WEST AFRICA TRADE AND INVESTMENT HUB

FACILITATING TRADE IN FATTENED CATTLE ALONG THE BAMAKO–ABIDJAN CORRIDOR

January 2016
This publication was produced for review by the United States Agency for International Development. It was prepared by Abt Associates for the West Africa Trade and Investment Hub.
Recommended Citation: Holtzman, John. “Facilitating Trade in Fattened Cattle Along the Bamako–Abidjan Corridor.” Prepared for the West Africa Trade and Investment Hub by Abt Associates, Bethesda, Maryland, January 2016.

Submitted to: Evelyn Ayivor, COR, Office of Trade and Investment (+233) 30-274-1317 No. 24 Fourth Circular Rd., Cantonments Accra, Ghana
WEST AFRICA
TRADE AND INVESTMENT HUB

FACILITATING TRADE IN FATTENED CATTLE
ALONG THE BAMAKO–ABIDJAN CORRIDOR

Contract No.: AID-624-C-13-00002-00

The authors’ views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government.
CONTENTS

Acronyms .................................................................................................................................................. 5
Executive Summary ....................................................................................................................................... 6
1. Introduction ............................................................................................................................................ 8
  1.1 Project Objectives ............................................................................................................................ 8
  1.2 Background ......................................................................................................................................... 8
  1.3 Opportunities ..................................................................................................................................... 9
  1.4 Constraints ......................................................................................................................................... 10
2. Trade Hub Facilitation of Trade in Fattened Cattle ............................................................................. 11
  2.1 First Attempt at a Test Shipment ..................................................................................................... 11
  2.2 Renewed Plans for a Test Shipment ................................................................................................. 11
  2.3 Successful Test Shipment ................................................................................................................. 15
3. Recommendations .................................................................................................................................... 17
  3.1 Recommended Next Steps to Promote Cattle Fattening ................................................................. 18
    3.1.1 Support a More Transparent Livestock Trading System ............................................................ 18
    3.1.2 Address Longer-Term Cattle Fattening Issues ........................................................................ 20
    3.1.3 Address Financial Challenges .................................................................................................. 20
  3.2 Projected Value of Sales from Trade in Fattened Cattle ................................................................. 21
Annex 1: Terms of Reference for Consultancy ......................................................................................... 23
Annex 2: FEBEVIM Contract .................................................................................................................... 27
Annex 3: Estimated Returns from Long-Distance Trade in Fattened Cattle ............................................. 29
Annex 4: Analysis of CILSS Trade Data .................................................................................................... 32
ACRONYMS

CDI  Côte d’Ivoire
COFENABVI  Confédération des Fédérations Nationales de la Filière Bétail/Viande
ECOWAS  Economic Community of West African States
FEBEVIM  Fédération Bétail-Viande du Mali
IMF  International Monetary Fund
INRA  National Institute for Agricultural Research (France)
PROSUMA  Société Ivoirienne de Promotion de Supermarchés
SARA  Salon de l’Agriculture et des Ressources Animales d’Abidjan
SICS  Société Ivoirienne de Charcuterie et de Salaison
SODEPRA  Société pour le Développement des Productions Animales
SONAREST  Société Nationale de Restauration
UEMOA  Economic and Monetary Union of West Africa
USG  United States Government
EXECUTIVE SUMMARY

The West Africa Trade and Investment Hub’s efforts to promote regional trade in livestock products have focused on two key areas: 1) the Tabaski campaign of FY 2015, which generated over $40 million in new sales of sheep and cattle to Côte d’Ivoire and Senegal; and 2) cattle fattening, an emerging opportunity for Sahelian livestock producer-exporters. The Trade Hub began working with Malian cattle fatteners, all of whom are members of the Fédération Bétail-Viande du Mali (FEBEVIM) in November 2014. The project carried out a training workshop in Segou, Mali, and helped form a Cattle Fatteners Network, which has 16 members. The Trade Hub Livestock Specialist conducted market research along the Bamako–Abidjan Corridor in November and December 2014. The project then developed a strategy and marketing program for Malian cattle fatteners, targeting the Abidjan market. The Trade Hub also trained members of the informal network of Burkinabé cattle fatteners in animal nutrition and management of fattening enterprises in March 2015, in a workshop that mirrored the November 2014 event in Mali.

After an initial and inconclusive attempt to promote exports of Malian fattened cattle in April/May 2015, the Trade Hub organized and provided funds for three Malian cattle fatteners to visit Abidjan in early December 2015. The goal was to meet and negotiate with high-volume buyers and strike a trade deal with one of them. The team (three Malian exporters, the Trade Hub Livestock Specialist, and a livestock consultant) met with five potential buyers. Abidjan-based staff from the Confédération des Fédérations Nationales de la Filière Bétail/Viande (COFENABVI) provided assistance. The Malian exporters reached an agreement with a newly formed butchers’ cooperative at Port Bouet in Abidjan, where the terminal livestock market and abattoir are located, and one of the Malian exporters was to provide a test shipment of finished cattle to the Abidjan market during the last 10 days of December 2015. The Trade Hub assisted the Malians in drawing up a contract for the test shipment, which the butchers agreed to and signed.

A Malian exporter shipped 40 head of finished cattle to Abidjan before Christmas. He was able to sell 30 of them to the butchers’ cooperative, and trucked the remaining 10 to San Pedro, 330 kilometers west of Abidjan, where they were sold by early January. Although the Trade Hub is still evaluating the results of this test shipment, the initial conclusions are positive enough to plan for a second shipment by mid-February 2016. The Malian Cattle Fatteners’ Network is optimistic that it will be able to sign a contract with one or more formal buyers by the end of this quarter of 2016, which would be valid for three months. Once results of that experience are evaluated, the contract would be reviewed and modified if necessary to reflect livestock feeding costs, cattle prices, and market conditions in Côte d’Ivoire.

