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

Feed the Future Enabling Environment for Food Security Project

Constraints to Accessing Finance and Insurance in Mali's Livestock Sector

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The **Feed the Future Enabling Environment for Food Security** project is a global support mechanism for Feed the Future focused and aligned Missions and Washington-based USAID offices to address policies, as well as legal, institutional, and regulatory factors that function as market constraints affecting food security.

Launched in September 2015, the project enables the rapid procurement of technical analysis, advisory services, and strategic knowledge management. For more information, contact Lourdes Martinez Romero (COR) at lmartinezromero@usaid.gov or Nate Kline (Project Director) at nkline@fintrac.com.

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ACRONYM LIST

APIM	Association Professionnelle des Institutions de Microfinance (Professional Association of Microfinance Institutions)
BCEAO	Banque Centrale des États de l'Afrique de l'Ouest (Central Bank of West African States)
BMS	Banque Malienne de Solidarité
BNDA	Banque Nationale de Développement Agricole
BFS	Bureau for Food Security
CIMA	Conférence Interafricaine des Marchés d'Assurances
CNAAS	Compagnie Nationale d'Assurance Agricole de Senegal
DCA	USAID's Development Credit Authority
DID	Développement International Desjardins
EARS	Environmental Analysis and Remote Sensing
FARM	Financement Agricole et Rural au Mali
FEBEVIM	Fédération Nationale Groupement Interprofessionnelle de la Filière Bétail Viande au Mali (National Livestock Federation)
FGSP	Fonds de Garantie pour le Secteur Privé (Guarantee Fund for the Private Sector)
GIIF	Global Index Insurance Fund
IBLI	Index-Based Livestock Insurance
LRI	Livestock Risk Insurance
L4G	Livestock for Growth
MFI	Microfinance Institution
MNO	Mobile Network Operator
MPI	Office of Market and Partnership Innovations
NBFI	Non-Bank Financial Institution
NDVI	Normalized Differential Vegetation Index
PADEL	Projet d'Appui au Développement de l'Elevage au Mali (Mali Livestock Sector Development Support Project)
SFD	Système Financier Décentralisé (non-bank financial institutions)
SMEs	Small- and Medium-Sized Enterprises
SUM	Scaling up Microinsurance
UEMOA	Union Economique et Monétaire Ouest Africaine (West African Economic and Monetary Union)
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

From May 28 through June 1, 2018, a two-person consulting team consisting of Tamara Duggleby and Nhu-An Tran conducted a rapid analysis of the sectoral, policy, legal, and institutional barriers to expanding access to credit and index insurance in the livestock sub-sector in Mali. The objectives of the assessment were to:

1. Conduct a landscaping study to identify key challenges in accessing finance in Mali's livestock sector.
2. Confer with stakeholders in the insurance sector on constraints and challenges in offering index insurance to the sector.
3. Propose practical recommendations informed by a desk study and field interviews the team held with key stakeholders in the financial, livestock development, and insurance sectors in Mali.

Key Findings

- ***The majority of commercial banks are not lending to the agricultural sector***. The main reasons cited are risk of crop loss, lack of collateral, location of producer (rural or not fixed), lack of registration, lack of knowledge about concept of credit, lack of organization among agricultural producers, and lack of bank staff knowledge about agriculture markets.
- ***Banque Nationale de Développement Agricole (BNDA) and Banque Malienne de Solidarité (BMS) are the leading two banks financing the agricultural sector***. BNDA tends to finance small and medium-sized enterprises (SMEs) and larger agribusinesses, while BMS is more willing to finance smaller enterprises.
- ***Registered and well-structured non-bank financial institutions demonstrate more interest in taking risk in the agricultural sector than do banks.*** These include federations of local savings and loan associations ("caisses populaires") and microfinance institutions. These are well implanted in local, mostly rural communities and tend to use the use caisse-based mutual guarantees ("cautions solidaires") instead of traditional collateral.
- ***There are well-established supporting institutions to support agricultural finance***. Fonds de Garantie pour le Secteur Privé (FGSP), the Guarantee Fund for Private Sector, provides risk-sharing mechanisms and is mandated to work with SMEs. Fédération Nationale Groupement Interprofessionnelle de la Filière Bétail Viande au Mali (FEBEVIM), the National Livestock Federation, represents associations and cooperatives that span the entire value chain, with interest in providing access to finance for its members.
- ***The insurance market in Mali remains underdeveloped and targeted towards corporations and large businesses.*** Total premiums represent less than 1 percent of GDP. Knowledge about insurance, even among banks, is low, though there is growing recognition that insurance can potentially help reduce credit risk of small producers.
- ***To date, there have been only a few pilot initiatives in Mali for agricultural insurance***. Existing agricultural insurance schemes in Mali have mainly focused on insuring crops. No one has yet worked on insuring livestock. None of the pilot schemes has been scaled up or replicated beyond the original project sites. In all cases, Allianz is the sole insurer working in this segment of the market.

Recommendations

Recommendation 1: Strengthen commercial viability of livestock value chain. Support the emerging partnership between FEBEVIM and Soro Yiriwasso, a microfinance institution (MFI), by: funding a demand-side study on financing needs of FEBEVIM member organizations; building institutional capacity of FEBEVIM, including organizational development and strategic planning; providing technical assistance for Soro Yiriwasso on product development and risk assessment methods; and facilitating business advisory services for potential borrowers such as business planning, commercialization, and formalization.

Recommendation 2: Work with BMS to expand lending to livestock sector. Improve the knowledge of BMS management and front-line staff about the livestock value chain. Provide technical assistance to help the bank adapt its current credit process and products to match the risk profile and financing needs of the sector.

Recommendation 3: Encourage development of a commercial domestic feed production. Support local forage and feed production, drawing on the FEBEVIM member organizations as a distribution channel. Potential financing partners include BNDA or BMS as funder of production, FGSP to provide the loan guarantee (or fund long-term construction loan of a feed warehouse), and FEBEVIM to organize distributors.

Recommendation 4: Support further research on livestock insurance. Additional research is needed to determine whether livestock insurance can feasibly be implemented in Mali. Given the security concerns in the north and the pastoralist nature of the livestock raising method in that region, one possible starting point for exploratory research is the more sedentary herders in the Sikasso area. Another possibility is to explore the potential for a model like that used by the Compagnie Nationale d'Assurance Agricole de Senegal, which includes bundling feed purchase and feed credit to insurance.

1. INTRODUCTION

Under the U.S. Government Global Food Security Strategy, the Office of Market and Partnership Innovations (MPI) within the U.S. Agency for International Development's Bureau for Food Security (USAD/BFS) is leading an initiative to enhance thinking on and investment in programs and strategies that will improve access to rural finance. To better understand the interplay between the enabling environment and access to finance for the agricultural sector, USAID/BFS/MPI has requested a snapshot study to identify interlinkages between the enabling environment and access to rural finance. The advent of index insurance is of particular interest. Index insurance's promise of improved resilience for producers to protect against unique sectoral risks is expected to reduce repayment risk and ultimately improve access to finance and lending terms.

Assessment Team

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From May 28 through June 1, 2018, a two-person consulting team conducted a rapid analysis of the sectoral, policy, legal, and institutional barriers to expanding access to credit and index insurance in the livestock sub-sector in Mali. The assessment was done under the Feed the Future Enabling Environment for Food Security project.

1.1 OBJECTIVE

The objectives of the assessment were to: 1) conduct a landscaping study to identify key challenges in accessing finance in Mali's livestock sector; 2) confer with stakeholders in the insurance sector on constraints and challenges in offering index insurance to the sector; and 3) propose practical recommendations, informed by a desk study and field interviews the team held with key stakeholders in the financial, livestock development, and insurance sectors in Mali.

1.2 METHODOLOGY

The team undertook the field assessment using a value chain-based approach and met with 15 key stakeholders, including: three in the banking sector; three in the non-bank financial institutions sector (microfinance institutions); the Association Professionnelle des Institutions de Microfinance (APIM) (Professional Association of Microfinance Institutions); Fonds de Garantie pour le Secteur Privé (FGSP) (Guarantee Fund for the Private Sector); three actors in agricultural production sector, including Fédération Nationale Groupement Interprofessionnelle de la Filière Bétail Viande au Mali (FEBEVIM) (the National Federation of Livestock Producers in Mali), the USAID-supported Livestock for Growth Project (L4G), and the Desjardins Financement Agricole et Rural au Mali (FARM) project; and three stakeholders in the insurance sector, including Planet Guarantee insurance broker, Allianz insurance provider, and Mali Meteo-National Weather Service. The team also talked with the Orange Money transfer system in Mali about their payment facilities serving non-urban areas. See Annex A for a complete list of contacts and interviews.

