dakar requested the USAID Bureau of Food Security (BFS) and the U.S. Global Development Lab (the Lab) conduct an assessment of the current and potential use of digital tools to enhance the reach and impact of its activities aimed at food security and resilience under the new U.S. Government Global Food Security Strategy (GFSS) country plan for Niger. The assessment was broadened to include USAID/Burkina Faso given its joint resilience programming and relevance as a USAID resilience focus country.

This report covers the first part of the joint assessment, conducted through desk research and a two-week TDY in Burkina Faso. The assessment team, managed by DAI's Digital Frontiers initiative and supported by Katie Hauser in the Bureau for Food Security, found a **relatively strong and growing digital ecosystem** in Burkina Faso. The level of mobile usage, strength of local service providers, and range of digital available exceeded the assessment team's expectations and suggests a wide range of opportunities to leverage digital tools to accelerate progress toward USAID's food security and resilience objectives in the country.

Because this is a public document, some names and contact information of people and companies have been omitted. If you have any questions about contact information, contact Katie Hauser, USAID BFS, [khauser@usaid.gov](mailto:khauser@usaid.gov). *Note that this document covers work done in November and December 2018. Conditions and activities after that date range are not reflected.*

Burkina Faso has **relatively strong mobile access**: it is nearly on par with its regional neighbors in regard to mobile phone users, smartphone connections, and use of the Internet via mobile. Two-thirds of the country is covered by at least 3G connection speeds. There is good competition among the mobile network operators. **Mobile money usage is strong**, with a higher percentage of Burkinabes actively using their mobile money accounts than their regional neighbors – although a persistent **gender gap** exists.

Adding to this, there is a **good market of local and international service providers** with tools adapted to the context, including data collection tools that work offline and in multiple languages; drone service providers taking advantage of sound regulation to help farmers manage their plots from the sky; and companies providing low-cost radio, video, and interactive voice response (IVR).

Lastly, there are signs of continuing **government commitment to digital**. For example, the government is partnering with the World Bank on the eBurkina initiative and on an effort to create a Smart Villages activity planned for 2020. In addition, the Ministry of Agriculture is in the midst of a ministry-wide effort to manage multiple digitally enabled agriculture services including applications for market prices, extension, and inputs.

Based on the results of the assessment, below are the team's **core recommendations**.

1. **Commission an action plan** for an approach to holistic digital solutions for RISE II to support project goals and ensure that digital is integrated as a tool for long-term empowerment of program participants.
2. **Collaborative learning and adaptation**: Facilitate learning and sharing across implementing partners (IPs), consortium partners, and the region.

3. Supporting IPs to **aggregate demand for digital services**, which can lead to better prices, shared expertise, and/or more investment from telecoms in USAID-priority areas.
4. If possible, appoint a **digital champion** at Post to serve as point of contact for partners related to all things digital.
5. To address the **wide gender gap in DFS usage**, support research that can provide new insights as to the constraints to usage women face.
6. Engage with the Lab's Digital Inclusion team on options for **expanding connectivity** in priority areas.
7. Support **governmental information sharing** on support for digital infrastructure and regulation, especially related to emerging technologies such as digital ID, biometric authentication, digital currencies, and aerial robotics (drones).
8. **Ensure digital tools and approaches are emphasized for applicants for upcoming solicitations** (more information in the internal-only Digital Ag Programming Toolkit with sample language).

## I. INTRODUCTION

The USAID Sahel Regional Office (SRO) in Dakar requested the USAID Bureau of Food Security (BFS) and the U.S. Global Development Lab (the Lab) conduct an assessment of the current and potential use of digital tools to enhance the reach and impact of its activities aimed at food security and resilience under the new U.S. Government Global Food Security Strategy (GFSS) country plan for Niger. The assessment was broadened to include USAID/Burkina Faso given its joint resilience programming and relevance as a USAID resilience focus country.

Understanding the potential for digital tools to strengthen food security and resilience and advocating for their availability and affordability in Niger and Burkina Faso is an important step in ensuring USAID's programming can take full advantage of the region's emerging digital economy. Connectivity issues and network reliability, availability of energy to power mobile devices, gender norms and their effect on access to mobile devices, and the impact of literacy levels (digital literacy, as well as the ability to read and write) must all be taken into consideration to ensure inclusive and effective results.

In more detail, the purpose of the assessments in Niger and Burkina Faso is to help USAID determine ways digital technology can enhance the scale and impact of their work in agriculture, food security, and resilience, taking into account the unique challenges in each country. Specific objectives of this assessment included:

- Investigate current trends in the digital ecosystems and identify where challenges and opportunities may exist for use of digital tools by USAID partners and populations of interest. To the extent possible, the assessment focused on the programming zones established for Niger and Burkina Faso, under the Niger GFSS plan and the Resilience in the Sahel Enhanced (RISE) II program. *Specifically, USAID is interested in the practicality and viability of reaching significant portions of vulnerable rural populations, especially women and youth, in these zones through digital services such as money transfers, inputs price and availability, market information, and weather and climate information.*
- Conduct stakeholder interviews with key members of the government, private sector, donor communities, research partners, and mobile network operators.
- Understand how digital tools have been used by previous or current food security and resilience activities, by:
  - Surveying a broad set of USAID and other implementing partners (IPs) via an online survey on the use of and plans for digital tools within their activities.
  - Conducting interviews with a more narrow set of relevant IPs who have worked on digital tools and reviewing past evaluations of their programs (such as the SPRING project) to solicit deeper examples of best practices and lessons learned.
- Share best practices and evidence from elsewhere to facilitate learning among USAID and IPs through in-country workshops in Niger and Burkina Faso.
- Recommend ways digital tools can be harnessed and strengthened by USAID and its partners to achieve agriculture, food security, and resilience objectives in Niger and Burkina Faso, potentially

including: public policy interventions, private sector and civil society engagement, and partnership opportunities.

The detailed tasks conducted in the assessment are described in Appendix B. As part of the assessment, the team reviewed a confidential draft of a public-private partnership agreement related to digital services in the Sahel at the request of the SRO. The results of that review are not included in this report given they are covered by a non-disclosure agreement.

The assessment was led by BFS, building upon the Digital Development for Feed the Future (D2FTF)<sup>1</sup> assessment model that has been used successfully with nine other USAID missions. The assessment was carried out through the Lab's Digital Frontiers mechanism (managed by DAI), through a team designed to carry on best practices established during the three year D2FTF partnership, including previous digital assessments in seven other GFSS countries.

This trip report covers the first part of the assessment in Burkina Faso from November 26 to December 8, 2018. The trip was conducted by a DAI Digital Frontiers-managed team with Chrissy Martin and Judy Payne (digital agriculture technical experts), Alana McGinty (DAI operations support), Djelika Pare (local operations support), and Katie Hauser (USAID lead, remote).

The assessment draws on several guides and toolkits developed by D2FTF including the GFSS Technical Guidance on Digitally Enabled Global Agriculture and Food Systems.<sup>2</sup> For a list of such resources, see <https://www.usaid.gov/digitalag>.

## 2. CONTEXT

Burkina Faso and Niger are two of the least developed countries globally, ranking 183 and 189, respectively, out of 189 on the UN Human Development Index,<sup>3</sup> and especially low literacy rates. In Burkina Faso, literacy is only at 35 percent overall with 44 percent of males and only 26 percent of females literate.<sup>4</sup> In Niger, literacy rates are even lower: 31 percent (overall), 39 percent (male), 23 percent (female).<sup>5</sup> Over half (54 percent) of Nigerien's in USAID's RISE Zone (where USAID's work is focused) live in extreme poverty (below \$1.25/day).<sup>6</sup> In Burkina Faso, 21 percent live in extreme

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<sup>1</sup> D2FTF was a three-year collaboration (2015-2018) between BFS and the Lab to demonstrate how leveraging digital tools holistically and according to best practices can improve the cost effectiveness, reach and impact of the US Government's Feed the Future (FTF) Initiative.

<sup>2</sup> Feed the Future. "GFSS Supplemental Technical Guide: Towards Digitally Enabled Global Agriculture and Food Systems." October 2017. [https://drive.google.com/file/d/1GaMUZ3BvoSXuwuXN6AbeAx7mKjYIg\\_BL/view](https://drive.google.com/file/d/1GaMUZ3BvoSXuwuXN6AbeAx7mKjYIg_BL/view)

<sup>3</sup> United Nations Development Programme. "Human Development Indices and Indicators: 2018 Statistical Update." 2018. <http://hdr.undp.org/en/2018-update>

<sup>4</sup> UNESCO Institute of Statistics, 2014. <http://uis.unesco.org/en/country/bf?theme=education-and-literacy> Scroll down and click Literacy Rate.

<sup>5</sup> UNESCO Institute for Statistics, 2012. <http://uis.unesco.org/en/country/ne?theme=education-and-literacy> Scroll down and click Literacy Rate.

<sup>6</sup> RISE Baseline Report, September 2016, pp. 42-43.