If the trial shipments and three-month supply contracts with Ivoirian buyers go well and generate positive returns, the Malian network will be able to renew and extend one or more contracts. It would need to schedule livestock feeding schedules, coordinating among its members to ensure a regular supply of fattened cattle to Abidjan and possibly other markets in Côte d’Ivoire. The Trade Hub should continue to help the network monitor and evaluate production and marketing costs and returns from exports of fattened cattle. The project should also help structure contracts that would benefit both the Sahelian suppliers and the buyers in coastal countries.

If exports of fattened cattle to Côte d’Ivoire become regular and remain profitable, the Trade Hub should help the Malian network conduct market research, send test shipments, and negotiate contracts with buyers in another key terminal market, most likely Dakar. There is also potential to expand
exports of fattened cattle from Burkina Faso to buyers in a number of markets, including Côte d’Ivoire, Ghana, Togo, and Benin.

Based on these efforts, the Trade Hub could conceivably support expansion of fattened cattle exports by 3,400 to 3,800 head per annum, starting in FY 2017. Incremental revenue would be $2.5 million to $3.2 million. Exports in FY 2016 are unlikely to reach these levels, but they will pave the way for future expansion. The project would need to monitor and evaluate sales in a way that establishes a solid empirical basis for ramping up this effort.
1. INTRODUCTION

1.1 PROJECT OBJECTIVES

USAID/West Africa’s Mission-wide goal is the West African led advancement of social and economic well-being. This goal is supported by several development objectives, including “broad-based economic growth and resilience advanced through West African partners.” The West Africa Trade and Investment Hub (the “Trade Hub”) contributes to this development objective by achieving two critical intermediate results:

1) Improving the capacity of West Africa’s farmers and firms in targeted regional and global value chains.
2) Improving the business enabling environment by addressing transport constraints and trade barriers affecting the efficiency of the region’s corridors and borders.

The Trade Hub works through regional private sector associations and regional governmental entities to help channel partners’ efforts to address critical constraints to trade competitiveness, capture opportunities to expand regional and global trade, demonstrate West Africa’s productive potential to investors, and facilitate greater investment in the region.

The project is building the capacity of several key groups of African partners—regional private sector associations and alliances, the Economic Community of West African States (ECOWAS), and the Economic and Monetary Union of West Africa (UEMOA). As the Trade Hub works with associations and regional alliances, it helps them serve as leaders in promoting reforms, attracting buyers and investors, and adopting improved practices.

The Trade Hub’s major components are:

- Regional staple foods development (livestock and grains)
- Global value chain development (targeted agro-processing and manufactured consumer goods)
- Finance and investment
- Transport and the trade enabling environment
- Capacity building
- Communications
- Administration and management, including grants administration

1.2 BACKGROUND

There is a growing market for fattened cattle and sheep in coastal cities in West Africa. The Trade Hub’s FY 2016 work plan calls for expanded exports of fattened cattle from Sahelian supplying countries, particularly Mali and Burkina Faso, to coastal markets, including Abidjan, Dakar, Accra, and...
other large coastal cities reachable within 24 to 48 hours by truck. The project’s work plan strategy and associated indicators are as follows:

**Strategy:** Assist cattle fattening enterprises to become more cost competitive and to link to coastal buyers.

**Indicators:**

- Number of private enterprises, producers organizations, water users associations, women’s groups, trade and business associations receiving USG assistance
- Value of new sales of fattened cattle

Trade in well-fleshed cattle has the potential to expand as demand grows in coastal cities, where urban populations are steadily increasing. Incomes are growing in urban markets in general and in middle- to upper-class market segments in particular. There is a strong preference for chilled (recently slaughtered) beef and small ruminant meat, often of Sahelian origin, over imported frozen carcasses from countries such as Brazil.

**1.3 OPPORTUNITIES**

The following factors make Abidjan, and urban Côte d’Ivoire more broadly, a strong potential market for Sahelian cattle and sheep exporters:

- The Ivorian economy is expected to grow 7 percent to 10 percent per year over the next several years. The International Monetary Fund (IMF) has projected real GDP growth of 8.2 percent in 2015 and 7.6 percent in 2016.
- The greater Abidjan market is huge, at approximately 6 million. Demand is strengthening for beef in general and for higher-quality beef in particular. Currently, meat quality is often inadequate and variable, as many cattle shipped to terminal coastal markets are underweight and in poor condition when they arrive.
- There are multiple serious buyers, with the Société Ivoirienne de Promotion de Supermarchés (PROSUMA) being the largest formal one. Three formal buyers purchase and slaughter 45 to 50 head of cattle per week.
- Buyers state they could probably buy twice as many cattle if supply were available. PROSUMA claims that it has 80 retail outlets outside Abidjan that it cannot reliably supply.
- Competition for quality beef will increase with new entrants such as Carrefour and possibly a new Century Group abattoir at Anyama.
- The fact that most UEMOA countries are in the same currency zone (CFA franc) simplifies trading for Sahelian exporters, as there are no issues with soft, depreciating currencies such as the Ghanaian Cedi.
- Bank transfers are straightforward, as multiple commercial banks serve Francophone Africa.
- There is no formal or official language barrier, although some traditional Sahelian fatteners/traders are illiterate and unable to speak, read, or write French.
1.4 CONSTRAINTS

Despite the opportunities outlined above, cattle fatteners from Mali (and other Sahelian supply countries) also face a number of constraints:

- Investment in cattle fattening is increasing in Côte d’Ivoire, and the government plans to export meat.\(^1\) Central and northern Côte d’Ivoire have cheaper, more plentiful feedstuffs (maize, rice bran, agro-industrial byproducts) than the Sahel, where supplies are seasonal and variable across years. Sahelian suppliers will therefore face strong competition in years to come.

- There is strong competition from multiple forms of animal protein: poultry, pork, and seafood/aquaculture, imported beef (Brazil) and poultry products (chicken, turkey parts).