Throughout the assessment, team members scheduled and carried out interviews to identify the key risks and constraints involved in extending and repaying credit and providing index insurance in the livestock sector in Mali today. The team endeavored to identify existing or potential partnerships between financial, livestock sector, and insurance stakeholders that might be used as a basis for designing and piloting one or more programs to increase access to finance for producers in the livestock sector as well as one or more insurance products addressing key risks and constraints for producers and insurance providers.

The following report covers team findings and recommendations by category of stakeholders: commercial banks, non-bank financial institutions, loan guarantee providers, producers of livestock and by-products, and existing providers of index insurance and reinsurance in Mali. In developing recommendations, the team also took into consideration general lessons learned in trying to extend access to finance and/or index insurance for small producers in Mali, Ghana, Burkina Faso, and Kenya under the USAID-funded Assets and Market Access Innovation Lab assessments or project evaluations involving index insurance.

2. OVERVIEW OF THE LIVESTOCK SECTOR IN MALI

Livestock, including fisheries and aquaculture, is a key sector of the Malian economy. Livestock contributed about 19 percent of national GDP (4.2 percent from fisheries alone) and is just behind gold and cotton in terms of wealth creation and exports. More than 85 percent of the population (7.2 percent for the fisheries subsector) are engaged in this productive activity.

The national livestock population is estimated at more than 15 million cattle, 32 million small ruminants, 37 million poultry, and just under 1 million camels. Mali produces 180,000 tons of fish per year, including production from aquaculture, which is booming economically.[1]

Important regional distinctions are evident in livestock production systems. In Mopti and Timbuktu, there are strong cultural values embedded in the practice of raising livestock, where cattle raising is a family tradition that is passed from one generation to the next. Pastoralist methods are more prevalent; herders have no fixed locations, and movement is based on availability of pasture with no discernible pattern from one season to the next.

In the Sikasso region, on the other hand, the cultural values of owning a large herd are less pronounced, and cattle raising is considered more a business. The herds tend to be more sedentary in this region, and there is a more organized system of moving livestock from production to market.

Informality and distrust of formal institutions are a common sentiment among livestock raisers, especially among the pastoralist herders. Trust is the underpinning modus operandi of the livestock sector. Market access and price discovery are restricted by the reliance upon the services of a broker to guarantee trades between strangers. Personal relationship and trust-based transactions are the underpinning modus operandi of the livestock sector. Market access and price discovery tend to be restricted to a few trusted sources, as manifested by the reliance upon the services of a broker to guarantee trades between strangers. As a result, the value chain is not well-integrated vertically or horizontally.

The existing structure and conduct of livestock markets may be appropriate to low-output pastoral production, but it is a fundamental constraint to growth, which will require the adoption of more rigorous formal business procedures and linkages if it is to occur. Regulatory oversight, including veterinary certification, grading, registration, and standards, of this geographically dispersed subsector is particularly weak, leading to high rates of disease and cattle theft.

Access to grazing is also uncertain. Land tenure rights of pastoralists have yet to be properly defined, so farmers and pastoralists find themselves in conflict over who is encroaching on a particular area of land. Moreover, climate change and variability in weather has reduced the amount of available pasture.

Besides climate-related risk, other significant risks livestock herders face include theft, illness, and accidental death (being hit by a vehicle). For these reasons, the livestock sector is perceived as particularly high-risk by financial institutions and insurance providers.

[1] FEBEVIM Market Study and World Bank Project Appraisal Document for the Mali Livestock Sector Development Support Project (Projet d'Appui au Développement de l'Elevage au Mali).

3. ACCESS TO AGRICULTURAL FINANCE

3.1 FINANCIAL SECTOR OVERVIEW

Enabling Environment

Most of the laws regulating financial services in Mali (banking, non-bank financial institutions, accounting and payments) are housed within the West African Monetary and Economic Union framework. The 2010 Law on Regulation of Banks requires that commercial banks maintain a minimum capital as well as a risk reserve to cover potential losses due to loan non- payment. Banque Centrale des États de l'Afrique de l'Ouest (BCEAO) (Central Bank of West African States) requires banks to cover at least 75 percent of their long-term assets (two plus years) with their long-term resources. The maximum loan amount that can be extended to borrowers is set by the individual financial institutions.

On June 28, 2013, two laws were adopted. A uniform law on the Definition and Suppression of Usury ("Usury Act") and a Uniform Law on the Legal Interest Rate. Decision No. CM/UMOA/011/06/2013 reduced the usury rate from 18 percent for banks and 27 percent for decentralized financial system to 15 percent and 24 percent respectively. Team discussions with management of several banks offering finance to agricultural related enterprises signaled that these banks are operating comfortably within the usury limit, i.e., covering their transaction costs and making a profit. However, interest rate caps limit borrowers' access to capital, especially within the agribusiness sector, where the risks and the costs of extending and recovering credits are higher. However, interest rate caps tend to make non-agricultural lending more attractive to them, because the risks and the costs of extending and recovering credits tend to be lower than those for agricultural based lending. Several non-bank financial institutions (NBFIs) interviewed, as well as leaders of the FEBEVIM, indicated that many potential borrowers cannot afford present interest rates on short and medium-term loans.

Microfinance institutions (MFIs) are registered under and governed by the 2010 Law on Regulation of Decentralized Financial Institutions. This law has strengthened standards for licensing, supervision, and reporting and permits greater flexibility in MFI organizational structures. At the same time, during team interviews managers from three major MFIs operating in most regions of Mali, indicated that the costs of borrowing from the banks are high (8.5 to 9 percent), and they must relend to borrowers at rates of 12 to 13 percent in order to cover their costs of extending and servicing loans in rural areas. These are rates that many borrowers can't afford. It is worth noting that the National Strategy and Action Plan for the Development of Microfinance (2008-2012) contains language encouraging linkages between MFIs and banks.

Mobile network operators (MNOs) such as Orange and MaliTel have introduced mobile money, partnering with banks to enable money transfers. In 2016, Orange established E-Money Establishments in Côte d'Ivoire, Guinea, Mali, and Senegal, giving it greater autonomy and increased agility to provide a variety of financial services, including credit, savings, and insurance. This new status places the MNO under banking regulations with a responsibility accredited by the competent Central Bank, giving the company greater autonomy and increased agility to launch new services. Orange is responsible for funds deposited by customers and ensures bank compliance through the Orange Money Compliance Center of Competence.

With 10 million unique subscribers, Mali has a high mobile penetration rate, at 65 percent compared to an average 42 percent average for West Africa. Of the existing subscribers, 53 percent are non-mobile users (i.e. own an account but relies on another person to perform the transactions), 18 percent are mobile internet users, and 29 percent text and voice only users.[2] In 2017, 31 percent of the population

[2] GSMA The Mobile Economy West Africa 2018, https://www.gsma.com/mobileeconomy/west-africa/

is reported to have made or received a digital payment compared to only 15.2 percent in 2014.[3] While money transfers still comprise the majority of mobile-based transactions on the Orange Money platform, the potential for a broad range of digital financial services is there.

Types of Credit Providers

There are presently three types of financial institutions providing short and medium-term financing for agricultural businesses. These include two commercial banks, three large-scale MFIs working in rural areas, and a social impact investment fund (Oikocredit), which does a small amount of direct lending to agriculture (3 percent) and largely lends to MFIs for on lending to small agribusinesses. MFIs interviewed, working in rural areas with agricultural credit, are of two basic types: those extending financial services through a system of regional "caisses populaires" (examples Kafo Jiginew and Nyesigiso), decentralized member-owned entities through which members save, receive credit, and cross guarantee their loans, and those structured like traditional microfinance institutions (for example, Soro Yiriwasso), which operate through regional branches, mobilize savings, and extend loans to clients using various mechanisms for loan security.

Product Offerings

Products offered at commercial banks and MFIs differ by type of institution, size/type of enterprise, and perceived borrower capacity to repay. For example, two banks interviewed by the team were offering some short-term loans (three months to a year) for livestock purchase or forage production, some medium term (two to three years) for equipment/farm development, and some long-term loans (up to five years) for larger investments such as agro-processing. Loan sizes given ranged from CFA 4-5 million ($8000-10000) up to CFA 500 million ($1,000,000).[4] These banks appeared to be lending more to registered SMEs and larger businesses than to smallholder farmers or micro to small enterprises.

An example is Banque Nationale de Developpement Agricole (BNDA), which is now 51 percent state-owned. BNDA was established and capitalized to lend to agribusinesses and makes 55 percent of its loans to agriculture-related businesses. According to its Commercial Department Director, BNDA makes some short-term loans to livestock producers. For example, purchase of animals at terms of six months to one year at l0 percent interest and loans for production of forage at terms of three to six months at l0 percent.