[https://www.usaid.gov/sites/default/files/documents/1860/RISE\\_Baseline\\_Report\\_September\\_20161.pdf](https://www.usaid.gov/sites/default/files/documents/1860/RISE_Baseline_Report_September_20161.pdf)

poverty (below \$1.25/day).<sup>7</sup> Over 10 percent of all households in USAID’s RISE zone in Burkina Faso and Niger suffer from malnutrition and a third of children in the RISE zone are stunted.<sup>8</sup>

### 3. OVERVIEW AND EVIDENCE: DIGITAL SOLUTIONS FOR RESILIENCE AND FOOD SECURITY

In the last decade (2008 - 2018), the information and communications technologies for agriculture (ICT4Ag) global community learned about specific tools and services and their use, seen the rapid growth in many countries of a local IT industry capable of providing continued supply of those tools, increased access even in rural areas to telecommunications services including mobile phones and the Internet, and seen significant interest from private sector entities to establish distribution channels for products and services to farmers using digital technologies.<sup>9</sup>

USAID lessons learned from Malawi, Kenya, Tanzania, Ghana, and elsewhere highlight the need to “bundle” digital tools into a set of solutions, conduct organizational change management and create digital agriculture alliances that provide a value proposition for each partner.<sup>10</sup> Those lessons learned also align with research from the GSMA (the global industry association for telecommunications companies), which has established similar recommendations regarding delivery of digital and financial literacy in rural areas.<sup>11</sup>

Digital solutions<sup>12</sup> have already transformed the way that farmers do business throughout middle- and high-income countries. In the least developed markets, development partners have worked hard to adapt these solutions to the local needs of smallholder farmers, but efforts have often been piecemeal – leading to impact but also in some cases, to fragmentation. In the next decade, a more strategic approach to the advancement of digital innovations in agriculture will better connect the

**DIGITAL TOOLS CAN BE DESIGNED TO OVERCOME CHALLENGES SUCH AS LOW LITERACY, LIMITED CONNECTIVITY, AND LACK OF PHONE OWNERSHIP.**

<sup>7</sup> Ibid.

<sup>8</sup> RISE Baseline Survey Report, September 2016, p. xii. This report provides more details on the context of conditions in Niger and Burkina Faso as well.

[https://www.usaid.gov/sites/default/files/documents/1860/RISE\\_Baseline\\_Report\\_September\\_20161.pdf](https://www.usaid.gov/sites/default/files/documents/1860/RISE_Baseline_Report_September_20161.pdf)

<sup>9</sup> See for example, Yu, D. (2017, May 17). Olam cocoa to source 100 percent sustainable beans by 2020.

*Confectionary News* <https://www.confectionarynews.com/Article/2017/05/18/Olam-to-source-100-sustainable-cocoa-by-2020> and Cargill press release (2017, Sep 11). For first time 10,000 Ghana cocoa farmers able to receive premium by payments mobile phone <https://www.cargill.com/2017/10000-ghana-cocoa-farmers-able-to-receive-mobile-phone-payment>

<sup>10</sup> See, for example, USAID (2016, Aug). Performance Evaluation of the USAID/Malawi Feed the Future Mobile Money Project [https://pdf.usaid.gov/pdf\\_docs/pa00m8qj.pdf](https://pdf.usaid.gov/pdf_docs/pa00m8qj.pdf) USAID/Vodafone/Technoserve (2016). Connected Farmer Alliance: Assessing the impact of a commercial mobile agriculture (mAgri) solution for Kenya Nut. <http://www.technoserve.org/files/downloads/case-study-connected-farmer-alliance.pdf> and AGRA/Advantech (2016, Oct). How to Grow and Sustain the Digital Harvest?

[https://www.rafllearning.org/sites/default/files/digital\\_harvest\\_executive\\_summary\\_1.pdf?token=S0vo-Ydc](https://www.rafllearning.org/sites/default/files/digital_harvest_executive_summary_1.pdf?token=S0vo-Ydc)

<sup>11</sup> The GSMA’s mAgri Programme <https://www.gsma.com/mobilefordevelopment/magri/> has conducted a partnership with USAID and other donors and developed a useful set of resources <https://www.gsmaintelligence.com/research/?file=e2f5981f5184fb3f389aa6c9d826f6c5&download> as well as more listed at [https://www.gsma.com/mobilefordevelopment/resources-2/?programme\\_search%5B%5D=11](https://www.gsma.com/mobilefordevelopment/resources-2/?programme_search%5B%5D=11)

<sup>12</sup> “Digital solutions” is a term used to describe a wide range of electronic options for disseminating, collecting, and analyzing data. Here, we used this interchangeably with ICT.

development and use of tools and the desire of local private sector IT and agribusinesses, and mobile network operators (MNOs) to set up distribution channels for products and services that deliver services to targeted farmers and other alliance participants as informed by market research.

There are a wide range of digital options for agriculture, including:

- Cell phones with voice, text, and/or data
- Radios—both conventional and digital
- Digital cameras
- Videos (low-cost especially)
- Television
- GPS (global positioning system)-enabled applications
- Internet access, presence, and Internet-enabled applications
- Remote sensors—on the ground and in the sky
- Big (and small) data

The wide range of options is important, especially in countries such as Burkina Faso and Niger, where prerequisites for the use of some tools are not yet in place: for example, affordable, widespread access to the required telecom services; access to power; access to devices (e.g., phones or digital tablets); and literacy (in cases with text). Understanding the context and the nature of the target users helps to ensure that we choose options that can handle multiple languages, on-again off-again telecom access, and low literacy, and may not even require users to have a phone (for example, MyAgro is operating in Mali and Senegal with scratch cards, rather than phones, for the end user.)

Gender is a key consideration when selecting digital options and preparing users for them. Globally, women are 10 percent less likely than men to own a mobile phone.<sup>13</sup> This is especially important to consider in the Sahel given the differences between the genders in many aspects of rural life.

Digital tools and services can be used in many aspects of agriculture, health, nutrition, governance, and resilience, helping transform how life works for the poor in at least four key ways:

- **Improve feedback between actors.** Digital data collection, analysis, and dissemination can tighten the feedback loop to near real-time between actors – including USAID staff, implementing partners, sub-contractors, and end users – so activities can be adapted quickly when necessary to increase impact and stay on track. This means that the “M” in “M&E” can occur more often and be used to improve our work more frequently.

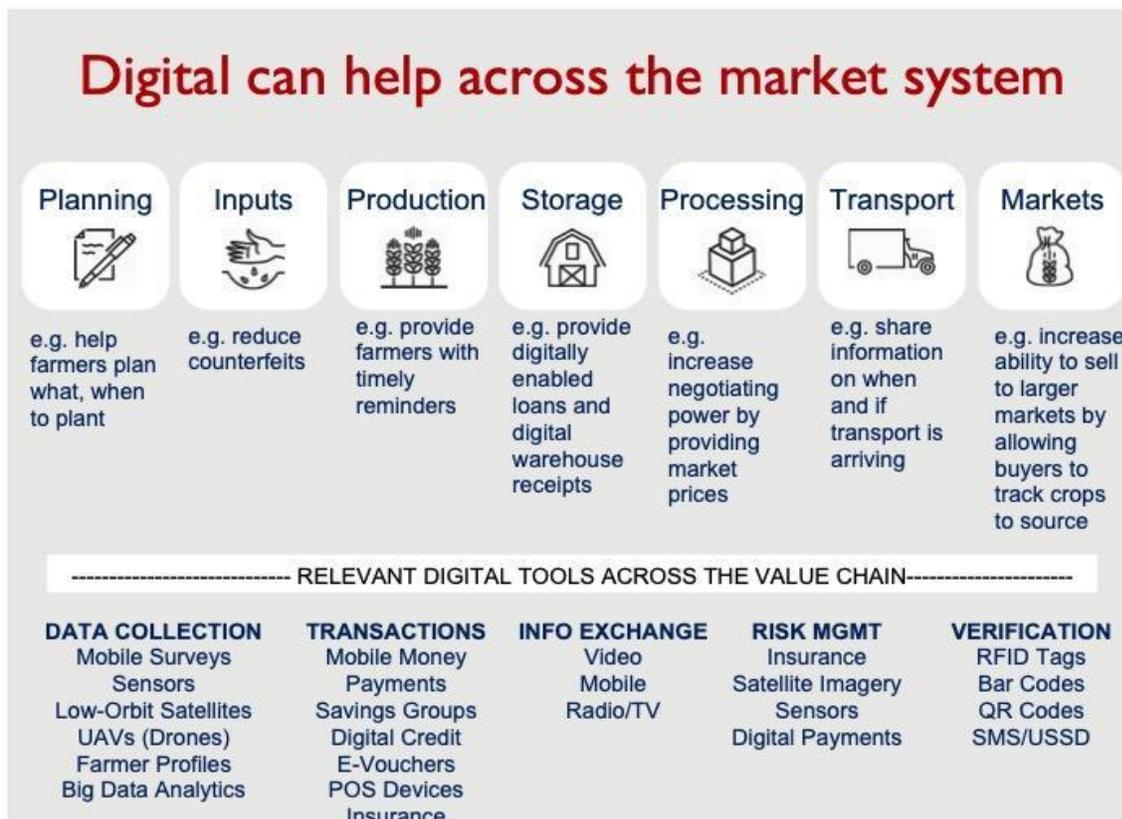
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<sup>13</sup> GSMA. “Connected Women: The Mobile Gender Gap Report 2018.” February 2018. [https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2018/04/GSMA\\_The\\_Mobile\\_Gender\\_Gap\\_Report\\_2018\\_32pp\\_WEBv7.pdf](https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2018/04/GSMA_The_Mobile_Gender_Gap_Report_2018_32pp_WEBv7.pdf)

- **Increase precision/timing of decision-making** in farming and actions in health. Data, especially when disaggregated to the individual farm, individual, household, or clinic, can add precision to *where* and *when* interventions occur and can improve outcomes.
- **Extend reach and improve timing** of advisory services. Face-to-face encounters usually work but are costly to extend to the hundreds of thousands who might benefit. Using digital tools helps reach far more people, allowing advice and information to be delivered when circumstances (e.g., weather, time in a crop cycle) are right (think about Google: you can get information exactly when you need, rather than waiting to visit a doctor). The same principle can help to empower community health workers (CHWs) and agriculture extension officers to answer questions on demand and serve a far greater number of people with precise information.
- **Tighten connections** across an agricultural or health system. This can happen through increased information sharing, as well as quicker and more transparent payments. By tracking payments and information digitally, different actors in a system can increase trust. It also provides the opportunities to improve **traceability**, which is critical in agriculture for increasing access to markets and for finding the source of public health scares that originate in the food supply.