- The Malian cattle fatteners' network has difficulty working outside its comfort zone. Long-time exporters revert to traditional market channels, using intermediaries of Malian heritage in Port Bouet, the terminal market.

- PROSUMA regards these traditional market channels as over-populated with intermediaries, all of whom take commissions, which ends up inflating meat prices. There are also problems with theft of meat during the slaughter process.

In summary, there are good opportunities for Sahelian cattle fatteners to exploit market niches, but they should not wait too long, as there is increasing investment in cattle fattening in Côte d’Ivoire, where feed resources are more plentiful and reliable. Malian exporters need to act soon to strengthen their competitive position in the Ivoirian market.

2. TRADE HUB FACILITATION OF TRADE IN FATTENED CATTLE

In November 2014, the Trade Hub organized a training workshop for the Malian Cattle Fatteners Network, which has 16 members. The network is a subset of FEBEVIM, Mali’s national livestock federation, which primarily includes traders and exporters who do not fatten cattle. The workshop trained cattle fatteners in technical aspects of animal nutrition and health and provided details about alternative livestock feed rations. Following the workshop, in the first half of December 2014 the Trade Hub Livestock Specialist and the COFENABVI Secretary of External Relations, Roger Boni, visited key markets along the Ségou to Sikasso to Côte d’Ivoire trade route. Their market research confirmed the growing demand for well-fleshed trade cattle in good condition in urban coastal markets such as Bouaké, Daloa, San Pedro, and Abidjan.

In March and April 2015, Dr. Richard Cook, a livestock consultant, visited selected cattle fatteners in Mali to observe production practices and interview network members. He also conducted limited market research in Côte d’Ivoire and Ghana. By June 2015, he had developed a marketing plan for the Malian network.

2.1 FIRST ATTEMPT AT A TEST SHIPMENT

As a first trial shipment to PROSUMA, a large wholesale food distributor in Abidjan, in March 2015 a Malian exporter sent a truckload of fattened cattle to an Ivoirian agricultural fair in Abidjan, the Salon de l’Agriculture et des Ressources Animales d’Abidjan (SARA).

In the end, the transaction with PROSUMA did not take place because the exporter sold his cattle to wholesale butchers in the Abidjan (Port Bouet) market. This trader received marginally more than PROSUMA was offering by selling through trusted, well-known intermediaries with whom he had an established relationship.

The PROSUMA buyer was displeased with the Malian exporter’s failure to complete the sale, even though no written contract had been signed in advance. PROSUMA had not responded to FEBEVIM’s emailed proposal concerning contract conditions and terms for an initial test shipment. In addition, the PROSUMA livestock/meat buyer was supposed to travel to Mali to observe the fattening establishments and to inspect the finished cattle ready for export, but the visit never took place.

2.2 RENEWED PLANS FOR A TEST SHIPMENT

By November 2015, the Malian network was willing to re-attempt test shipments of fattened cattle to Abidjan. The Trade Hub agreed to support travel by three exporters to meet with alternate buyers in Abidjan. The short-run objective was to set up a test shipment, with the longer-term objective of finding a regular buyer with whom a longer-term contract could be negotiated for delivery of one to two truckloads of fattened cattle from Mali each month. A Trade Hub team accompanied the Malian traders on their trip (see Terms of Reference in Annex 1). The Trade Hub, in collaboration with the Ivoirian livestock federation, identified five prospective buyers, all of which were visited by the delegation.
Field trip to Abidjan. The project’s Livestock Specialist and a livestock consultant visited Abidjan the week of December 6–12, 2015, together with the three Malian cattle fatteners/exporters: Mr. Dramane Diarra, Mr. Adama Togola, and Ms. Bouare Saran Sagara. Mr. Diarra is the head of the Malian Cattle Fatteners Network and is based in Segou. He leads the Segou branch of the network and is fluent in French. Mr. Togola is the largest exporter among the three network members who visited Abidjan; he is illiterate but understands some French. He is based in Sikasso, the zone closest to Côte d’Ivoire, which sees more rainfall than the rest of Mali and in most years has a greater supply of agricultural byproducts and maize for feeding. Ms. Bouare is a French-speaking gender consultant to donors in Mali and is the lead of the Bamako branch of the network. Her brother manages her fattening operation in a village near Segou. The three exporters worked well together and with the Trade Hub team.

Possible clients. Prospective clients in Abidjan include the following:

- Wholesale butchers catering to a wealthier, more discriminating clientele than retail butchers that sell in open-air markets to lower-income households.
- Specialized butcher shops, such as Le Terroir, that sell to higher-income customers.
- Wholesale food distribution enterprises, such as PROSUMA, that buy cattle and supply fresh beef to supermarkets, smaller grocery stores and mini-marts, (possibly) specialized butcher shops, and institutional buyers such as hotels and restaurants.
- Importers of beef carcasses or cuts from overseas suppliers.
- Hotels, restaurants, and meat grillers (gargotes).
- Other buyers to be identified, particularly those who supply institutions such as public agencies, hospitals, the military, and large companies with cafeterias.

In interviewing potential buyers in the Abidjan market for, the team inquired about:

- Customer types and typical purchases. (Which cuts of meat are preferred by which class of buyer?)
- Current sources of supply, quality, prices, and reliability/frequency of supply.
- Buying arrangements, particularly the use of supplier credit.
- Buyer interest in entering into contractual arrangements with selected Malian suppliers of finished cattle.

Summary of key prospects—Abidjan buyer profiles. With assistance from COFENABVI, the team met with five potential buyers: PROSUMA, the Société Ivoirienne de Charcuterie et de Salaison (SICS), the Société Nationale de Restauration (SONAREST), a butchers’ cooperative at Port Bouet, and a planned fattening/slaughterhouse complex in Anyama outside Abidjan.