However, this bank seems to largely serve SMEs and larger enterprises. The bulk of BNDA's total portfolio of $12.8 million appears to be focused on loans for commerce and trade. BNDA utilizes facilities of the FGSP to guarantee repayment on SME loans. This bank has also been making loans on demand to MFIs at 8 percent for on-lending to their smaller member/borrowers. These MFI loans have included many to women in their "caisses populaires" for crop production, small livestock raising, and commerce (see Annex C for more information).

Registered microfinance institutions appear to be serving micro and small-scale agricultural enterprises, including loans for crop production and marketing as well as livestock production. Examples of MFI loan products discussed with the team are loans for livestock raising at up to 12 months to allow for animal maturation and loans for six months for sedentary farmers raising crops. Loans made by two of the largest MFIs (Nyesigiso and Kafo Jiginew) are made to individuals as well as to those in groups or "caisses populaires," where borrowers are members of the "caisse," deposit savings, and as such guarantee each other's loans. Some loan sizes given were up to CFA 50,000 ($100) for individuals (with a fixed guarantee in form of movable asset or land title), up to CFA 15,000 ($30) for individuals in loan groups made up of rural women, and up to CFA 25,000 ($50) for individuals in non-rural groups. In Nyesigiso, some loans have been made to producers as part of associations registered at the regional or town level.

[3] World Bank Global Findex, 2017.
[4] An exchange rate of US $1 = CFAF 500 will be used throughout this report.

Each of the three large MFIs the team interviewed stated that the funds at their disposal, including savings and borrowings from outside financial institutions, are not enough to meet all of the needs presented by their clients. When asked what was needed to expand lending to agricultural borrowers, using funding sources like BNDA, the Bamako Credit Director at Nyesigiso responded "long-term credit of more than five years so that products can be adapted to the needs of agricultural producers, for reimbursement at terms which match with their members' activities in the agricultural calendar."

3.2 KEY FINDINGS

The majority of commercial banks are not lending to the agricultural sector.

This occurs for a number of reasons, cited by banks the team interviewed and by other banking institutions consulted in recent past financial sector assessments. These include:

1. **High risks of crop loss** due to unanticipated weather events or animal loss due to drought, disease, road accidents, theft, or other factors.
2. **Lack of collateral,** which can be used by the bank in case of borrower default, including lack of title to land or movable assets.
3. **Producer location**, which can mean not working in a fixed location (pastoral livestock producers) or working in a rural location not easily accessible for loan extension, monitoring, and recovery.
4. **Lack of registration** of small producers under the Loi d'Orientation Agricole, a 2006 law on organization of the agricultural sector, at commune level.
5. **Lack of organization** in the livestock sector at the level of individual borrowers and key levels in the value chain (feeds production/distribution, watering points, transportation).
6. **Producer lack of understanding** of concepts, such as use of financial services, repayment, running activity as a business, that don't fit with the culture from which small producers come.
7. **Lack of information** on the lender's part on crop and livestock-related activities and the risks/constraints producers face.

The financial sector's aversion to risk, coupled with difficulties related to enforcing contracts and recovering debt through Mali's judicial system, has caused lenders to strongly favor land as collateral. However, a number of the stakeholders interviewed as part of this assessment stressed the difficulties involved in securing the official proof of land tenure required to secure a loan. This appears to restrict agribusinesses — and especially smallholder farmers — from getting access to credit.

Exceptions

There are institutions in the current banking sector in Mali that have managed to extend loans to agricultural enterprises and address collateral and other risks. One of these is the Banque Malienne de Solidarite (BMS). This largely private sector bank (the government owns only 13.9 percent) has a network of 49 branches, focuses on the smaller end of the enterprise sector, and is trying to be, in the words of its general manager, "a formal bank to serve the informal sector." Its mission is to provide wholesale financing for MFIs, SMEs, and young entrepreneurs.

BMS has done direct financing with the agricultural sector (CFA 35 billion, US $70 million) or 11 percent of its CFA 330 billon portfolio ($650 million). The bank has done some lending for livestock, including loans for purchase of animals, purchase of livestock feeds, development of farms, and equipment purchase (loan tenures one to five years). BMS maintains that its focus remains on small-scale producers, not large agribusinesses, offering loans of up to CFA 30 million ($60,000) to a small enterprise, and loans not exceeding CFA 500 million ($100,000) to larger ones. The bank has secured loan guarantee facilities from FGSP at CFA 10 to 50 billion ($20 million to 100 million) and is seeking partnerships that would enable the bank to do more lending to the agricultural sector.

BMS's capital includes shares held by MFIs and it makes loans to MFIS, at CFA 4-5 billion ($8 million to $10 million) at a maximum interest rate of 9 percent (three to five-year term). One of BMS's lending patterns has been to extend financing to cooperatives in a region and, through technical partners, provide training to group members in management and working with credit as well as follow up, then move the next year to do the same in another region. Loans are generally made on an individual basis, and the borrower is expected to contribute 5 to 20 percent of the loan amount. While BMS continues to require land titles, it is looking for ways of tapping more into existing guarantee facilities, like FGSP and Fonds Solidarite Afrique.

Registered and well-structured non-bank financial institutions demonstrate more interest in taking risk in the agricultural sector than do banks.

These include federations of local savings and loan associations ("caisses populaires") and microfinance institutions. These are well implanted in local, mostly rural communities. Two of the larger federations — Nyesigiso and Kafo Jiginew — tend to use the use "caisse"-based mutual guarantees ("cautions solidaires") instead of traditional collateral. Primary risks these institutions face as lenders include:

1. Location of borrowers in remote locations costly to service.
2. Lack of education and knowledge among small producers regarding organizing and running their activity as a business.
3. Lack of organization at various points in the livestock value chain itself.
4. High price of animal feeds produced in-country and producer lack of funds to buy.
5. Producer lack of comprehension of and training in use of financial services.
6. Lack of financial products adapted to needs of livestock sector and agriculture calendar.
7. Insufficient funds in the financial system to meet the needs of their members.

An MFI Exception: Soro Yiriwasso

Soro Yiriwasso, a registered MFI, started as a credit program run by Save the Children. In 2000, it organized and registered as an MFI under the NBFI law and began operations as such. Soro is focusing mainly on rural communities — 90 percent of their lending activity is in rural areas — and one priority is helping women access financing and improve their agriculture related activities. Soro mobilizes savings and extends credit and had an agricultural credit portfolio of CFA 2.3 billion ($4.7 million) at the end of 2017, made up of production-related credits. About 50 percent of their overall credit has gone to agriculture-related activities, including commerce**.** Presently, about 1 percent of' Soro's credits are accorded to livestock sector enterprises.

This MFI is making loans to producers of food and cash crops and livestock producers, using a whole value chain approach. It began by making loans to agro pastoral livestock producers who raise animals in place, sell them locally, and also raise crops. Soro has expanded to serve other agricultural-related businesses, including commercants selling livestock feed and seeds in local communities. At the same time, Soro is endeavoring to finance small producers to buy these. See Annexes D and E for more information on this MFI.

Soro would like to make more loans to the livestock sector and has been talking for some time with FEBEVIM, the national livestock federation, about the constraints livestock producers face. It is now engaged with them in discussions to organize a partnership to carry out an in-depth study of the livestock sector, addressing the needs and constraints of actors all along the value chain, including their access to finance. Soro has borrowed from banks such as BNDA and BMS as well as from social investors like Oikocredit, and their experience in doing so has been generally good. However, borrowing at 8.5 percent means Soro has to relend at 12 to 13 percent in order to cover its costs — rates which are high cost to borrowers. The director has had an initial discussion with Planet Guarantee on index insurance, including derivation of indexes.

3.3 SUPPORTING INSTITUTIONS

Guarantee Fund for the Private Sector

Started in 2015, FGSP provides guarantees solely for banks use, and works with all banks including BMS, BDM and BNDA (the largest user). FGSP sources its funds 40 percent from government[5] and 60 percent from banks as owner/members of the Fund. Guarantees provided by the Fund cover all sectors, including agriculture (no funds devoted to a specific subsector). Guarantees cover short-term loans and longer-term loans up to a maximum of 10 years. CFA 500 million ($1 million) is the guarantee limit per loan. To access a guarantee, the borrower must pay a one-time fee of 2 percent of loan amount for loan terms greater than one year, and 1 percent for loan terms up to one year, while the bank pays an annual subscription fee of 1 percent. From 2015 to the present, FGSP has issued 1,083 guarantees for a total volume of CFA 18 billion ($36 millions). Only four claims have been made, with total payout of CFA 35 million ($70,000).