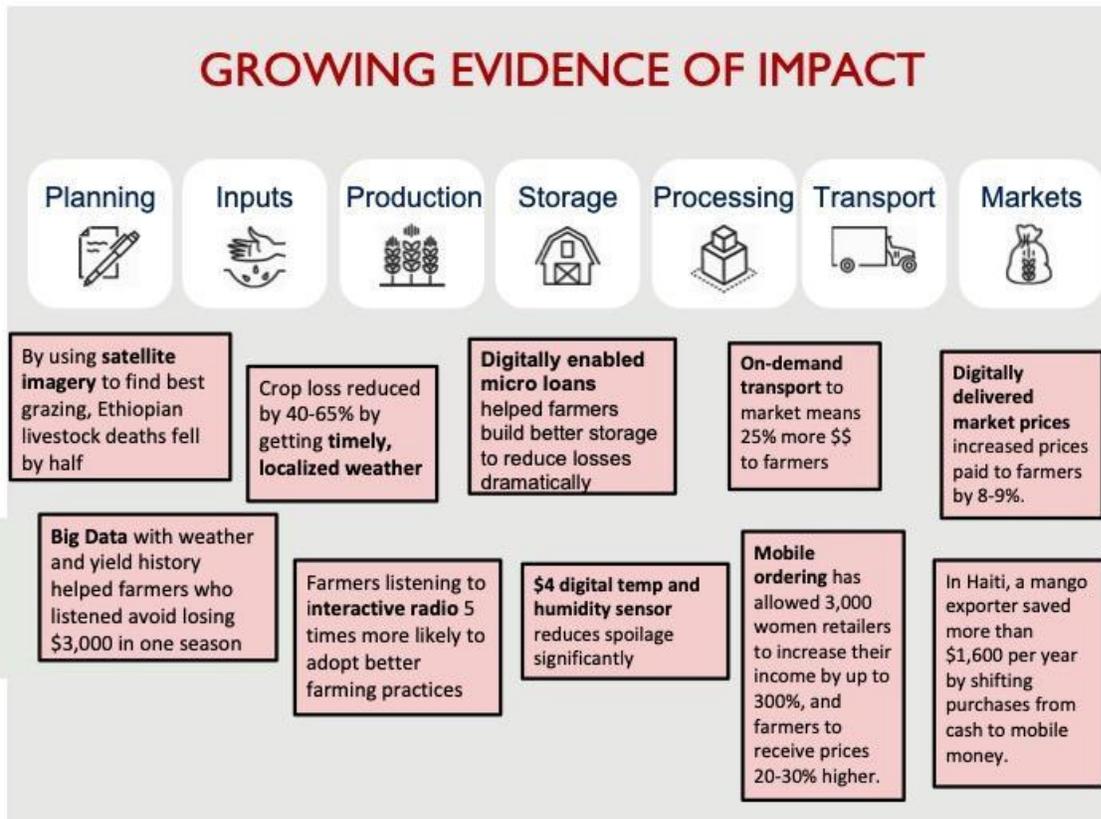
These approaches can be applied across an entire market system or value chain. Figure 1 provides examples of relevant digital tools used across a market system from crop planning; inputs; production; storage; processing; transport; and finally to links with markets. The bottom of the figure shows relevant tools that can be applied across a value chain.

**Figure 1: Digital Tools Across a Market System**



Today, we have a growing body of evidence that digital tools and services in agriculture have a measurable impact. Figure 2 below provides examples of such impacts across the agriculture market system. There are many other examples as well.<sup>14</sup> Many examples show how digital tools can significantly increase the reach of development efforts from helping thousands of producers to tens of thousands or even hundreds of thousands.

**Figure 2: Some Evidence of Impact of Digital Tools in Agriculture**



Digital tools and services must be designed and implemented correctly to have their intended impact. This report has taken this into account in developing the recommendations. For more information, please refer to the Digital Development Principles<sup>15</sup> that have been developed through USAID’s leaderships and adopted by a wide range of development partners. Figure 3 provides a quick glimpse at the nine helpful principles.

<sup>14</sup> There is an Excel database with significantly more pieces of evidence, which were collected as part of the D2FTF effort. For access, please email Katie Hauser in BFS at [khauser@usaid.gov](mailto:khauser@usaid.gov).

<sup>15</sup> <https://digitalprinciples.org/>

Figure 3: The Digital Development Principles

## GOOD PRACTICES: DIGITAL DEVELOPMENT PRINCIPLES

1. Design with the user
2. Understand the ecosystem
3. Design for scale
4. Build for sustainability
5. Be data driven
6. Use open data, open standards, open source
7. Reuse and improve
8. Address privacy and security
9. Be collaborative



See: <http://digitalprinciples.org/>

## 4. ASSESSMENT FINDINGS

The findings are divided between the general digital ecosystem in the Sahel Region (4a); the digital ecosystem in Burkina Faso (4b); and the current use of digital tools among USAID partners with whom we met during the assessment (4c).

### 4A. DIGITAL ECOSYSTEM: SAHEL REGIONAL

In terms of the broader digital ecosystem, the Sahel Region falls generally in line with sub-Saharan Africa, but significantly below global averages, in mobile phone market penetration, percent of connections that are smartphones, and mobile internet. Network coverage, for both 3G and 4G, are above average (see Table 1).

Table 1: Digital Ecosystem Statistics

	SAHEL REGION (%)	SUB SAHARAN AFRICA (%)	GLOBAL (%)
Market penetration, unique subscribers	46	44	66

	SAHEL REGION (%)	SUB SAHARAN AFRICA (%)	GLOBAL (%)
Smartphones, % of connections	33	34	57
Market penetration, unique subscribers, mobile internet	21	21	43
Network coverage, by population, 3G	68	36	31
Network coverage, by population, 4G	34	4	29

Source: GSMA Intelligence,<sup>16</sup> Q2 2018 and GSMA Mobile Economy 2018

Table 2 summarizes mobile money and financial inclusion statistics for the Sahel region. On a positive note, the data shows large increases evident on all metrics from 2014 to 2017. On the other hand, on average across the region, mobile money account ownership and digital payments usage are lower for women and for those in rural areas.

**Table 2: Mobile Money Statistics - Sahel Regional Average**

	2014	2017
% mobile money accounts	6.5	20.2
% made or received digital payments in the past year	16.1	29.5
% bank accounts	22.1	34.6

Source: Findex,<sup>17</sup> 2014 & 2017

**4B. DIGITAL ECOSYSTEM: BURKINA FASO**

**PRIVATE SECTOR MARKET DEVELOPMENT**

Burkina Faso has three mobile network operators: Orange (44.45 percent market share), Telecel (15.81 percent market share), and Telmob (39.73 percent market share). In terms of mobile phone market penetration, percentage of smartphone connections, and 3G network coverage, Burkina Faso is in line with regional averages. The country falls slightly below the regional average in terms of mobile internet penetration, and has very minimal 4G coverage. See Table 3 for additional details about Burkina Faso’s digital ecosystem.

<sup>16</sup> This is fee-based subscription service from GSMA, <https://www.gsmaintelligence.com>

<sup>17</sup> <https://globalfindex.worldbank.org>

**Table 3: Digital Ecosystem Statistics - Burkina Faso**

	BURKINA FASO (%)	REGIONAL AVERAGE (%)
Market penetration, unique subscribers	44	46
Smartphones, % of connections	35	33
Market penetration, unique subscribers, mobile internet	18	21
Network coverage, by population, 3G	65	68
Network coverage, by population, 4G	5	34

Source: GSMA Intelligence,<sup>18</sup> Q2 2018

Overall, 33 percent of adults in Burkina Faso have a registered mobile money account, while 39 percent have either made or received digital payment, suggesting that there is some usage by non-registered adults. Mobile money usage is higher in urban areas and for males. See Table 4 for additional details about mobile money usage in Burkina Faso.