Abidjan Buyer Profile 1: PROSUMA

Lebanese-owned PROSUMA is the largest buyer and wholesale distributor of foodstuffs in Côte d’Ivoire. The firm supplies a range of food products, including beef, mutton, and pork, to most of the supermarkets, grocery stores, and mini-marts in greater Abidjan. The text box below contains facts from PROSUMA’s web site, which show that this firm is a major buyer and importer of many food and other products and an important distributor to many retail outlets.
PROSUMA owns most of the supermarket chains in Abidjan. The retail outlets include stores under the names of Hayat, Casino, Jour du Marché, Sococé, Cash Ivoire, Bon Prix, Miniprix, and others. PROSUMA supplies these retail outlets with fresh beef and mutton, but quality is often sub-standard (from underweight, poorly fleshed animals).

The PROSUMA meat buyer purchases 30 to 40 head of cattle per day, five days a week, primarily at Port Bouet. This amount could double if suppliers were able to guarantee access to better-quality cattle at good prices. In December 2015, PROSUMA was paying 2,200 to 2,500 FCFA/kg for deboned beef and 1,950 to 2,200 FCFA/kg for beef bone-in.

However, before an agreement could be reached with PROSUMA, the issue of which weight to use in calculating prices would need to be resolved. PROSUMA prefers to have carcass meat weighed at the abattoir, and its buyer quoted prices in carcass weight terms during discussions with the Trade Hub and the Malian network. The network would need to determine whether or not PROSUMA would insist upon this practice, or whether its meat buyer would be willing to accept terms based on cattle weighed live at the Port Bouet cattle market or upstream.

**Abidjan Buyer Profile 2: SICS**

SICS is a butchering and retailing firm that owns and supplies 15 Le Terroir retail meat shops. SICS also supplies hotels (Groupe Accor, Pullman), a major catering/food service (Server), and the French army in Côte d’Ivoire. It requires large, well-fleshed beef cattle weighing at least 220 kg. The firm offers 2,000 FCFA/kg for carcass meat and is able to pay within 15 days.

SICS previously had four but now only has two suppliers (fatteners) in Côte d’Ivoire. It has not been satisfied with the animals it receives from these suppliers, which opens opportunities for members of the Malian Cattle Fatteners Network. An important challenge, however, is that the volume purchased by SICS (typically around one ton of beef per week plus 10 to 30 head of cattle, or 70 calves, per month) is not enough for a full shipment. One reason for this relatively low volume is that SICS is a pork specialist, with an emphasis on processing and selling sausage. The firm is very active in the national pork production association.

**Abidjan Buyer Profile 3: SONAREST**

SONAREST is another smaller buyer, similar in scale to SICS. It supplies public and private restaurants and cafeterias, as well as several big institutional clients: Cargill, two chocolate companies, the construction company SOTIM, hospitals, and SAMU (a private health service).

SONAREST requires one ton of beef a week, equal to five to seven head of cattle, but has difficulty meeting the demand of its clientele. It buys carcass meat, not live cattle, and pays its suppliers more slowly than other buyers because it faces its own delays in getting paid by its clients (45 days for private clients and 90 days for public clients).
**Abidjan Buyer Profile 4: Butchers’ Cooperative at Port Bouet**

This cooperative is made up of about 20 butchers and livestock trade intermediaries based at the large market for cattle and small ruminants at Port Bouet, which has an adjacent abattoir. It is a more progressive subset of traditional traders. The cooperative’s members plan to improve and upgrade operations.

The cooperative supplies fresh beef to the mass market, particularly smaller retail butchers selling in greater Abidjan. There are an estimated 3,800 butchers in the city, of whom about 80 are wholesale butchers. Abidjan’s butchers purchase cattle at Port Bouet from Malian, Burkinabé, and Ivoirien traders, often through local intermediaries. The cattle (more often bulls than cows) vary in weight, condition, and age. In meetings with the representatives of the Trade Hub and the Malian network, the butchers proposed to pay 1,100 FCFA/kg live weight. The Malian Cattle Fatteners Network members, however, wanted a minimum price of 1,250 FCFA/kg.

In addition to this price variance, there were different preferences for estimating live weight. The Malian network members prefer to either obtain live weights upstream in Mali or use the customary practice of negotiating over lots (groups) of similarly sized cattle based on visual inspection in Abidjan. The butchers prefer to use visual inspection, but if animals are to be sold by weight, the butchers prefer to use carcass weight than live weight, as this is more relevant to their profitability.

It is challenging to weigh live animals, however, particularly in West Africa. The website of the French National Institute for Agricultural Research (INRA) notes the following typical difficulties:

- Livestock scales are costly and fragile; they require regular maintenance and calibration by trained technicians to work reliably. The scales need to be used on stable (sufficiently compact) soils.
- It is often a physical challenge to get cattle to enter weigh bridges. Some traders or butchers object to weighing, fearing injury (fractures or bruising) to the cattle.
- Live weights vary as a function of the contents of the digestive tract. An animal recently fed well and watered will weigh more than one whose digestive tract is relatively empty.

These kinds of difficulties raise the question of whether barymetric or morphometric measures should be used to proxy live weights for cattle (see text box on following page). For practical purposes, however, barymetric measurements are not considered a reliable enough substitute for live weight.