The SME to be financed must generally be registered, but this depends upon the size and sector of enterprise. (To qualify for loans from banks, SMEs must generally be registered and are usually required to do a simple business plan.) After a loan dossier has been analyzed with the help of the Fonds pour la Gestion, a management fund, for risk analysis, FGSP will consider a guarantee. Fonds pour la Gestion does risk analysis for new enterprises and also provides training for SMEs in using credit and guarantees.

According to the Director of Administration, the FGSP will soon begin offering credit bail (lease financing) to agricultural clients and will soon do direct loan (up to a CFA 300 million limit or US $600,000). The Fund's target market is SMEs, with an emphasis upon start-ups, according to the Director of Administration. FGSP will also work this year with the FARM agricultural development project to serve program clients with a loan guarantee, complementing any caution solidaire mechanisms in place.

Oikocredit

This is a social impact investment fund, established in 1975 to support the microfinance sector in Africa and elsewhere. Since then, the organization has diversified to finance agriculture, renewable energy, and banks interested in doing SME lending. It has offices in five countries in West Africa. Oikocredit's current loan portfolio in Mali totals CFA 7.3 billion ($14 million), with loans to seven partner institutions. Through local MFIs, Oikocredit has 'indirectly' made loans to livestock producers. MFIs have in turn used the funds to make loans of up to CFA 500,000 (US $1000) to individual producers, at interest rates ranging from 7 to 9 percent for a term of 4 months to a year (for stock raising). For local financial institutions, the average loan size is CFA million ($1 million), with interest rates ranging from 7 to 9 percent for a term of three to six years. When asked how their loan differs from those provided by BNDA or BMS, the director said that Oiko monitors the loan carefully to ensure impact at the loan beneficiary level. Oiko has also developed tools for measuring social performance and other indicators, which they have trained their partner financial institutions to use for reporting.

Only 3 percent of the Oiko portfolio is credit made directly to agriculture, but this does not include the amount lent to non-bank financial institutions that lend direct to the agricultural sector, such as Kafo Jiginew, Nyesigiso, or Soro Yiriwasso. The Director indicated that Oiko is willing to invest in the agricultural sector and is looking for viable projects, but they must meet the minimum investment amount of CFA 250 million ($50,000). Oiko no longer invests directly in livestock projects, after a loan to a livestock cooperative had to be written off. Oiko's knowledge of livestock sector is limited. It's more comfortable working with MFIs and SFDs to reach agricultural and livestock producers.

[5] In addition to receiving 20 percent in direct fiscal transfers from the Ministry of Finance, other government entities with financial stakes include the INPS (National Social Security Agency), ANPE (National Employment Agency), and CNPM (Employers Union).

National Livestock Federation

FEBEVIM, the National Livestock Federation, is a federation made up of groups of livestock operators who are members of the Federation and pay a monthly fee for services extended. There are presently 272 such groups, including several in the north (Kidal, Timboctou) as well as those in the south and east. They primarily include livestock producers and traders. Each region has its own office, like the one at Bamako headquarters, through which operators get Federation help in accessing animal feeds and medicines and, if needed, help in dealing with the government. FEBEVIM's president confirmed for the team the geographic differences among members. Northerners are more pastoral, and many animals are taken over the border for sale in Cote d'Ivoire or Guinea, while livestock producers in the South are more agro-pastoral (sedentary), selling their livestock locally or through traders, and producing crops as well.

One of FEBEVIM's key interests is in helping members to access credit. In the recent past, the Federation tried to establish their own financial intermediary with little success. Their major constraint in establishing such a system has been lack of funds at the disposal of the Federation that could be used for short-term financing for members.

When asked about BNDA as a lender, the Federation president said this bank only finances agribusiness via projects — not the system for livestock production. He added that BIM has assisted the Federation to finance animal foods via the FGSP guarantees. The type of partner the Federation would envision for extending member access to credit would be a commercial bank. But the President also added that "there is no livestock insurance they could acquire to reduce lending risk."

The Federation has also talked with one of the MFIs — Soro Yiriwasso — and explored with it forming a partnership to extend short-term finance to Federation members. As mentioned above, this MFI has also been discussing doing an in-depth study with FEBEVIM of the livestock sector at all points in the value chain, to identify among other things the needs for access to credit. When asked what the major constraints are in expanding member access to credit, the Federation president cited the following:

1. Lack of confidence in the banking sector on the part of livestock producers and lack of knowledge and confidence in producers on the banks' side.
2. Need for better organization among these producers in the market place before this can be established.
3. Lack of efficient distribution of animal feeds, a subject of potential study with Soro Yiriwasso.
4. Need for training for member livestock producers in accounting and use/repayment of credit, which could be done via Federation trainers working with a consultant.

Preliminary Conclusions Following Team Interview With FEBEVIM

1. There may be potential here in that the Federation is trying to find ways of linking their members with financing.
2. At the same time, a significant challenge is lack of confidence on the part of livestock producers in banks and of financial institution confidence in producers.
3. Putting in place livestock insurance could help to address the credit access issue, if the livestock raisers were better organized in their workplaces and the local market.

3.4 TECHNICAL SERVICE SUPPORT PROGRAMS FOR THE LIVESTOCK SECTOR

There are three key programs supporting the livestock sector in Mali — two supported by the World Bank (the largest donor in Mali) and one by USAID.

Livestock for Growth (L4G)

This US $4.5 million project implemented by AECOM is using the value chain approach to commercialize the livestock sector in Mali, working in Mopti and Timbuctou regions. It is meant to complement the USAID-supported Mali Cereal Value Chain project. L4G's objectives are to improve animal production, production/availability of feeds, veterinary services, and commercialization of livestock marketing, including developing entrepreneurship. The approach being taken is to work through Farmer Pre-Schools, with up to 25 producers in groups. This involves providing training in carrying out the step-by-step process of setting up and running a viable livestock enterprise as a business. One of the constraints AECOM is trying to address is lack of access to credit for livestock producers. The program has been trying to work with MFIs like Soro Yiriwasso as a source of credit for small loans of CFA 1-2 million. In order to gain access to credit, producers need assistance in doing a simple business plan and learning how to manage money. The project's chief of party indicated that the DCA with BOA and BCIM were not effective in expanding access; the banks still required a business plan and collateral. For this reason, the project is to first link producers to NGO programs for credit then move on to an MFI. For producer groups with larger financing needs that cannot be served by MFIs, AECOM is working to get them registered and better organized for credit access and other purposes from commercial banks.

Projet Régional d'Appui au Pastoralisme au Sahel

The Projet Régional d'Appui au Pastoralisme au Sahel (PRAPS) (Regional Sahel Pastoralism Support Project) is a $45 million project started in 2016 and focuses its support on the pastoral livestock sector. There are four main components:

1. Animal health, including vaccination and surveillance.
2. Natural Resources Management, such as water points, transhumants corridor, grazing areas.
3. Market access.
4. Conflict mitigation.

Due to security issues in the north, the project works mainly in the south and center of the country. According to the Project's Team Leader, the main challenge is to build infrastructure — water points, health stations, markets, etc. — while still taking into account World Bank safeguards and environmental assessments. Gaps not covered by PRAPS but sorely needed include access to basic services, such as water, education, health, and finance (mobile money and other digital tools).

Mali Livestock Sector Development Support Project

Projet d'Appui au Développement de l'Elevage au Mali (PADEL) (Mali Livestock Sector Development Support Project) is a new $60 million World Bank project approved in Feb 2018. It essentially covers what PRAPS is not doing but focuses on sedentary livestock and livestock intensification value chains. PADEL also supports more than just cattle to include small ruminants, aquaculture, and beekeeping. Project components include:

- A $30 million financing window used to subsidize business plans proposed by value chain operators (processors, buyers), including a small financing window for vulnerable groups/individuals (small-scale, small ruminants). The project developer has to partner with a commercial bank, and the bank has to approve the loan in order for the project to tap into the guarantee facility. The guarantee is a deposit guarantee at the bank (average 60 percent). The promoter is expected to contribute 10 percent, and the remaining 30 percent is covered by the bank.
- A $20 million window to support the Ministry of Agriculture in improving animal health and extension services, collect better economic data, and implement enabling policies.
- A $10 million fund for crisis mitigation and overhead.