**Table 4: Mobile Money Statistics - Burkina Faso**

	ALL	REGIONAL AVERAGE	FEMALE	MALE	RURAL
% mobile money accounts	33	34.6	23.7	41.8	30.8
% made or received digital payments in the past year	38.9	29.5	30.1	47.2	36.4
% bank accounts	43.2	34.6	34.5	51.3	40

Source: Findex,<sup>19</sup> 2017

## GOVERNMENT COMMITMENT TO DIGITAL DEVELOPMENT

In Burkina Faso’s 2016-2020 national and economic social development plan, PNDES, ICT and digital innovation are recognized as a key opportunity to accelerate development and meet the plan’s objectives. Per the objectives of PNDES, “going digital will entail connecting all public agencies, schools and health facilities, setting up unique digital ID for each citizen and company, and investing in e-government reforms for greater access to information and better public service delivery. The reforms also focus on investing in the local digital industry, especially by financing learning programs, [tech]

<sup>18</sup> This is a subscription (fee based) service from GSMA, <https://www.gsmainelligence.com>

<sup>19</sup> <https://globalfindex.worldbank.org>

incubators, and research and development programs, in collaboration with private sector and development partners.”<sup>20</sup>

Burkina Faso has also made a recent commitment to open data through the launch of the Burkina Faso Open Data Initiative (BODI).<sup>21</sup> In 2014, open data played a key role in the country’s election process, transitioning from an interim government to its new government.<sup>22</sup> During this election, to increase trust in the process, the results of the vote count were made openly available in real time, with the official election website showing live results by district for each presidential candidate, and which candidate was leading in each province. The Burkina Faso Open Data Initiative partnered with the Open Data Institute via the Open Data for Development Network to support the Independent National Electoral Commission (CENI) in making this possible. This initiative is consistent with good practices established by the Global Open Data Initiative for Agriculture and Nutrition.<sup>23</sup> In 2016, Burkina Faso also joined the Open Government Partnership.

Also in 2014, a new government agency to manage all digital development activities in Burkina Faso, Agence Nationale de Promotion des Technologies de l’Information et de la Communication (ANPTIC), was created.<sup>24</sup> Beginning in 2017, ANPTIC, with support from the World Bank, launched the eBurkina project, a \$20 million effort with a goal to “foster the development of a digital platform where all public agencies could collect, store, use, and share data, not only within the government, but with the whole population.”<sup>25</sup> The second goal of eBurkina is to “improve public service delivery in rural areas, in particular by focusing on the agricultural sector,” looking at ways to reach the rural population through online channels such as “SMS-based applications and radio programs for farmers on how to improve crop yields, or digitization of data currently collected on paper at the municipal level - for communities to improve decision making at the local level.”<sup>26</sup>

Ministries are also showing their own commitment to digital. The Ministry of Agriculture is in the midst of a ministry-wide effort to manage multiple digitally enabled agriculture services including applications for market prices, extension, and inputs. The Ministry of Health (with John Snow International, funded by USAID) is developing disease surveillance system across health and livestock for five diseases transmitted between humans and animals – using a local developer.

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<sup>20</sup> [Burkina Faso’s digital ambition: transforming through eGovernment and digital platforms](#) (World Bank, Jan 2017)

<sup>21</sup> For more on BODI, see this useful [factsheet](#) from the World Bank.

<sup>22</sup> The Guardian. “Why Data Was Crucial To Burkina Faso’s First Election Since Uprising.” December 4, 2015. <https://www.theguardian.com/news/datablog/2015/dec/04/why-data-was-crucial-to-burkina-fasos-first-election-since-uprising>

<sup>23</sup> See <https://www.godan.info>

<sup>24</sup> This information is based on interviews conducted by the assessment team.

<sup>25</sup> [Burkina Faso’s digital ambition: transforming through eGovernment and digital platforms](#) (World Bank, Jan 2017)

<sup>26</sup> [Burkina Faso’s digital ambition: transforming through eGovernment and digital platforms](#) (World Bank, Jan 2017)

For more information on the eBurkina World Bank activity, see <http://documents.worldbank.org/curated/en/297631484073715323/Burkina-Faso-eBurkina-Project> and <http://documents.worldbank.org/curated/en/229421532096265442/Disclosable-Version-of-the-ISR-Burkina-Faso-eGovernment-Project-PI55645-Sequence-No-03>

Finally, like most countries, Burkina Faso has a Universal Service Fund,<sup>27</sup> funded by a small tax on telecom licensees (2 percent of revenue), to use to provide telecom services (including phone and internet) to rural areas not served by the competitive marketplace. As part of ECOWAS, Burkina Faso has a universal service law consistent with a regional framework. It has been collecting funds for years but – per apparently reputable reports found on the web, as of 2016 – it was labeled as “inactive,” having not disbursed any funds and having a balance of \$78 million to spend.<sup>28</sup> The assessment team did not interview any government officials (nor telecom companies) about this information, so it may be out of date, but it is worth investigating to see if help can be provided to unlock these collected funds to increase access to telecom services, especially in rural areas of interest to USAID.

## KEY TAKEAWAYS ON THE MOBILE ECOSYSTEM

The results of the analysis of Burkina Faso’s ecosystem are much more positive than initially expected. Burkina Faso is only slightly behind the region in regard to mobile phone users, smartphone connections, and use of the mobile Internet. It is very positive that two-thirds of the country is covered by at least 3G level connectivity, and that there is good competition among the mobile network operators with no one operator dominant.

Mobile money usage is stronger than initially expected; in fact, a slightly higher percentage of Burkinabes are actively using their mobile money accounts than their counterparts in the regions. Females do lag behind males dramatically in mobile money accounts and usage (and we would love more insight into why, exactly, this is in the case – see Recommendation 5.) Those in rural areas are somewhat less likely to have a mobile money account, but those that do have accounts use them more often.

## KEY DESIGN CONSIDERATIONS

Based on the ecosystem findings, there are some key design considerations for any digital service intended to reach those in rural areas:

- Services should ideally work online and offline (i.e., data can be collected offline where there is no connection and uploaded once back “on the grid”).
- Services should be highly visual and/or rely on audio and video to reflect low literacy levels and multiple languages of target users (building on best practices elsewhere for such applications).
- Leverage lead farmers or farmer groups (i.e., producer organizations and federations) with higher technical capacity.
- Consider low-power applications that require less electricity.
- Services should conduct research and test prototypes with women specifically to ensure that their needs and interests are adequately accounted for in design and implementation.

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<sup>27</sup> For more information on Universal Service Funds and the fund in Burkina Faso, see <https://webfoundation.org/docs/2018/03/Using-USAFs-to-Close-the-Gender-Digital-Divide-in-Africa.pdf> (see page 9) and [https://www.gsma.com/publicpolicy/wp-content/uploads/2012/03/Sub-Saharan\\_Africa\\_USF-Full\\_Report-English.pdf](https://www.gsma.com/publicpolicy/wp-content/uploads/2012/03/Sub-Saharan_Africa_USF-Full_Report-English.pdf)

<sup>28</sup> <http://pubdocs.worldbank.org/en/813711429737310859/1516220-TransportICT-Newsletter-Note14-v1.pdf>, page 9

#### 4C. DIGITAL USAGE AMONG USAID FOOD SECURITY AND RESILIENCE ACTIVITIES

Given the relatively positive position of Burkina Faso's digital ecosystem, it is not surprising that the results of the implementing partners survey (see Appendix A) show that most respondents were using digital tools of some sort.

The team interviewed dozens of individuals across an array of types of organizations, including implementing partners, digitally enabled service providers, mobile network operators, mobile money providers, public sector, and other development partners:

- *Implementing partners* (including ACIDI/VOCA, CNFA, Winrock, and Veterinaires Sans Frontieres (VSF))
- *Digitally enabled services providers* (companies providing digital services or tools), including InVIIS, Autonus (drone services), Espace Geomatique (drone services), TICANALYSE, with the BeoogoLab incubator; Farm Radio International; users of Dimagi's CommCare software platform; Viamo, Amplio (via email); Oolu Solar (solar pane service with m-money payments); and Afrique Verte (with its SIMAgri market price services)
- *Mobile network operators* (MNOs): Orange, Onatel and Telecel Faso
- *Mobile money operators*: Orange Money and MobiCash
- *Farmer federations* i.e., both FEPA/B (Federation of Agricultural Professionals, Fédération des Professionnels Agricoles du Burkina Faso), and Confédération Paysanne du Faso (CPF)
- *Public sector* (including the Director of Agriculture Extension in the Directorate for Crop Production); L'Observatoire National du Foncier au Burkina Faso (ONF); the IT manager in the Ministry of Agriculture; the National Agency for the Promotion of ICT (ANPTIC, responsible for eBurkina); and Open Burkina
- *Other development related organizations*: Freedom from Hunger, Tanager International, Trickle Up, Johns Hopkins' SRO-funded Breakthrough ACTION Social Behavior Change activity, part of RISE II, Clinisols (funded by AGRA and beginning to use Amplio's talking books in 30 villages), IFDC, and Yam Pukri (its CTA-funded iDEAL Burkina activity as well as a meeting with the regional director)

All interviewees are listed in Appendix E.<sup>29</sup> Appendix D provides a summary of our meeting schedule.

#### HIGH INTEREST, LOW USAGE

In general, we found a high level of interest in learning more about the range of digital tools available; yet few partners are taking advantage of these tools, even given a surprisingly vibrant community of private services providers offering tools and services adapted to the specific context.

The most common use of digital tools by implementing partners is to collect data to report and measure results for monitoring and evaluation (M&E) purposes. As noted previously, the use of digital data for M&E is critical to increase the speed and efficiency of decision making. However, in addition to M&E,

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<sup>29</sup> Contact information has been omitted. If a reader would like contact information, contact Katie Hauser at [khauser@usaid.gov](mailto:khauser@usaid.gov) and she will request permission to release this information.

there are significant opportunities to use digital to improve the reach and impact of development activities themselves. Our assessment found that these opportunities are currently significantly under-exploited by IPs in Burkina Faso.