**Abidjan Buyer Profile 5: Abattoir at Anyama**

A planned investment at Anyama, 20 kilometers north of downtown Abidjan, calls for 200 head of cattle to be slaughtered per day by mid-2016, with slaughter capacity eventually expanding. The Anyama complex would operate completely independently of the Port Bouet cattle market and abattoir. This planned investment has been on the books since 2008, when the Century Group won a competitive tender to serve as implementing concessionaire, but it was then stalled due to political instability and disputes over access to land. Although the Century Group says the project will go forward, there is residual skepticism in some quarters. If it does proceed in 2016, the Anyama abattoir will be a game-changer, substantially increasing demand for high-quality, well-fleshed cattle.
Barymetric Measurement

Morphometric measures in Anglophone literature refer to analyses of lengths, widths, masses, angles, ratios and areas to arrive at approximations of body mass or other variables. In the Francophone literature on livestock, writers refer to la barymétrie. There is no direct English translation for this term, which the Dictionnaire Reverso defines as “une méthode d’estimation du poids vif à partir de mensurations prises sur l’animal vivant. Source: http://dictionnaire.reverso.net/francais-definition/barym%C3%A9trie

There is some literature on testing the use of barymetric measures on large samples of cattle of different ages and sexes and of particular races (both Zebu and N'Dama) in Africa to gauge their accuracy in estimating cattle live weights. Such testing has been done for Azawak zebu cattle in Niger; Gobra zebu cattle in Dahra, Senegal; Djakoré zebu cattle in eastern Senegal; various types of zebu cattle in northern Cameroon; Sudanese Bagara (zebu) bulls; and East African shorthorn zebu cattle in western Kenya. Other studies cover bos Taurus, which are often called N'dama cattle in West Africa. Most of these studies find that the measure of the animal’s thorax is highly correlated with live weight. A few studies add a second measure—length from the shoulder to the hip, called the scapulo-ischiale measure. These studies typically generate tables showing the typical live weights for male and female cattle of different ages and barymetric measures.

2.3 SUCCESSFUL TEST SHIPMENT

Before departing from Abidjan on December 12, the Malian Cattle Fatteners Network, under the name of FEBEVIM, signed a test shipment agreement with the Port Bouet butchers’ cooperative (see Annex 2). Mr. Diarra committed to shipping one truckload of 40 Malian fattened cattle to Abidjan. Although the 16 network members had decided as a group not to sell at a price lower than 1,250 FCFA/kg, Mr. Diarra tentatively agreed to supply the test shipment cattle at 1,100 FCFA/kg live weight, in hopes of building a longer-term relationship and establishing a win-win spirit. Within two weeks (by Christmas), Mr. Diarra had transported 40 head of cattle to Port Bouet. Although the contract called for 40 cattle to be delivered to the butchers cooperative, Mr. Diarra sold only 30 head at Port Bouet, trucking the other 10 to San Pedro, a secondary city about 330 km west of Abidjan.

Preliminary findings. A review of this experience makes it clear that the transaction terms need to be reconsidered. The traditional system for calculating price and setting terms for sale is based on visual inspection of the animals. Options for using a more transparent, businesslike approach (based on weighing the animals) are undermined by realities on the ground, including corruption at the abattoirs. An intermediate step would be to measure the cattle upstream then obtain live weights in Abidjan, but such a solution requires COFENABVI to have the budget to purchase livestock scales.

Key findings include the following:

- The Malians’ suggested live-weight price for fattened cattle of 1,250 FCFA/kg was not realized, due in good part to the inaccuracies of visual inspection.

- The cattle were sold at Port Bouet on the basis of visual inspection. The livestock consultant’s calculations, based on partial information and approximate estimates, suggest that the per-kilogram live-weight price was less than 1,100 FCFA. The best estimate is that the price was 1,089 FCFA/kg, which very closely matches the live-weight price that the Port Bouet butchers cooperative initially proposed to the Malian cattle fatteners. The butchers in Abidjan told the Malian exporters that prevailing live-weight prices ranged from 1,000 to 1,100 FCFA/kg during the end of the year period.

- Twenty-five of the cattle were not weighed or measured in any way other than visual estimation. The other five were measured in a crude barymetric way in Mali to proxy live weight
and then taken to the abattoir at Port Bouet. After the cattle were slaughtered, they compared the price paid by the butchers to the revenue they would earn by selling the carcass meat at the prevailing wholesale price for carcass meat (1,800 FCFA/kg), while accounting for the fifth quarter (70,000 FCFA). The seller and buyer agreed on this step as a way to verify whether the price the butchers had negotiated and offered in the contract was fair and led to a win-win scenario. Both parties were satisfied with the outcome.

- The five carcasses were sold at prices of 405,200 FCFA, 392,600 FCFA, 385,800 FCFA, 372,800 FCFA, and 331,400 FCFA, for a mean price of 377,560 FCFA per head. If the average live weight of these five head of cattle is assumed to be 354 kg, the live-weight price paid would be 1,066 FCFA/kg. The abattoir slaughter charge was 5,000 FCFA per animal.

- The estimated live weights of the other 25 head of cattle varied between 300 and 450 kg, according to the exporter. These cattle were sold at Port Bouet for 9,148,000 FCFA, with expenses of 18,500 FCFA per head. The mean value of these cattle was 365,920 FCFA per animal, which yields estimated live-weight prices of 1,094 FCFA/kg, assuming an average live weight of 334 kg per head.

- The sales prices for cattle shipped on to San Pedro were slightly lower, at an average of 357,600 FCFA per head (compared to 367,860 FCFA/head in Abidjan). The cattle trucked to San Pedro were likely smaller than those sold in Abidjan. Net revenue per head of cattle sold in San Pedro appears to have been 8,272 FCFA—higher than in Abidjan. Butchers in San Pedro paid 2,027 FCFA/kg for carcass meat, 14 percent higher than in Abidjan.

- The value of cattle sold on the hoof suggests that the prevailing market price in Abidjan should vary between 1,000 and 1,100 FCFA/kg for both seller and buyer to benefit from the transaction. And in fact the consultant’s estimates indicate that butchers paid just under 1,100 FCFA/kg live weight, which translates into a carcass meat price of no more than 1,800 FCFA/kg.