3.5 KEY CHALLENGES TO OVERCOME IN EXPANDING ACCESS TO CREDIT

Assessment team interviews with key stakeholders in the financial and livestock sectors and the agricultural technical sector clearly signal that several challenges must be addressed if operators in the livestock sector are going to attain better access to credit. These include:

1. Lack of confidence in the banking sector on the part of livestock producers and lack of knowledge of and confidence in producers on the financial institutions' side.
2. Need for better organization of producers before this constraint can be addressed.
3. High risks inherent in the sector, such as work locations, animal loss, and food and water supply.
4. Lack of knowledge among small producers regarding running operation as a business.
5. Lack of producer comprehension of and training in use of financial services.
6. Lack of financial products adopted to the needs of the livestock sector and the agricultural calendar within which it operates.
7. Insufficient funds in the financial system to meet needs of producer/members of organizations like FEBEVIM and other producer groups or associations in sector.

These challenges must be addressed through assistance in developing viable and committed partnerships between producer organizations, banks and MFIs, and support institutions like the FEBEVIM and FGSP based upon the linkages between them and the potential partnerships that these stakeholders have begun to form. In this way, findings of this and other assessments may lead to solutions that address the constraints to accessing credit in the livestock sector and deliver clear value added for all stakeholders.

4. ACCESS TO AGRICULTURAL INSURANCE

4.1 INSURANCE SECTOR IN MALI

Insurance Penetration

The insurance market in Mali as measured by total premiums as a percentage of GDP is reported to have a 0.54 percent penetration rate. This is small not only by international standards but also relative to neighboring West African countries. However, the official premium volume may be under-valued as a considerable amount of risk transfer services are offered by entities outside of the insurance sector, such as banks, microfinance institutions, and community-based health mutuals (mutuelles de santé).

There are currently 11 insurance companies licensed in Mali, of which four belong to international insurance groups. Saham Mali is part of the Moroccan group formerly known as Colina, present in 22 African countries; Allianz Mali is part of the German Allianz Group, present in 11 African countries and 70 countries world-wide; NSIA Mali is part of the Ivorian Nouvelle Société Interafricaine d'Assurance, present in 11 African countries; and SUNU Mali is part of the French SUNU Assurance Holding, present in 11 African countries. The presence of foreign insurers indicate that Mali is considered to be an attractive insurance market with untapped potential. Foreign insurers also bring international expertise with products and processes and economies of scale, not to mention high standards of customer service in keeping with their strong international brands.

The Enabling Environment

Mali is a member of the Conference Interafricaine des Marchés d'Assurances (CIMA), the regional body of the insurance industry for 14 countries in Francophone Africa. CIMA member countries have shared the same insurance legislation and supervision since 1992.

In 2012, the World Bank assisted CIMA in the drafting of the required amendments of the current regulation to allow for the promotion of microinsurance and the commercialization of agricultural index-

based insurance products. This revision of the CIMA code, known as CIMA Book 7, includes the following key elements:

- Establishment of micro-only insurers, specifying the lines of business they are allowed to offer and their capital requirement (300 million FCFA for mutuals and 500 million FCFA for others, as opposed to 800 million FCFA for conventional mutuals and 1,000 FCFA for conventional insurers).
- A 50 percent increase of the solvency capital requirement (calculated like for conventional insurance) for micro-only insurers.
- Permission to use non-traditional distribution channels and the corresponding licensing requirements for them.
- Permission for micro-only insurers to offer some life insurance along with non-life insurance products.
- Maximum premium amounts are limited by subordinate regulation to currently 42,000 FCFA.
- Separate reporting requirements — also for conventional insurers who underwrite microinsurance — including a number of key performance indicators specific to microinsurance.
- Transparency of policy conditions and limited exclusions.
- Claims adjudication within seven days and settlement within 10 days of request.

Tax on Premiums

While the current insurance regulatory framework does not appear to be hindering the development of inclusive insurance and innovation, there is a fiscal issue that is affecting the affordability of insurance products. Both Planet Guarantee and Allianz mentioned the 20 percent tax (Taux Contrôle d'Assurance) imposed on premiums as a significant barrier to uptake of insurance by price-sensitive clients. This tax is higher than other CIMA countries. Currently, there is an abatement only for automobile insurance but not for other products.

Risk Underwriting and Reinsurance

Reinsurance is simply insurance taken by insurers. The purpose of reinsurance is to transfer both risk and premium to other insurers and provides diversification of risks. The existence of reinsurance in a country is an indicator of the financial soundness of the insurance sector overall. In Mali, there exists an appropriate provision of reinsurance by the regional CICA Re and Africa Re as well as by European reinsurers like Allianz Re and Swiss Re to ensure effective risk management of insurers operating in the country. While these reinsurers have been willing to reinsure agricultural insurance, additional research is needed to determine if that also applies to the livestock sector.

Product Offerings and Client Value

Automobile insurance and life insurance dominate the insurance sector in Mali, comprising 53 percent of total premiums paid. Fire (19 percent), illness (12 percent), and transport (11 percent) represent other significant product segments. Loan insurance and credit life insurance offered by banks and microfinance institutions are delivered outside of the formal insurance sector and not accounted in the overall value of premiums.

Current products offer little client value. Client value can usually be inferred by looking at the claims ratio, a measure of the proportion of premium revenue that insurers return to their customers in form of claims payments. A low claims ratio generally signals poor value for money for customers, while a ratio that is too high signals unsustainable levels of competition that threaten insurers' financial stability. The claims ratio in Mali averages 31.5 percent, which is low compared to its neighbors like Cote d'Ivoire or Senegal with claims ratio averaging 46.7 percent and 45.8 percent, respectively.

The main reason for the lack of client value lies in the fact that the majority of premiums have come from commercial and industrial business rather than individuals and households. Studies by the World Bank and

others have found that the reputation of insurance is not good, and people in Mali generally prefer not to buy insurance if they can avoid it.

4.2 AVAILABILITY OF AGRICULTURAL INSURANCE

Agricultural insurance in Africa as a whole and in Mali in particular is scarce. Generally, there are two types of agricultural insurance products: claims based or indemnity insurance and index-based insurance. The table below summarizes the key characteristics of these two approaches.

Traditional Claims/Indemnity Insurance	Index-Based Insurance
• Insures against loss of an asset	• Insures against an adverse event (e.g., drought)
• Payment for actual loss based on verifiable claim by individual farmer	• Payment is triggered by an observed deviation in the index (e.g., weather) rather than individual loss
• High transaction costs and delays in claims payment due to verification requirements	• Does not require verification at farm level, resulting in quicker payments and lower administrative costs
• More likely to result in moral hazard[6] and adverse selection[7]	• Reduced moral hazard and adverse selection since payment is based on the occurrence of an event rather than on individual behavior
• Less susceptible to basis risk[8]	• Main limitation is basis risk
• Premium rate is calculated using the amount the asset is worth	• Premium rate is calculated using the amount the insured desires when a risk event occurs

In the past decade, bilateral and multilateral donor organizations have been promoting the implementation of index-based agriculture insurance in developing countries for protecting against covariate risks — i.e., risks that are shared such as weather fluctuations, disease outbreaks, crop failure, or price loss.

Existing Agricultural Insurance Initiatives in Mali

To date, there have been only a few pilot initiatives in Mali for agricultural insurance, none of which has been scaled up or replicated beyond the original project sites. In all cases, Allianz is the sole insurer working in this segment of the market.

Planet Guarantee, Allianz, and Mali Meteo

PlaNet Guarantee, a subsidiary of PlaNet Finance, was created in 2007 to act as a brokerage firm in the area of microinsurance and social protection. The organization designs products adapted to the needs of vulnerable populations. The organization works in several West African countries and started in Mali in 2009, Burkina Faso and Senegal in 2010, and Cote d'Ivoire in 2015.

PlaNet tested index-based crop insurance through the project Scaling Up Microinsurance (SUM) as part of the World Bank's Global Index Insurance Facility (GIIF). PlaNet partnered with Allianz Mali (underwriting), Swiss Re (reinsurance), and Mali Meteo (installation of weather stations and rain gauges). The product covered input loan provided by financial institutions (mandatory credit insurance) and/or the amount self-financed by the producer/association (voluntary crop insurance).

[6] Moral hazard refers to the tendency of insureds to engage in behaviors that increase the probability of a loss.
[7] Adverse selection refers to the tendency for only the most at-risk potential customers to buy the insurance, resulting in more losses than anticipated by the insurer.
[8] Basis risk refers to a mismatch between the severity of the event as experienced by the policyholder and the payment amount received based on the index measurement.

The index was developed in collaboration with the Dutch group Environmental Analysis and Remote Sensing (EARS). EARS has an extensive weather database of continental Africa containing data back to 1982, while Mali Meteo has a database that is more adapted to the Sahel, where more microclimates and variability in the weather exist, but covers a shorter period of time. The product covers against the risk of drought and relies on satellite remote sensing of soil moisture (i.e., evapo-transpiration), which allows the insurer to measure vegetative stress before vegetation turns brown. Insured clients are automatically compensated if the index threshold is triggered.