That being said, there were a few strong examples of digital tools and services in RISE work, including the implementation of the MAST (Mobile Applications to Secure Tenure), a land tenure application by REGIS-ER.<sup>30</sup> This is an exciting use of geospatial technology, mapping, and digital analysis to address the critical issue of land tenure. The MAST application collects farmer data down to plot measurement. This level of precision opens up the opportunity to **use data to empower farmers or producer groups directly**. However, despite several projects collecting farm-level data, it is not yet being used to help farmers improve their own decision making. For more on this, refer to Recommendation 2.

**AS THE OPEN BURKINA INTERVIEWEE NOTED, MAST DATA COULD BE USED TO HELP PRODUCERS DIRECTLY, WITH PROPER CONSIDERATIONS FOR DATA SHARING AND CONFIDENTIALITY.**

There is also existing use of interactive voice response (IVR), which is a great tool for reaching less-literate users (although it tends to be more costly to implement than other digital tools). Two interviewees described using IVR services from Viamo or agriculture. Viamo is a global service provider that is working in Burkina Faso in partnership with the Ministry of Agriculture and Orange to implement the 3-2-1 service.<sup>31</sup> This service is part of the government's eExtension initiative according to interviewees and allows individuals to call for extension information, on demand, at no cost to the user. Viamo relies on development partners to provide relevant content. Many USAID partners in Burkina Faso are not yet familiar with the service, and to-date, content has been sourced only from Self Help Africa, which provides agricultural content, and Earth Networks, which provides weather services.

Lastly, we found some good use of interactive radio programming (a term used for well-designed radio campaigns combined with listening groups and simple mobile phone applications to boost listener participation in the radio programs); and use of radio and video for training and the dissemination of extension information. For example, SPRING has used low cost video with women's groups.

## STRONG SERVICE PROVIDERS IN PLACE TO SUPPORT REGIONAL ACTIVITIES

In addition to Viamo, we found several strong local digital service providers, which is a significant enabler for the use of digital tools by partners. These service providers include TICANALYSE, Ecodata, and InVIIS, as well as a professional association for software development companies (RPTIC, Réseau Professionnel des TIC). TICANALYSE reported it has launched a service called SwagPay, enabling e-commerce users (including university students paying fees) to easily choose between the two mobile money services with a click of a button (similar to how Americans can opt to pay for products on the web using PayPal). TICANALYSE is also managing a business incubator for tech startups (BeoogoLAB).

Other international digital service providers used by interviewees in Burkina Faso include Dimagi, which manages the CommCare data collection software platform designed to work offline and used by development agencies globally. In Burkina Faso, it is used by Tanager International, among other companies, for front-line workers to better manage services to female poultry farmers. VIMS/PLUS is

<sup>30</sup> <https://files.globalwaters.org/water-links-files/REGIS-ER-fact-Sheet.pdf>

<sup>31</sup> <http://321service.org/countries/burkina-faso/>

using a similar data collection platform, Magpi, which is also designed to work offline and works with any language and alphabet.

Per Amplio, in 2019, another digitally enabled tool will be launched in Burkina Faso: Amplio's talking book device.<sup>32</sup> This is tailored for use by rural, poor, and illiterate populations. The service will be launched in 30 villages and eventually with 96,000 producers.<sup>33</sup>

## DIGITIZING PAYMENTS AND FINANCIAL SERVICES

The prior section (4b) of this report explains that mobile money is being used throughout Burkina Faso, including rural areas. Consistent with these statistics, any interviewee that we asked reported using mobile money for their own purchases, including sending money to friends and family and paying bills. In addition, IPs mentioned paying per diems and other small disbursements via mobile money (operational payments). However, on the programmatic side, we found considerably less use. For example, no one reported using mobile money for agribusiness payments (this said, we were not able to interview any agribusinesses themselves).

Of note here, the United Nations Capital Development Fund (UNCDF) manages the Mobile Money for the Poor (MM4P) initiative, and has extensive experience working with a wide range of stakeholders to digitize value chains in countries including Uganda. They currently have a regional hub in Dakar and plan to expand to Burkina Faso in 2019.<sup>34</sup>

There are many opportunities for USAID to help partners strategically integrate mobile payments into their programs, especially given the vibrant market. There are two mobile money services: Orange Money and Onatal's MobiCash. Both providers reported that they have a bulk payments product already used by NGOs. Bulk payments can be used for such purposes as cash transfer programming (CTP), agribusiness purchases from producers, and loan disbursements.

The two key challenges to mobile money payments are 1) challenges with the agent network and 2) gender. Challenges with agent networks – including limited liquidity for conducting cash in/cash out, limited capacity to provide customer service to the target population, and limited outreach to rural – are neither surprising nor insurmountable, and there are global best practices to draw upon in overcoming these challenges in order to provide accessible and appropriate payment and financial services to rural households. The second challenge, the gender gap, is also not surprising, although it is notably more significant than in other countries. There are many potential reasons for this, including cultural factors, generally lower female literacy, and lower female phone ownership. However, during the workshop, participants did not agree on the driving factor, suggesting that this deserves more research (per Recommendation 5). Currently, at least one of the mobile money operators is trying to

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<sup>32</sup> This is a topic the team can explore more with adult education experts at USAID, if there is interest. One old experiment in Niger (2011) did not show strong results (<https://www.povertyactionlab.org/evaluation/can-mobile-phones-improve-learning-evidence-field-experiment-niger>) but also see, for example, an approach from India <https://digitalempowers.com/software-teaches-adults-read-write-just-weeks/> and <http://news.mit.edu/2016/literacy-apps-poor-communities-0426>

<sup>33</sup> Based on interview with Clinisols [www.clinisols.com](http://www.clinisols.com) based on the manager's successful use of the same device in Ghana at scale.

<sup>34</sup> See <http://ield.uncdf.org/lmftf/financialinclusioninnovation>

address the gap via focusing on women's groups in some marketing efforts. Research can refine and expand efforts to reach women with services that work for them.

## LOOKING TO THE SKY

Unmanned aerial vehicles (UAVs, or drones) are an emerging technology that are increasingly being used for a wide variety of humanitarian and development purposes, from mapping disaster-affected areas to delivering medicine to realizing sterilized mosquitoes to counteract Zika and other mosquito-borne illnesses. However, because drones are so new, regulators in many countries have made it prohibitively difficult for these robotic devices to be used for any purpose, even with a high potential for positive social impact.

Surprisingly, this is not the case in Burkina Faso. Drone use is regulated, but the regulations allow for use when proper permissions are in place. This provides a unique and exciting opportunity for private sector investment, as well as for the use of drones to support the specific needs of smallholder farmers.

The team met with two apparently capable drone companies, both with a strong interest in agriculture and each managing pilot projects to demonstrate how drones could be used to directly help producers (via groups) increase yields. They reported that there are at least two other local drone service providers.

- One drone company (Espace Geomatique) reported two pilot projects underway to demonstrate how drones could be used directly by producer groups to increase yields. These pilots were funded by CTA and overseen with strong interest by FEPA/B (and CPF), the agriculture federations. Espace is locally owned and operated, and has been in business for 15 years. They advised the government on the new drone regulations, and are part of the global Flying Labs network, which accelerates the positive impact of drones and other robotics on local aid, health, development, and environmental projects.
- A second drone company, Autonomous, reported a pilot project with a producer group to demonstrate how drones could be used to efficiently take soil samples along with providing other information on plant health. The process provides similar results to placing soil sensors throughout a plot, without the time required to do so (and with more flexibility to change the areas from which samples are taken).

## SUMMARY

All implementing partners and other interviewees expressed strong interest in learning how to use digital tools better. At the end of the Digital Convening held on 27 November (see Appendix C for agenda), many participants expressed a desire to hold similar meetings in the future, noting they have much to learn and greatly enjoyed the opportunity to connect with their peers on these issues. After our first meeting with REGIS-AG,<sup>35</sup> they requested a second meeting, during which they began a team process for mapping where digital tools might help them tackle key challenges. This interest signals a strong base on which to build a digital collaborative, learning, and adaptation (CLA) platform, per Recommendation 2. This could fill a critical gap. Thus far, IPs do not appear to be learning well from each other on digital-related topics – even across activities in a consortium.

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<sup>35</sup> <https://2012-2017.usaid.gov/sites/default/files/documents/1860/REGIS%20AG%20Fact%20Sheet.pdf>

Such learning opportunities could address the current lack of a strong understanding among implementers of global or even regional best practices for using digital tools for food security and resilience. Building up this understanding can lead to the use of simple digital applications to accelerate impact by helping to, for example: link producers with markets, facilitate agreements with buyers, manage vet services, and increase the efficient management of input distribution or transport.

USAID IPs in Burkina Faso can be well placed to take advantage of the government's efforts to build out digital infrastructure and to use digital tools to provide necessary, underlying services to support agricultural development, such as land tenure. In addition, the robust market for digital financial services (via mobile money) and for drone services providers provide exciting opportunities that may not be available elsewhere. Therefore, despite constraints related to telecom access, literacy, and poverty, there is strong potential to use simple and proven digital tools and services to:

- Reach more producers and increase their productivity and incomes.
- Provide timely information re: services, alerts, good agronomic practices.
- Strengthen links to across market systems – from crop planning and inputs and related services, to production and post harvest services (e.g., transport to markets), to markets.
- Tap proven mobile phone applications to increase literacy.