- As shown Table 1 below, there seem to be inconsistencies between the estimated live weights of the five cattle and their carcass weights upon exiting the abattoir. This suggests that either the estimate of live weight, using barymetric measurements supplemented by visual inspection, was way off or a substantial amount of meat disappeared (was stolen) in the slaughter process. Perhaps both factors came into play. For example, a fattened animal that supposedly weighed 523 kg could have yielded only 189 kg of carcass meat, which implies a conversion ratio of only 36 percent, well below the typical range of 48 to 52 percent.

### Table 1: Comparison of Estimated Live Weights and Actual Carcass Weights of Five Malian Cattle (kg)

<table>
<thead>
<tr>
<th>Test Shipment</th>
<th>Live-Weight Estimate (Barymetric)</th>
<th>Assumed Carcass Weight Conversion Ratio</th>
<th>Actual Carcass Weight</th>
<th>More Probable Estimate of Live Weight</th>
<th>Accuracy of Live-Weight Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>48% 52%</td>
<td></td>
<td>48% 52%</td>
<td></td>
</tr>
<tr>
<td>Lighter Bull</td>
<td>317</td>
<td>152 165</td>
<td>148</td>
<td>308 285</td>
<td>97%</td>
</tr>
<tr>
<td>Heavier Bull</td>
<td>523</td>
<td>251 272</td>
<td>189</td>
<td>394 363</td>
<td>75%</td>
</tr>
</tbody>
</table>

Note: The accuracy of a live-weight estimate = actual carcass weight / estimated carcass weight (assuming a 48 percent conversion ratio).

---

2 The actual price per kilogram of carcass meat was an estimated 1,770 FCFA. The Malian exporter received another 70,000 FCFA/animal for the fifth quarter.

3 Note that this is a wholesale price—the amount the wholesale meat trader receives when he sells to retail butchers, not the retail market price for meat.
3. RECOMMENDATIONS

It will be important for the Trade Hub to monitor costs and returns on the initial trial shipment, both to help traders understand their actual returns on the trade and to provide data for the project’s monitoring and evaluation system.

Looking forward, the Malian Cattle Fatteners Network plans to pursue a second shipment. The Trade Hub should support the network in carrying out the following steps:

- Analyze costs, benefits, and results of the test shipment, including costs at delivery destination.
- Propose alternative terms and conditions for an additional test shipment or two, covering sales price per kilogram, time required to recondition/hold cattle, and cost-sharing of reconditioning expenses in Abidjan.
- Better specify payment terms and conditions, including the percentage of payment required up front at time of sale, plans for addressing delays in repayment, and penalties for late payments.
- Conduct a second test on new terms and conditions by mid-February 2016.
  - If the second test shipment is satisfactory:
    ✓ Negotiate and formalize a three-month contract (mid- to late February to late April) with the chosen buyer at a fixed price and with clearly specified conditions. The reason for a three-month contract, rather than a year-long one, is that cattle prices and feed and transport costs vary significantly across seasons. In the second half of the dry season in the Sahelian countries, feed resources become scarce, making it more costly to feed cattle for market. At the same time, Sahelian cattle and beef become more expensive in coastal markets from April until harvest time (August–September). Hence, the costs of both fattening and returns change.
    ✓ Renew or modify the initial contract after initial three months.
  - If exporters’ returns from the second test shipment are unacceptably low:
    ✓ Potentially propose higher sales prices for fattened cattle. Or target sales for periods when the Abidjan market is under-supplied, based on supply factors upstream in the Sahel and northern Côte d’Ivoire (see text box).

By most reports, cattle prices (and returns) are highest in West Africa during the late dry season and during the period of long rains, between April and August. However, this is also the period when large-scale supply becomes problematic, because feed costs in the Sahel rise steadily following the main crop harvest in November/December, which in turn raises the cost of fattening cattle to sell from May to August. Other important spikes in demand take place at the end of Ramadan and at Tabaski, although demand for sheep outstrips demand for cattle during these holidays. An additional question is whether supplying fattened cattle to coastal markets on a seasonal basis (targeting a three- to four-month period) lends itself to the use of contracts.
3.1 RECOMMENDED NEXT STEPS TO PROMOTE CATTLE FATTENING

3.1.1 SUPPORT A MORE TRANSPARENT LIVESTOCK TRADING SYSTEM

Under the current system of visual inspection and trading in lots (groups) of cattle, there is potential for market participants to benefit or lose from a transaction. The range of possible outcomes, varying from big gains to significant losses, is large. Current cattle trading practices are likely sustained by a perception among significant numbers of market participants that they can achieve big gains by outsmarting or outwitting the other party in a livestock transaction. Conversely, if one side of the transaction consistently loses at this game, that party might welcome a change in trading rules.

There is some evidence that many wholesale butchers in Abidjan are indebted and that this indebtedness has worsened in recent years. In this environment, some progressive butchers, such as those in the recently formed Port Bouet cooperative, might be ready for change. Such a change would be welcome, as a modified system with more transparent rules—creating a win-win scenario—is likely to benefit both sellers and buyers of cattle. The main benefit would be that participants could be assured of reasonable returns on a consistent basis, including across months of uneven supply and demand conditions. Under a more transparent, rule-based trading system, no single party would be likely to benefit greatly from any particular transaction. Rather, everyone would consistently “win.” Losses, when they do occur, would be minor and infrequent, and hence manageable. Such losses would not impair longer-term trading relationships. Such relationships would be perhaps the biggest benefit that more formal trade relations would bring to the value chain and its stakeholders.

To obtain more accurate estimates of cattle live weight, it would be useful to have weigh scales installed at both the point of shipment and the destination/point of sale. Barymetric measurements offer a rough approximation of live weight, but only if a statistically valid relationship (precise formula) is developed following testing on hundreds, if not thousands, of cattle of different live weights. Without such precision, the estimated live weights resulting from barymetric formulas are likely to be inaccurate. Although the Malian exporter, Dramane Diarra, is well aware of this, he wanted to use barymetric measures to estimate the live weights of a sample of the 40 cattle at the point of departure. One caveat is that although taking barymetric measures is feasible for relatively docile cattle, some bulls (particularly range-fed ones that are not used to being handled) may not tolerate such measurements.