Indices have been developed for the corn, sesame, and multigrain sectors. Distribution is done through microfinance institutions, producers' cooperatives, extension agents, and NGO projects. Premium depends on which of the four delineated zones the beneficiary is located, ranging from CFA 10,000-12,000 per hectare if not tied to a loan and from 10-12 percent if tied to a loan.

FARM and Allianz

In 2016, Allianz formed a partnership with the FARM project and Société de Coopération Pour le Développement international to provide crop insurance for the rice sector. FARM is a five-year project funded by CIDA and the Government of Mali. Principal implementers are Développement International Desjardins and Financière Agricole du Québec – Développement International.

FARM launched a request for proposal for crop insurance, and Allianz was selected. The product has already received approval from CIMA, unlike the product that was done in partnership with Planet. Insurance for rice will be rolled out in the Office of Niger and Southeast. In the future, there is a possibility to cover corn production in Sikasso and shallots as an off-season crop in the Office of Niger.

The approach FARM used is not index-based but a mutual indemnity insurance approach. Loss is quantified by taking the difference between potential returns and real returns. This requires more empirical observations and circulation of agents but also provides a more accurate assessment of loss at a micro-level, in other words a lower basis risk.

Research Studies

Besides these experimentations, several studies and feasibility studies have been conducted to pave the way forward for index insurance in Mali. A 2011 project of the USAID supported Index Insurance Innovation Initiative (I4) resulted in the proposal of a double trigger, a unique and innovative way to address basis risk, in addition to specific policy proposals. In 2009, USAID and Save the Children commissioned a study on the feasibility of index-based weather risk transfer in Mali, and the ILO's Microinsurance Innovation Facility-funded PlaNet Guarantee to produce a report on the possibilities of microinsurance for cotton farmers in Mali.

Current Approaches and Practices in Livestock Insurance

Existing agricultural insurance schemes in Mali have mainly focused on insuring crops. No one has yet worked on insuring livestock.

Planet Guarantee started exploring livestock insurance in Mopti and the north before the conflict in 2012. The company is still interested in moving forward but needs to find the right partners. According to the country director, livestock is complicated because they are mobile, so it would be difficult to track and determine the precise impacted areas. In his opinion, a multi-peril and multi-trigger product may be interesting and feasible, especially if targeted to agro-pastoralists with a fixed location. However, this would require further studies to assess feasibility.

Index-based livestock insurance remains new and experimental, with only a few experiences that are deemed to be relevant to the experience of pastoralists and agropastoralists in the Sahel.

Mongolia

In 2005, the Government of Mongolia signed a credit agreement with the World Bank to begin the Index-Based Livestock Insurance Project (IBLI). The insurance coverage was based on an index of mortality rates, for which Mongolia had long and uninterrupted historical data, beginning in 1920. The insurance would provide coverage against harsh winters in the Mongolian steppes known as the "dzuds," which bring heavy snowstorms and temperatures as low as -50°C. Under this program, two insurance products were offered:

- *Livestock Risk Insurance (LRI)*: A commercial product sold by private insurers at the district level. The payment of compensation is triggered when the livestock mortality rate is between 6 and 30 percent. The herder would pay a premium based on the declared value of his animals and on the level of estimated risk for the district in which he lives. The herder may choose to insure between 25-100 percent of the value of his animals, depending on how much he can or is willing to pay for premium (the more coverage, the higher the premium). The payment of compensation is triggered when the mortality threshold (the trigger) is reached in the district and for the insured animal species.
- *Disaster Response Product (DRP)*: A safety net offered by the government when the mortality rate exceeds 30 percent. This product is only available if the herder has subscribed to the basic insurance (LRI).

Northern Kenya

The IBLI project in Kenya was initiated by USAID and supported by a multidisciplinary team involving the International Livestock Research Institute, Nairobi; Cornell University; University of California, Davis; and the BASIS Research Consortium. Unlike in Mongolia, reliable historical data on livestock mortality was not available but there was a Normalized Differential Vegetation Index (NDVI) which measured the level of vegetation in various communities dating back to 1982. As a result, the project spent eight years developing an index that sought to correlate the NDVI with surveys of pastoral households conducted through other development partner projects. The IBLI covered herders for livestock losses resulting from drought. The contract insured the livestock for one year and included two potential payout periods: at the end of the short and at the end of the long drought seasons. The contract contained a trigger threshold, which is the mortality rate forecast beyond which the insurance begins to compensate the insured. For example, assuming that the trigger threshold is set at 15 percent, if the forecast mortality rate at the time of the compensation period was 35 percent, the insured would receive 20 percent (35 percent to 15 percent) of the value of the insured livestock.

Senegal

Compagnie Nationale d'Assurance Agricole de Senegal (CNAAS) was established in 2008 to cover agricultural risks. The company brings together the Government of Senegal, various Senegalese insurance and reinsurance companies, producer organizations (e.g., the Federal Cooperative of Horticultural Producers of Senegal and the Groundnut Producers national network), and Senegalese private actors. CNAAS offers a variety of agricultural insurance products, including index-based insurance for maize and groundnut. For livestock, the company offers a traditional indemnity product that covers mainly accidental death (bushfire, poisoning, drowning, collision by a vehicle) mainly among sedentary livestock producers and herds raised in corrals. Compensation is set at between 2 percent and 9 percent of the value of the livestock for a full-risk plan and 2-3 percent for accidental death. Butchers who regularly use slaughterhouses can also purchase insurance against theft for 3-5 CFA per kilogram of carcass. Currently, the government is subsidizing premiums at 50 percent. More recently, the CNAAS developed an insurance package linked to use of livestock feed and strongly anchored on several herders' organizations and Borehole Users Associations (Associations d'Usagers de Forage, some of which have access to warehouses. Animal feed is purchased from manufacturers (SEDIMA, New African Milling – NMA) and

transported on-site. For each bag of animal feed purchased by a herder at the normal price, a sum equal to 10 percent is set aside and invested in insurance for an animal. One bag thus covers the insurance of a small ruminant, and eight bags are enough to insure one head of cattle.

Benefits and Impact of Agricultural/Livestock Insurance

A recent study of the IBLI program in Kenya showed that insurance dramatically reduced households' dependence on two coping strategies that are likely to impair their future productivity: selling of assets and reducing consumption. With insurance, households were found on average to be: (i) 61 percentage points less likely to anticipate selling livestock in the wake of the 2011 drought, improving their ability to generate income after drought, and (ii) 12 percentage points less likely to reduce meals. Wealthier households usually cope by selling assets, and insurance made them 96 percentage points less likely to sell assets following a shock. Poorer households, on the other hand, tend to cut food consumption since they are reluctant to sell off their already limited assets but, with insurance, were 49 percentage points less likely to rely on this strategy.

Separately, a randomized control trial with 14 rural banks and the Ghana Agricultural Insurance Pool targeting maize growers in northern Ghana organized into credit groups showed that insurance can reduce systemic risk for borrowers and lenders, thus serving as a springboard for expanding credit access. Specifically, the study noted that coupling loans with meso-insurance increased the likelihood of loan approval by 23 percentage points. Moreover, a gender-level analysis showed that microinsurance-coupled loans increased the likelihood of loan application for females, while meso-insurance-coupled loans increase the likelihood of loan approval for both females and males, with a larger impact for males.

4.3 PRECONDITIONS FOR AGRICULTURAL AND LIVESTOCK INSURANCE

While the benefits of insurance are clear, the number of agricultural insurance schemes that have successfully scaled to become commercially viable and sustainable remains low. In order for agricultural insurance to take root, the below pre-requisites are needed.

Client Sensitization and Education

Client sensitization and education is crucial to ensure take-up. PlaNet ran a three-month campaign prior to launch of the product, including a live sketch in Bambara, live radio broadcast, and radio advertisements. Leaders of cooperatives were gathered for a three-day training of trainers on insurance and how the product works. PlaNet also worked with extension agents for client sensitization and marketing.

Partnership and Distribution

Agricultural insurance for smallholder farmers requires high volume and a large risk pool in order to become commercially viable. To that end, insurers rely on a large distribution channel, using agents and other intermediary organizations, to facilitate sales, application processing, payment of premium, claims verification, and claims processing. The current CIMA regulation allows for a wide variety of organizations to act as insurance intermediaries, including brokerage firms, financial institutions (bank and non-bank), agricultural cooperatives and peasant associations, NGOs, mobile network operators, and informal savings groups and funeral societies. Moreover, the existing delivery channels appear to be reaching rural, remote, and vulnerable populations.