## 5. RECOMMENDATIONS

The following recommendations offer specific strategies for USAID to advance the use of digital solutions to accelerate results toward food security and resilience outcomes in the Sahel (for this report, the recommendations are focused on Burkina Faso given this report was developed before the second half of the assessment conducted in Niger). Together, the recommendations offer a list of options. We can work with SRO to prioritize and refine them. Together they are intended to ensure a digitally savvy RISE II from the start so proven digital tools can be leveraged much better to increase the reach and success of the activities across the region.

These are not meant to be stand-alone activities, but rather ways to support existing and planned activities, in most cases without adding significant effort or funding.

- I. **Commission an Action Plan** for an approach to holistic digital solutions for RISE II to support project goals and ensure that digital is integrated as a tool for long-term empowerment of program participants. This could be for all participants together or focused on just one or two.

**Description:** A unified approach and action plan that can be followed across the RISE II portfolio will allow for a holistic approach that draws upon and influences program activities regardless of sector (thus including agriculture, food security, and health). It will also help to build strong, comprehensive partnerships and avoid redundancies in system development. There is an opportunity to start this during activity design and planning to ensure that digital is integrated, rather than an add-on. The actions themselves may be either small or significant.

**Outcome:** Digital tools (those with strong evidence of impact) are integrated across RISE II activities to accelerate progress toward intended results from the beginning; partners understand

methods for ensuring that digital tools empower individuals over the long term, in addition to supporting project objectives.

2. **Collaborative Learning and Adaptation:** Facilitate learning and sharing across IPs, consortium partners, and the region.

**Description:** A CLA approach can include many options depending on interest and level of effort required. All, if designed appropriately, can ensure that IPs share tools, experiences, and partnerships in order to improve programming options and avoid redundant efforts.

*Options include:*

- Encourage each consortium to leverage digital in **project start meetings**, which is an opportunity to present findings from this assessment and to point to the many resources available.
  - Facilitate a **learning workshop** (e.g., quarterly or annually) for IPs to continue disseminating best practices, providing hands-on experience with available tools, and creating partnerships.
  - Ensure **regional lessons** are shared – for example, partners in Burkina would benefit greatly from understanding Naatal Mbay’s use of digital in Senegal to empower farmers and increase their success<sup>36</sup>
  - Launch short **series of Collaborative Learning & Adaptation sessions** (face-to-face and/or web-based) on digital topics (if possible given scant staffing). Formats may include short, facilitated learning sessions and/or periodic sharing events (“innovation bazaar” with local providers). See box for potential learning topics.
- Learning topics might include:*
- Principles for Digital Development
  - USAID’s Gender and ICT Toolkit
  - Empowering households with data, including digital identity
  - Leveraging mobile money to provide top priority financial services
  - Low-cost video for agri, financial/digital literacy, and behavior change trainings
  - Effective approaches to social behavior change, sharing learning from RISE II Johns Hopkins BreakthroughAction
  - The Government’s eExtension efforts including the 3-2-1 Interactive Voice Response (IVR) service
  - Lessons from public-private partnerships related to digital services supported by SRO

**Outcomes:** Partners are aware of relevant providers, products, and services available in the market; activities leverage the experience of others, across sectors, to avoid redundancy and achieve scale more quickly.

3. Supporting IPs to **aggregate demand for digital services**, which can lead to better prices,

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<sup>36</sup> Feed the Future. “Finding the Best Fit: Naatal Mbay.” N.D. [https://www.usaid.gov/sites/default/files/documents/15396/Naatal\\_Mbay\\_Case\\_Study.pdf](https://www.usaid.gov/sites/default/files/documents/15396/Naatal_Mbay_Case_Study.pdf)

shared expertise, and/or more investment from telecoms in USAID-priority areas.

**Description:** Many partners Burkina Faso and the Sahel are (or will be) using the same services, such as IVR, radio, video, and SMS services provided through companies like Viamo. USAID has successfully helped partners to aggregate demand for such services (mainly, through encouragement and hiring technical expert to help develop RFPs). Examples include supporting partners (with technical assistance from Nethope) to issue a joint RFP for digital payment services in Rwanda, and doing similar work for procuring connectivity services in Liberia. This may also apply to social behavior change approaches for agriculture/livelihoods that can leverage RISE II SBC work. It might also include leveraging any future digitally oriented public-private partnership that SRO establishes.

**Outcomes:** Partners save time and pool human resources (technical and operational) to jointly evaluate program needs, design RFPs, and source, negotiate, and procure services. Partners gain better services from providers that are enticed by higher volumes, values, retail customers, and ease of dealing with multiple clients.

4. If possible, appoint a **Digital Champion** at Post to serve as point of contact for partners related to all things digital.

**Description:** There are many digital investments on-going or planned in Burkina Faso and in the region that will be good for USAID to be aware of, and having one point of contact who actively shares this information across the agency and partners can greatly facilitate this. For context, in other missions, this is often a person (or 2, or 3) in the Economic Growth or Program Office. In some cases, this person has been a full-time USAID staff member, and in other cases, a temporary Digital Development Advisor through the Lab's DDAP program.

**Outcomes:** New partnerships established that are able to support USAID's objectives in Burkina Faso; USAID has increased awareness of digital trends and investments of relevance.

5. To address the **wide gender gap in DFS usage**, support research that can provide new insights as to the constraints to usage women face.

**Description:** The USAID Lab's Digital Financial Services team in Washington is interested in working with Post on research that can help understand the gender gap in both mobile money usage and financial services more broadly. These insights can help implementing partners and service providers to develop strategies for reaching more women through, for example, modifications to the current product offerings, training of agents on gender-sensitive customer service, or adapting new marketing messages and tools to which women are more likely to respond positively.

**Outcomes:** Financial service providers adapt products and marketing to better meet the needs of women; more women are using mobile money and financial service products in Burkina Faso.

6. Engage with the USAID Lab's Digital Inclusion team on options for **expanding connectivity** in priority areas.

**Description:** Universal Service Funds (USFs) are a common tool in developing markets to drive investments into areas underserved by telecommunication companies (MNOs) due to perceived lack

of profit potential in these areas. As described in section 4b of this report, Burkina Faso has adopted a USF, but it is unclear if it is actually being used at this point. It may have as much as \$78 million to disburse. It is not uncommon for regulators to underutilize these funds if they do not understand how to use the USF or have the appropriate financial plans and controls in place to spend funds appropriately. USAID has worked with Nethope to engage regulators and MNOs to unlock funds in Kenya, Indonesia, and Nigeria.

**Outcomes:** Increased in reliable, sustainable 3G access in USAID priority areas to support digital usages with activities and by individuals for their own needs.

7. Support **governmental information sharing** on digital infrastructure and regulation, especially related to emerging technologies such as digital ID, biometric authentication, digital currencies, and aerial robotics (drones).

**Description:** Take advantage of a high level of regional integration to ensure that government ministries are sharing lessons learned related to regulating digital tools, especially those new emerging technologies for which many countries do not yet have a robust regulatory framework, and encourage investment. For example, Burkina Faso has a unique approach to regulating aerial robotics (drones) that allows for safe development of appropriate use cases, leading to at least four drone service providers in the country (a great sign of private sector development not offered by relatively closed regulations elsewhere.)

8. **Ensure digital tools and approaches are emphasized for applicants for upcoming solicitations** (more information in the internal-only Digital Ag Programming Toolkit with sample language.)

## 6. CONCLUSION AND NEXT STEPS

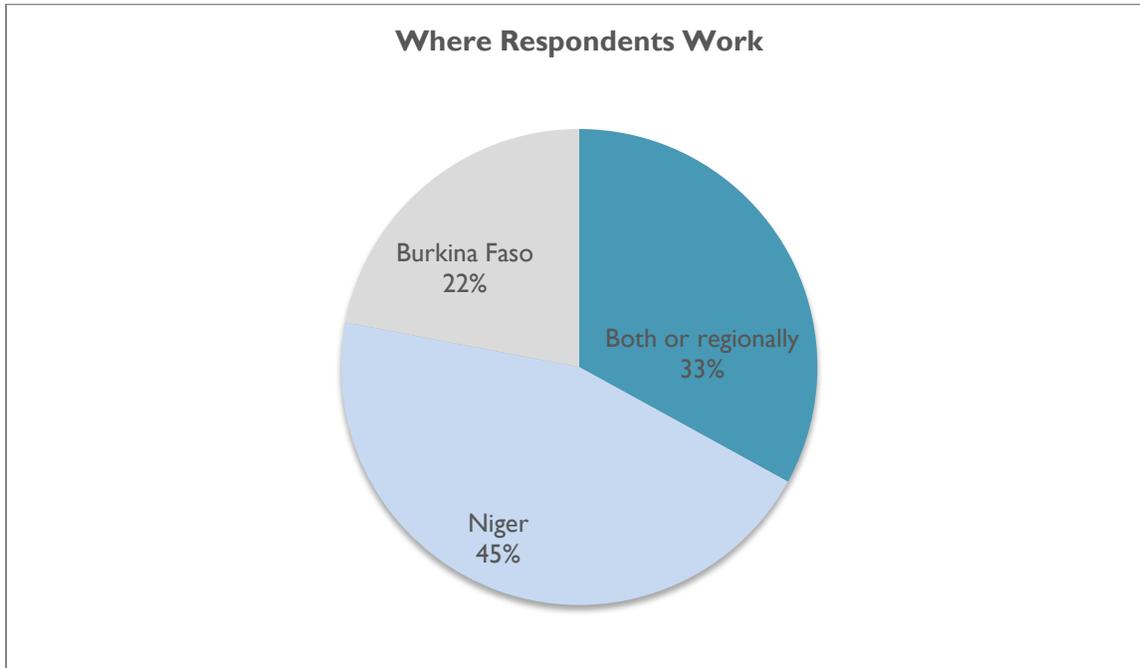
This assessment revealed an ecosystem with great potential to advance and opportunity for digital uptake to occur among existing and planned activities. The amount of activity and opportunity in Burkina Faso was a pleasant surprise to the assessment team, who found a vibrant ecosystem that was hard to see within the existing data and literature available remotely.