Weighing cattle carcasses is easier and more feasible in West Africa than using scales or barymetric measurements. However, cattle sellers and their representatives (intermediaries of Malian origin) have no control over what goes on in the abattoir at Port Bouet, and there are frequent problems stemming from both poor slaughter practices and probable theft of meat by butchers and their assistants (to side sell). For this reason, sellers strongly prefer to sell fattened cattle on the hoof, using scales if they were available. In the absence of scales, the sellers prefer to set prices by using visual inspection to evaluate cattle live weight and carcass yield.

During the Abidjan visit, there was discussion of weighing cattle with potential buyers. Even if scales were installed, it is not clear that sellers and buyers would actually use them to weigh cattle one by one. Livestock traders, intermediaries, and butchers might consider this to be either an inconvenience (slowing down sales and costing an extra fee) or a means of making cattle transactions more transparent in ways that might not benefit either buyers or sellers. Despite these misgivings, live animals have and can be weighed in West Africa. Decades ago, when Malian and Burkinabé parastatal livestock and meat agencies exported live animals, meat, and hides and skins to the Société pour le Développement des...
Productions Animales (SODEPRA) in Côte d’Ivoire, export cattle were individually weighed at the point of departure and at slaughter in Ferkessedougou in northern Côte d’Ivoire. There are many other issues to consider, as well (see text box).

**What will it take to move toward a more transparent system for estimating live weight?**

- Will sellers (exporters) accept the live weight at the Port Bouet market as the final weight used in determining the animal’s value?
- Will buyers accept the use of estimated live weight, based on barymetric measures done in Mali at point of shipment, to determine the value of trade cattle sold at Port Bouet?
- Will live weight loss in shipment be measured or estimated? And will buyers and sellers agree on how to compensate for this loss when determining final sales prices?
- Have scientific studies of barymetric measurements of cattle live weight been done in the Sahel for common Zebu cattle breeds, using sufficiently large samples? If so, what is the best technique or measurement, and what is the formula for arriving at an accurate estimate of live weight (within an acceptable confidence interval)?
- Where will weigh scales be located in Mali? In each cattle fattening zone (with five to six zones)? At a cost of at least $10,000 per unit, this is not feasible, so it is fair to assume there would be only one scale. Where would it be located? If the sole scale were sited at Sikasso, exporters who load fattened cattle in other zones would have to unload the animals in Sikasso, weigh each one individually, and reload the cattle. This might require installation of complementary infrastructure, such as platforms (truck docking stations), loading ramps, and cattle chutes. Both the added infrastructure and associated procedures would add to marketing costs.
- Complementary infrastructure in the form of loading ramps, cattle chutes, and holding pens may also be required at Port Bouet.
- Not all cattle are docile enough to allow handling—whether for barymetric measurements or to guide cattle to weigh scales—without risking injury.

Clearly, a number of details need to be resolved before cattle trade transactions can be based on either barymetric measurements or actual weighing of animals. Given delays in procurement and international shipping, the installation of weigh scales in Abidjan is likely to be many months away. When the scales arrive, provisions will need to be made for their location, maintenance, security, and use. Will the scales be used first and foremost by the newly formed butchers’ cooperative—a small subset of potential buyers at Port Bouet? Initially, this may work out well, but will there be a plan for introducing the use of scales for weighing cattle to a broader set of Abidjan traders and butchers?

To encourage behavior change, the Trade Hub and/or COFENABVI will need to raise awareness and convince market participants of the utility and value of basing cattle prices on objective measurements (i.e., live weights). Incentives to change behavior will need to align with Trade Hub and COFENABVI “sales pitches” on the advantages of weighing animals. Some market participants, such as cattle trading intermediaries in Abidjan, may be negatively affected by greater transparency in cattle sales. Butchers may also prefer the common practice of buying groups of animals based on visual inspection, which allows flexibility or scope for bargaining to gain advantage in negotiations.
3.1.2 ADDRESS LONGER-TERM CATTLE FATTENING ISSUES

To plan for and meet the demands of longer-term, consistent trading relationships, the Malian Cattle Fatteners Network needs review and incorporate lessons learned in follow-on activities. A number of issues need to be addressed:

- The need to **monitor the costs of production over time**, given the seasonality of the feed supply. Not only is the feed supply seasonal, but it varies in type and magnitude across years. The variance depends on factors such as rainfall, the area of land cultivated with different crops (which is based on farmers’ decision-making and sometimes on policy variables), the way the crops are processed, and the volume of byproducts. Knowing the cost structure at different points in the year will help the network evaluate costs and profitability.

- The need for a group of producers to **stagger fattening cycles** (60 to 90 days per cycle) to ensure a coordinated and regular supply. This is one of the key challenges to be resolved before contracts can be put in place to regularly supply fattened cattle to an export market. The network leader or a subset of members will need to devise a method for determining which producers’ animals are to be sold each month. They would use this method to draw up a production and marketing schedule for at least a year and allocate fattening cycle slots (time periods) to particular individuals.

- A final, longer-run issue is the need for the network to be able to **expand the supply of fattened cattle as demand grows** and to target periods of high demand. In other words, the number of cattle shipments to Abidjan might vary across months.

3.1.3 ADDRESS FINANCIAL CHALLENGES

Efforts to promote regular trade in fattened cattle will face an array of financial challenges. In addition to accessing more formal sources of finance, the players involved will need to resolve key issues related to the means of payment (cash, check, wire transfer), the timing of (and delays in) payment, and the establishment of a financial point of contact.