Affordability and Willingness to Pay

Insurance take-up remains low for several reasons. First of all, index-based insurance is hard to explain to clients, especially those with minimal education. In Mali, the concept of "prévoyance" (anticipating loss) is not well-understood or viewed suspiciously as either "gambling" or "putting a curse" on your livestock. Secondly, cost has to be low enough that herders would be willing to insure all their herds. In Mongolia, for example, farmers bought coverage that covered only 30 percent of their herds. Thirdly, the

administrative structure has to be efficient. This is where technology such as mobile payments can potentially contribute to reducing transaction costs for both insurers and insured. Last but not least, the imposition of the 20 percent Taux Controle d'Assurance further increases the cost of insurance.

Support for Specialized Expertise and Upfront Investment Cost for Index Development

According to PlaNet Guarantee, the cost to develop an index is around EUR 50,000 for each crop. An index is built out of historical records of indices, such as weather station and satellite data, historical crop yield data, or historical mortality data (for livestock). This data is often difficult to obtain in good quality and sufficient granularity. Correlation between available indices and crop losses can only be assessed once sufficient data is available, and often that assessment may indicate that the index will not reflect crop losses well enough to allow for a valuable insurance product. Hence, the analysis has to be calibrated with changed parameters or using other indices.

Reinsurance

Reinsurance is essential and plays a more important role than having an insurer. For both existing schemes in Mali, 80-90 percent of risks are being assumed by reinsurance (Swiss Re, CICA Re, Africa Re), not insurers.

Public-Private Partnerships

Public-private partnerships are a necessary part of the equation. Index-based insurance can only be commercially viable if it is rooted in a broader agricultural and livestock risk management system, including subsidies for the poorest segments of a population in order to turn them into potential customers, as well as developing an adequate funding mechanism to allow governments to manage losses in case of disaster. Government engagement in developing a comprehensive risk management system, including agricultural insurance, is needed to signal to the private sector that the state is committed to building an inclusive and viable insurance market. A tier-based risk layering system like the World Bank's model in Mongolia may provide a potential model to replicate in Mali, assuming market conditions are favorable.

Conclusion

Interviews with banks and non-bank financial institutions as well as those in the insurance sector indicate that the agricultural insurance market in Mali remains underdeveloped. Knowledge about insurance, even among banks, is low, though there is growing recognition that insurance can potentially help reduce credit risk of small producers. While a few experiments have been conducted on crop insurance, livestock insurance is considered a much more challenging and costly undertaking. A mechanism through which government and/or donor organizations can fund the upfront costs of product development and demand generation needs to be in place before proceeding with this product.

5. RECCOMENDATIONS

The discussion above shows that there are several opportunities for partnering with existing institutions, not only to expand access to finance for the livestock sector but also to work with umbrella organizations, such as the national livestock federation, to strengthen the sector's bankability.

The recommendations are predicated on the following assumptions:

- That the intervention would be implemented starting in one region, allowing time to experiment, observe, and evaluate the impact of the activities before replicating in another region.
- That a holistic approach to strengthening the entire value chain would be applied.
- That partner selection should take into consideration the level of outreach, capability, and commitment to the livestock sector.

RECOMMENDATION 1: STRENGTHEN THE COMMERCIAL VIABILITY OF LIVESTOCK VALUE CHAIN

Support the emerging partnership between FEBEVIM and Soro Yiriwasso by:

- Funding the demand-side study on financing needs of FEBEVIM member organizations.
- Building institutional capacity of FEBEVIM, including organizational development and strategic planning.
- Providing technical assistance for Soro Yiriwasso on product development for the livestock sector and risk assessment methods.
- Facilitating business advisory services for potential borrowers, such as business planning, commercialization, and formalization using L4G's approach in working with livestock associations.

RECOMMENDATION 2: WORK WITH BMS TO EXPAND LENDING TO LIVESTOCK SECTOR

Improve the knowledge of BMS management and front-line staff about the livestock value chain. Provide technical assistance to help the bank adapt its current credit process and product to match the risk profile and financing needs of the sector. It is envisioned that Soro Yiriwasso would finance the financing needs of the smaller producers within the value chain, while BMS would provide larger and longer-term loans to those further up the livestock value chain.

RECOMMENDATION 3: ENCOURAGE DEVELOPMENT OF A COMMERCIAL DOMESTIC FEED PRODUCTION

L4G has been supporting local forage and feed production, especially through women's producer groups. A similar approach could be explored in another region, drawing on the FEBEVIM member organizations as a distribution channel. Potential financing partners include BNDA or BMS as funder of production, FGSP to provide the loan guarantee (or fund long-term construction loan of a feed warehouse), and FEBEVIM to organize distributors.

RECOMMENDATION 4: SUPPORT FURTHER RESEARCH ON LIVESTOCK INSURANCE

The livestock sector faces many risks that affect not only its commercial viability but also participants' livelihoods. Access to credit and insurance are two of many risk management tools that can help to improve the resilience of the sector. The insurance sector is underdeveloped, and ultimately the level of systemic risk faced by the livestock sector (climate change, lack of forage) likely can be addressed only through some type of public-private insurance scheme.

Additional research is needed to determine whether livestock insurance can feasibly be implemented in Mali, particularly looking into demand and supply factors among livestock producers. Given the security concerns in the north and the pastoralist nature of the livestock raising method in that region, one possible starting point for exploratory research is the more sedentary herders in the Sikasso area. As mentioned above, the World Bank's PADEL project has established corridors for transhumant and agro-pastoralist communities to move their herd toward the border markets. Having demarcated corridors not only minimizes conflict between crop growers and herders, it also provides a more predictable routing and enables the installation of health service stations and water stations. Another possibility is to explore whether a model like the CNAAS in Senegal (bundling feed purchase and feed credit to insurance) could work.

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ANNEX A. LIST OF CONTACTS AND MEETINGS

No.	Date	Time	Organization Name	Interviewee Name(s)	Titles	Telephone	Email
1	5/28/18	9h00	Kafo Jiginew	Mr Boh Coulibaly	Directeur Régional Adjoint	66 62 51 99/20 29 51 25	bohcoulibaly@yahoo.fr
2	5/28/18	12h00	Nyèsigisso	Mme Traoré Mah Djeneba	Directeur Crédit et Engagement	66 78 57 71/20 29 88 66	mahdjeneba@nyesigiso.org
3	5/28/18	14h30	BNDA	Mr Lassina Coulibaly	Directeur Adjoint du Départ Comm et Marketing	66 72 40 40/20 29 64 64	lacoulibaly@bndamali.com
4	5/29/18	9h00	Fonds de Garantie Pour le Secteur Prive	Mme Haidara Mama Traoré	Responsable d'Exploitation	20 29 08 55/20 29 08 56	mama.traore@fgsp.ml
5	5/29/18	11h00	Planet Guarantee	Mme Salimatou Keita	Gestionnaire de Production & Sinistres	76 41 42 89	skeita@planetguarantee.org
6				Mme Adiaratou Kone	Assitante Administrative & Financiere	79 41 91 15	akone@planetguarantee.org
7	5/29/18	13h00	FEBEVIM - Boubacar BA Président	Honorable Boubacar Ba	Président	66 71 51 36	aboubacarba802@hotmail.com
8	5/30/18	8h30	BMS	Mr Almoustapha Touré	Directeur Adjoint du Départ de l'Exploitation	66 75 95 04/20 23 50 34	almoustapha.toure@bms-sa.ml
9	5/30/18	10h00	OIKOCREDIT	Mr Lassina Sanou	Directeur National	20 29 91 23 /20 29 61 56	lsanou@oikocredit.org
10	5/30/18	14h00	Micro - finance SORO YIRIWASO	Mr Adama Coulibaly	Directeur	76 46 12 11	nostracamara64@yahoo.fr
11	5/30/18	14h30	Association Professionnelle des Institutions de Microfinance	Mr Adama Coulibaly	Président	20 29 12 53/76 46 12 11	nostracamara64@yahoo.fr
12	5/30/18	14h00	Mali Météo	Mr Traore Gaoussou	Chef du Bureau Meteo aux Usagers	20 20 62 04	info@malimeteo.net
13	5/31/18	11h00	Planet Guarantee/Planet Finance	Mr Diakaridia Soumahoro	Directeur Pays Mali	76 05 59 13	dsoumahoro@planetguarantee.org
14	5/31 18	13h00	ALLIANZ MALI	Mr Ahamadou M Touré	Directeur Souscription et Dévelop Commercial	66 78 50 59/20 24 62 00	ahamadou.toure@allianz-ml.com
15	5/31/18	15h00		Mr Narcisse Soglohoun	Conseiller en Financement Agricole	93 75 57 18/20 22 37 66	narcisse.soghoun@did.qc.ca