A broad set of recommendations are presented, which range from little additional level of effort and resources to more substantial investment of time and/or money. Options can be combined and prioritized, and a plan to phase in by geographic sub-area, sector (e.g., poultry first), or some other breakdown to limit focus can be created. Through these different options, the goal is that digital can become an integrated tool with ongoing learning and iteration, rather than a one-off or add-on.

## APPENDICES

### APPENDIX A: PARTNERS SURVEY RESULTS

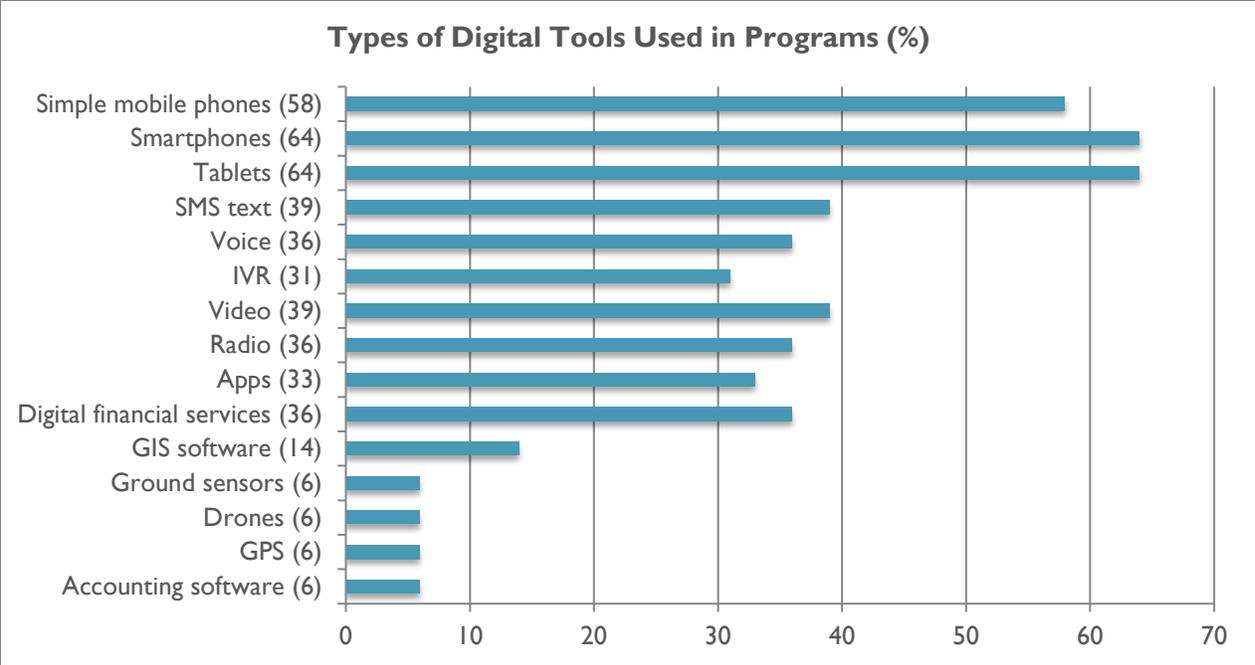
A survey was conducted among USAID partners ahead of this TDY in order to assess the current and intended use of digital solutions and tools. The survey was distributed to Feed the Future, government, private, and institutional partners. Despite receiving only 36 responses, the information gained from respondents was insightful. While this survey is not representative of all Feed the Future partners, it illuminates a few key takeaways.



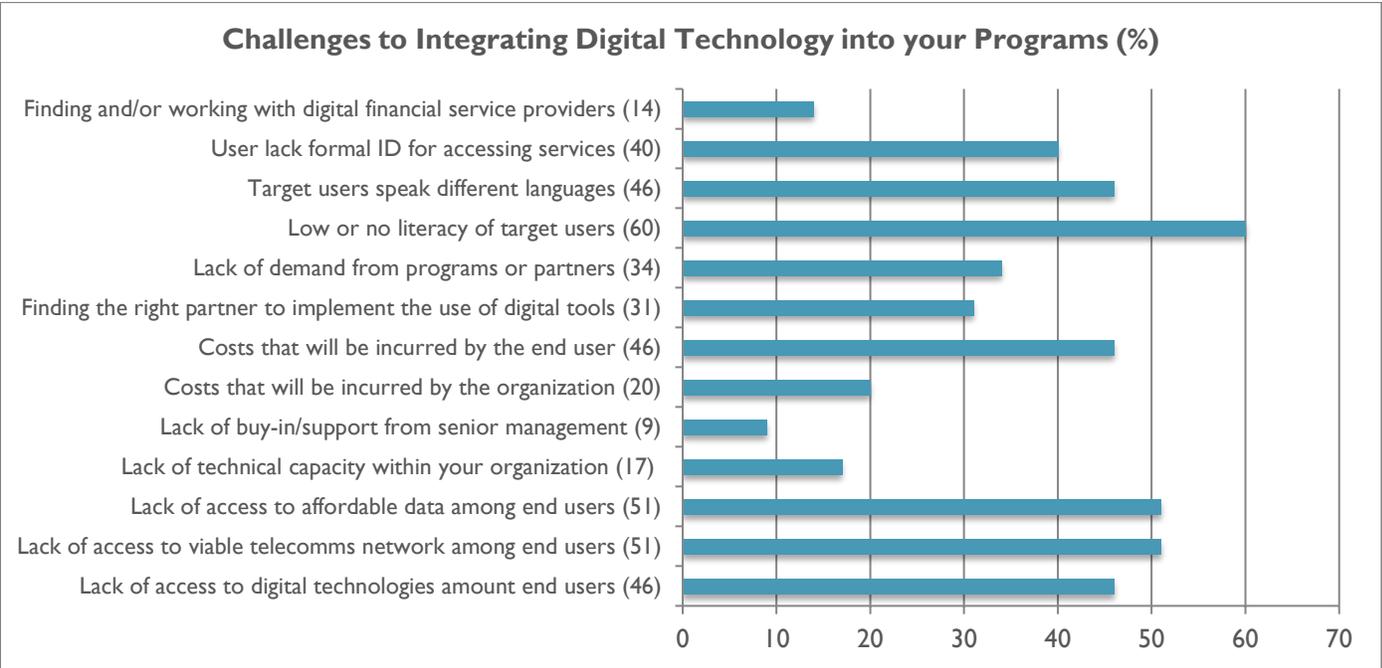
The majority (75%) of respondents are using some digital tools in their organization or program. This percentage goes up when you include respondents that work in both countries or regionally.

	<b>% OF RESPONDENTS USING DIGITAL TOOLS PER COUNTRY</b>	<b>% OF RESPONDENTS INCLUDING THOSE WORKING IN BOTH COUNTRIES/REGIONALLY USING DIGITAL TOOLS</b>
<b>Burkina Faso</b>	75	85
<b>Niger</b>	75	82

The most common digital tools used include smartphones, tablets, and simple mobile phones, and GIS tools. Ground sensors, drones, GPS, and accounting software were the tools partners recorded using the least.

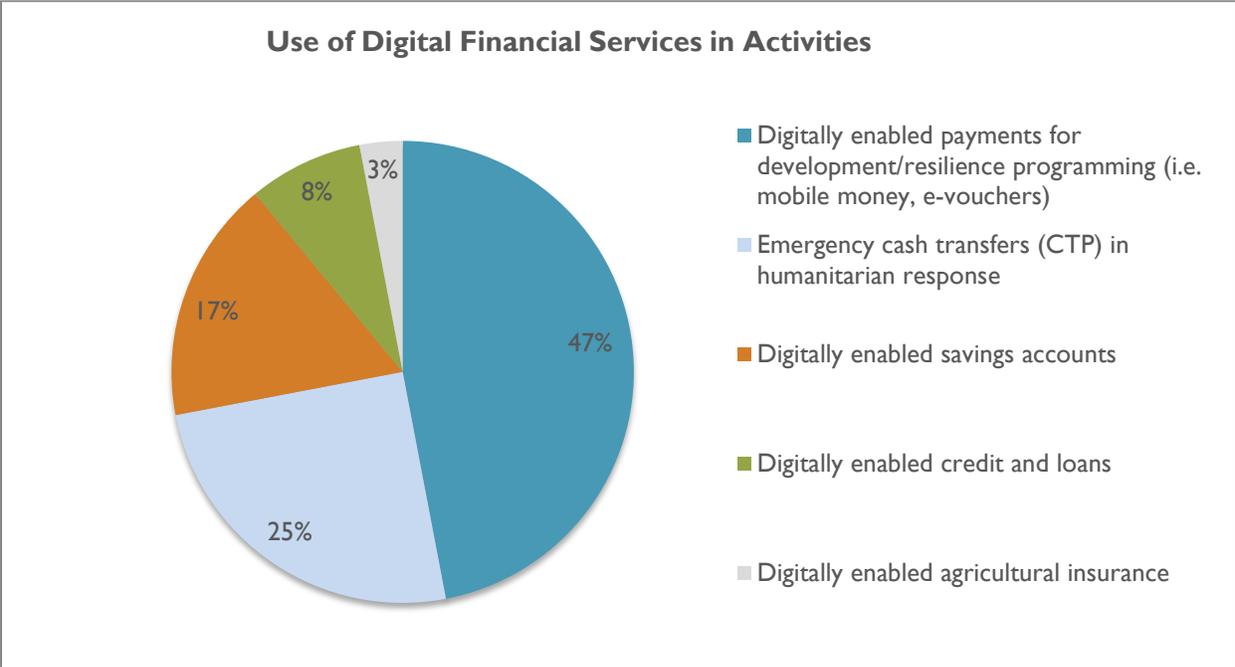


The most prominent challenge respondents face in the implementation of digital tools is low or no literacy of target users; 60 percent of respondents considered this a challenge or very challenging. This was followed by lack of access to viable telecommunications network among end users and lack of access to affordable data among end users.