No.	Date	Time	Organization Name	Interviewee Name(s)	Titles	Telephone	Email
16			FARM MALI - Projet de Financement Agricole et Rural au Mali	Mr. Mamadou Macalou	Agent-Conseil en Credit Agricole	20 22 37 66/76 01 05 02	mmacalou@did-farm.com
17	5/31/18	17h00	Orange Mali	Mr Boubacar Traoré	Chargé de contrat	75 20 20 40	bikaboub@gmail.com
18	6/1/ 18	10h00	USAID MALI	Kurt Low	Directeur Bureau Agri et Croiss Econo	76 75 17 39	klow@usaid.gov
19				Yacouba Santara	Spécialiste Gestion de Projet Elevage	66 75 17 61	ysantara@usaid.gov
20				Amadou Diané	Spécialiste Gestion de Projet Agriculture	82 99 07 41	adiane@usaid.gov
21				Mamoutou Diarra	Spécialiste Gestion de Projet Eau et Irrigation	82 99 07 47	madiarra@usaid.gov
22	6/1/ 18	12h00	Livestock For Growth - L4G - AECOM -	Dr Joseph Sedgo	Chief of Party	94 86 12 05	joseph.sedgo@aecom.com

ANNEX B. OVERVIEW OF BANQUE NATIONALE DE CREDIT AGRICOLE

Agricultural Lending at Banque Nationale de Credit Agricole

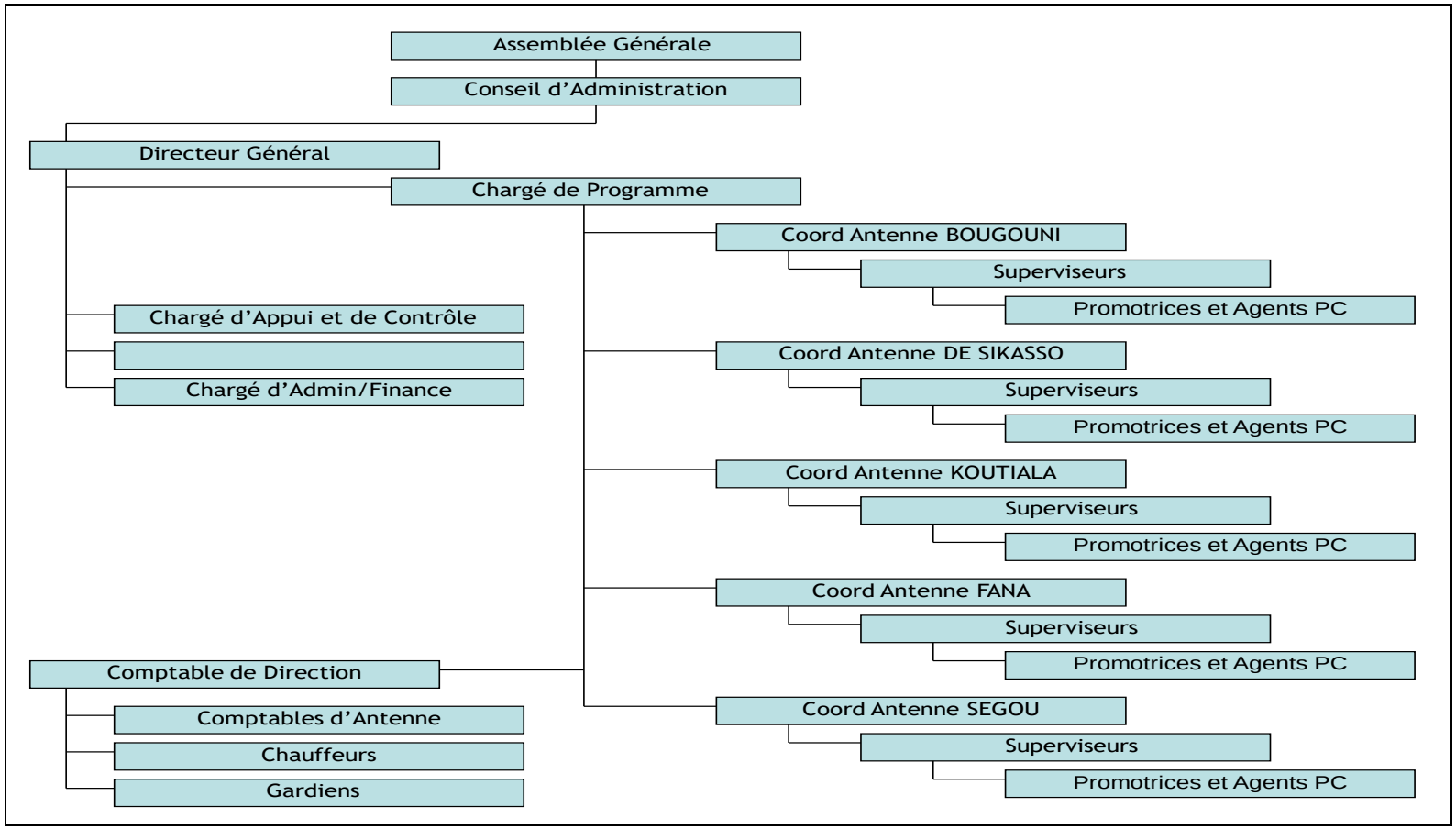
Prior to the World Bank-funded AgriFin project (2013-2015), Banque Nationale de Credit Agricole's (BNDA) efforts to diversify its lending had led the bank to identify SMEs outside the agricultural sector as a large potential client segment. This was done in part because of greater familiarity with the risks involved in lending to them. With the support of the AgriFin project, BNDA assisted to develop and adapt several products addressing demands of agricultural SMEs. These included:

- Working capital loans for agricultural crop production.
- Working capital loans for livestock (capital for livestock trading as well as fattening of cattle and small ruminants like goat and sheep).
- Advances for traders on nonperishable agricultural stocks, especially those secured through warehouse receipts.
- Medium to long-term loans for agricultural equipment purchase.

According to BNDA's present website, the bank has about 14,500 rural clients, of which 70 percent are rural organizations involved in production and commercialization of agricultural products. Among the credit products BNDA offers these organizations and their members are the following:

- Short-term credits for financing agricultural inputs for producers of cotton, rice and dry cereals.
- Short-term credit for commercialization and stocking of cereals.
- Short-term financing for livestock production and commercialization as well as poultry raising.
- Medium-term financing of equipment and infrastructure for agricultural production, such as oxen for planting, tractors, small crop transports, small stores for stocking and selling inputs and feeds.

ANNEX C. ORGANIGRAM: SORO YIRIWASSO



ANNEX D. OVERVIEW OF AGRICULTURAL LENDING ACTIVITY AT SORO YIRIWASSO MICROFINANCE INSTITUTION

Soro Yiriwasso is a non-bank financial institution (MFI) registered as such under the Law Governing Non-Bank Financial Institutions (2010). It provides credit and other financial services in four regions of Mali (Sikasso, Koulikoro, Segou, and Mopti) plus the District of Bamako. Services extended to 16 "circles," 600 villages.

As a rural microfinance institution, this MFI offers the following products:

- Short-term loans for agricultural production inputs for women producers organized in associations or "caisses populaires."
- Short-term loans for individual producers of maize.
- Loans to agricultural cooperatives for production and for commercialization of maize, rice, dry cereals.
- Loans to producers of fresh vegetables and fruits (maraichage).
- Credits for purchase of agricultural equipment.
- Credits for livestock production, including animal purchase and feeds purchase.
- Individual credits for purchase, stocking, and sales of agricultural products (seeds, animal feeds, and other inputs).
- Individual credits for retailers of seeds and other agricultural inputs.

Other services Soro Yiriwasso provides include voluntary savings and term deposits, Orange Money and money grams, and microinsurance for agriculture. Most recent statistics available to the assessment team (end of 2017, unaudited), indicate that Soro Yiriwasso had outstanding credits of CFA 2,353,859,424 billion (4,707,719) related to agricultural production (credits agricoles). This was 40 percent of a total portfolio of CFA 5,884,648,560 ($11,769,297), including agricultural production as well as commercial credits related largely to stocking and commerce of primarily agricultural products. Some 87,332 rural clients were being served with financial services. As of end of year 2016, the repayment rate for credits extended to agricultural producers and their cooperatives was 98 percent.

Source: "Soro Yiriwasso – Financer les Activites Generatrices de Revenus Des Populations Rurales et un Defi et un Devoir pour Soro Yiriwasso" (2017).

ANNEX E. ORGANIGRAM: KAFO JIGINEW