Digital tools are largely used among respondents for the purpose of data collection (78 percent reported using digital tools for this purpose).

When it comes to digital financial services, 47 percent of respondents reported incorporating digitally enabled payments for development or resilience programming.



When asked why respondents moved from cash to mobile money in their operations or activities, the majority (50 percent), cited transaction traceability, followed by 40 percent who cited security precautions.

## APPENDIX B: ACTIVITIES COMPLETED

### PRE-TDY:

- Conducted background research on relevant activities as well as the digital ecosystem in the region and specific to Burkina Faso.
- Conducted a pre-TDY survey, asking implementing partners in Burkina Faso and Niger about their current and planned use of digital as well as key challenges to digital usage.

### DURING TDY (IN-COUNTRY):

- Provided in-briefing to team to share initial findings from background research, to invite team members to participate in scheduled meetings, and to solicit final input and feedback on the TDY.
- Conducted a workshop on the country's digital ecosystem, the results of the pre-TDY survey, and best practices regarding the use of digital tools for food security and resilience. This session provided an opportunity for IPs to learn from each other through discussion and identify areas for potential collaboration as they share experiences and challenges related to their work with digital tools and services.
- Held a series of meetings with key stakeholders, including IPs, USAID/ Washington, regional, and local Post staff, donors, private service providers, government representatives, and others as listed in Appendix D.
- Provided summary out-briefing regarding TDY findings and recommendations.

### POST TDY:

- Prepared trip report, recommendations, and potential next steps.

## APPENDIX C. WORKSHOP AGENDA: DIGITAL SOLUTIONS FOR FOOD SECURITY AND RESILIENCE

Digital Tools for Agriculture and Food Security  
 Partner Convening  
 27 November 2018  
 Bravia Hotel  
 Ouagadougou, Burkina Faso

TIME	ACTIVITY	SPEAKERS
8:15 - 8:45	Registration and Breakfast	
8:45	Welcome	Chrissy Martin, consultant, USAID
8:50	Introduction and welcome remarks	Alex Newton, USAID/Burkina Faso Agriculture Office
9:00	Digital Ecosystem & Use by USAID Feed the Future Partners	Chrissy Martin
9:15	Spotlight on Relevant Digital Services in Burkina Faso	François Laureys, Viamo, Country Manager Romain Kenfack, Tanager International, Country Representative Desire Banse, Autonous, Co-Founder Moderated by: Judy Payne, consultant, USAID
10:15	Coffee Break	
10:45	Digital Solutions in Agriculture	Judy Payne
11:00	Mobile Money: How can it work for farmers? A discussion with Oolu Solar	Discussion between Chrissy Martin and Bourahima Yameogo (Oolu Solar)
11:30	Open Discussion with the audience -- Share your experience using digital and ask questions	
12:15	Concluding Remarks & Close	

## APPENDIX D. MEETING SCHEDULE

DATE	TIME	MEETING
Mon, Nov 26	11:00 - 12:30	L'Observatoire National du Foncier au Burkina Faso (ONF)
	2:00 - 2:30	Oolu Solar
	3:00 - 4:30	NCBA-CLUSA and URC (Project: REGIS-ER)
Tues, Nov 27	9:00 - 12:00	WORKSHOP
	3:00 - 4:00	Autonomous
	5:00 - 6:00	Tanager International (Project: SeLever)
Wed, Nov 28	9:00 - 10:00	USAID Burkina Faso Post: In-Brief
	12:00 - 1:00	Yam Pukri (Project: iDEAL Burkina)
	3:00 - 4:30	CNFA (Project: REGIS-AG)
Thurs, Nov 29	8:30 - 9:30	Viamo
	11:30 - 12:30	Farm Radio International
	2:00 - 3:00	Trickle Up
Fri, Nov 30	9:00 - 10:00	Orange (Orange Money)
	12:30 - 1:30	ACDI/VOCA (Project: VIMPlus)
	2:00 - 3:00	CNFA (Project: REGIS-AG) - follow up meeting
	3:30 - 4:30	Afrique Verte (Project: SIMAgri)
Mon, Dec 3	9:00 - 10:00	InVIIS
	11:00 - 12:00	Freedom from Hunger (Grameen Foundation)
	3:00 - 4:00	Vétérinaires Sans Frontières
	5:00 - 6:00	Open Burkina
Tue, Dec 4	9:00 - 10:00	Espace Geomatique
	11:00 - 12:00	Directorate General for Crop Production
	12:30 - 01:30	NCBA-CLUSA and URC (Project: REGIS-ER)
	3:00 - 4:00	IFDC
	5:00 - 6:00	Yam Purki - follow up meeting
Wed, Dec 5	10:30 - 11:30	Telecel Faso

DATE	TIME	MEETING
	2:00 - 3:00	TICAnalyze/BeoogoLAB
	3:30 - 4:30	Orange (Orange VAS)
	6:00 - 7:00	Breakthrough ACTION (Johns Hopkins University) (Project: RISE II)
Thu, Dec 6	9:30 - 10:30	National Agency for Information Security System (ANSSI) (regarding eBurkina leadership)
	3:00 - 4:00	Onatel (Mobicash)
	5:00 - 6:00	Winrock (remote meeting)
Fri, Dec 7	7:45 - 8:30	USAID Burkina Faso Post: Out-Brief
	9:15- 10:30	Ministry of Agriculture (IT Department)
	11:00 - 11:30	National Agency for the Promotion of ICT (ANPTIC)
	11:45 - 12:15	Agrobusiness et ingenierie du developpement (formerly iDE)
	1:00 - 2:00	TICANALYSE - follow up meeting
	4:00 - 5:00	Federation of Agricultural Professionals (FEPA/B)
Sat, Dec 8	11:00 - 12:00	Confédération Paysanne du Faso (CPF)

## **APPENDIX E: INTERVIEWEES**

Contact names and contact information have been omitted because this is a public document. If a reader would like contact names and contact information, please contact Katie Hauser (khauser@usaid.gov), and she will request permission to release this information.

### **Implementing Partners**

ACDI/VOCA (Project: VIMPlus)  
Afrique Verte (Project: SIMAgri)  
Agrobusiness et ingenierie du developpement (formerly iDE)  
Breakthrough ACTION (Johns Hopkins University) (Project: RISE II)  
CNFA (Project: REGIS-AG)  
Farm Radio International  
Freedom from Hunger (Grameen Foundation)  
IFDC  
NCBA-CLUSA and URC (Project: REGIS-ER)  
Tanager (Project: ASI Se Lever)  
Trickle Up  
Viamo  
Veterinaires Sans Frontieres  
Winrock

### **Public Sector (Government of Burkina Faso)**

Directorate General for Crop Production  
L'Observatoire National du Foncier au Burkina Faso (ONF)  
Ministry of Agriculture (IT Department)  
National Agency for Information Security System (ANSSI)  
National Agency for the Promotion of ICT (ANPTIC)

### **Civil Society: Private Sector, Non-Government Organizations**

Federation of Agricultural Professionals (Fédération des Professionnels Agricoles du Burkina Faso (FEPA/B)  
Confédération Paysanne du Faso (CPF)  
Open Burkina  
Autonomous  
Espace Geomatique  
InVIIS  
Onatel (Mobicash)  
Oolu Solar  
Orange (Orange Money)  
Orange (VAS)  
Telecel Faso  
TICAnalyze/BeoogoLAB  
Yam Pukri (Project: iDEAL Burkina)

### **Organizations Unable to Meet**

AgriBusiness TV

AgriData  
Amplio Network  
CLINISOLS  
Development Media International  
ECODATA West Africa  
Institut de l'Environnement et de Recherches Agricoles (INERA): USAID Innovation Lab for  
Livestock Systems  
Ministry of Agriculture, Water Resources, and Fisheries (SONAGESS)  
Ministry of Agriculture, Water Resources, and Fisheries (DGESS)  
Ministry of Agriculture, Water Resources, and Fisheries (DGPER)  
Ministry of Animal Resources (DGSS)  
Nitidae (formerly RONGEAD)  
Eaton Towers