**Access to finance.** Cattle fattening enterprises require significant investments in feeder cattle, holding pens or fencing, feeding troughs or bins, and water supply. Although these investment requirements have been enumerated by the Malian network, cattle fatteners have been unable to access credit from financial institutions. This means that the fattening operations are entirely self-funded, which is likely a significant barrier to entry. Cattle fattening then becomes largely a “big boys” enterprise, requiring an entrepreneur to raise a lot of capital—often from other enterprises (transport, construction, import operations, etc.)—to gain entry. Nevertheless, few cattle fatteners in Mali report having access to formal credit to meet investment costs, feeder cattle purchase costs, or the costs of feed for 60–90 day cycles.

It might be useful for the Trade Hub’s finance and investment component to support efforts by larger, more formal firms in Abidjan to raise capital. Because these prospective clients of commercial bank finance have collateral and existing credit lines, brokering finance should not be too difficult.

**Timing of payment.** There are several alternatives for timing payments. Buyers could be asked to:

- Pay 50 percent up front before shipment
• Pay 50 percent when the cattle arrive in Abidjan, and the remaining 50 percent within a clearly specified period (e.g., one week, two weeks, a month)

• Pay 100 percent within a clearly specified period

While no buyer in Abidjan will pay 50 percent up front, over time it might be possible for Malian exporters to negotiate modest pre-shipment payments from formal buyers. Typically payment is made within a couple weeks, but it can be shorter (PROSUMA generally takes one week) or longer (butchers at Port Bouet sometimes take more than a month to repay, and they do not always fully repay). Cattle exporters from the Sahel cite long delays in repayment by wholesale butchers in Abidjan as a common problem. The Sahelian exporters work with Abidjan-based intermediaries, or logeurs, whose roles include guaranteeing butchers’ credit-worthiness and eventual repayment. By most accounts this system still works reasonably well, although it may increase the cost of livestock and meat.

Payment delays. One opportunity to improve the fluidity and rotation of capital invested in fattened cattle would be for butchers, perhaps in groups such as the Port Bouet cooperative, to access short-term working capital to buy Malian (and Burkinabé) cattle on delivery for coastal markets. This would keep the sellers from having to wait a long time for full repayment for cattle they provided to the butchers on (supplier) credit. Such an arrangement would speed the rotation of capital and allow cattle fatteners in the Sahel to quickly reinvest earnings from sales in another fattening cycle.

Financial point of contact. The Malian network also needs to determine how it will handle network finances:

• Who will receive and distribute the profits from cattle sales?
• Will the fattening network in Mali open a bank account?
• Is the network legally constituted so it can negotiate and sign contracts and open a bank account?
• Will the network designate one or more signatories to contracts or accounts?

3.2 PROJECTED VALUE OF SALES FROM TRADE IN FATTENED CATTLE

How much could be generated in new sales if the Trade Hub promotes trade in fattened cattle over the next year? In seeking an answer this question, this report makes the following assumptions:

• There are two shipments of cattle per month from Mali to Abidjan, with 35 to 40 head per shipment.
• There are also two shipments of cattle per month from Mali to Dakar, with 35 to 40 head per shipment.
• An additional two shipments of cattle are made per month from Burkina Faso to Abidjan, with 35 to 40 head per shipment.

It is reported that in some cases when wholesale butchers are unable to fully pay a cattle trader or his intermediary in Abidjan for his cattle, they request a discount (e.g., 10,000 to 25,000 FCFA per head).
• Finally, there are two shipments of cattle (35 to 40 head) per month to a combination of Ghana (Accra), Benin (Parakou), and Nigeria.
• The sales prices in these terminal markets vary between 450,000 and 500,000 FCFA per animal.

If Malian exporters are able to deliver two truckloads of fattened cattle per month over an entire year, they will ship 840 to 960 head per year. The value of each shipment (35 to 40 head) would range from 31.5 million FCFA to 40.0 million FCFA, for a total of 378 million to 480 million FCFA (equivalent to $640,000 to $800,000) for the year (see Table 2). By shipping the same number of fattened cattle to Dakar, the Malian exporters would double their exports. And if Burkinabé exporters were to ship as many cattle to both Abidjan and a combination of Accra and Benin/Nigeria, this would quadruple sales revenue, attaining $2.5 million to $3.2 million (see Table 2).

Table 2: Estimated Incremental Revenue from Shipments of Live Cattle

<table>
<thead>
<tr>
<th>Base Case: Mali to Abidjan</th>
<th>No. Head and Estimated Carcass Weight</th>
<th>Loads per mo.</th>
<th>No. Head per load</th>
<th>Total Cattle Mo. Yr.</th>
<th>Live Weight</th>
<th>Total Carcass Weight (kg)</th>
<th>Carcass Meat mt/month</th>
<th>Total mt/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Assumption</td>
<td>2</td>
<td>35</td>
<td>70</td>
<td>840</td>
<td>350</td>
<td>12,250</td>
<td>12.25</td>
<td>147</td>
</tr>
<tr>
<td>High Assumption</td>
<td>2</td>
<td>40</td>
<td>80</td>
<td>960</td>
<td>400</td>
<td>16,000</td>
<td>16.00</td>
<td>192</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Value of Cattle to Abidjan (2 shipments/mo.)</th>
<th>Monthly Deliveries</th>
<th>Mean Price</th>
<th>Value of Deliveries (FCFA)</th>
<th>Exchange Rate</th>
<th>Annual Value ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Assumption</td>
<td>2</td>
<td>35</td>
<td>70</td>
<td>450,000</td>
<td>31,500,000</td>
</tr>
<tr>
<td>High Assumption</td>
<td>2</td>
<td>40</td>
<td>80</td>
<td>500,000</td>
<td>40,000,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expansion scenario to Dakar for Malian exporters and to Abidjan, Accra, and Benin/Nigeria for Burkina Faso exporters</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Assumption</td>
<td>*4</td>
</tr>
<tr>
<td>High Assumption</td>
<td>*4</td>
</tr>
</tbody>
</table>

As additional Trade Hub-assisted exports of fattened cattle will commence with Malian shipments to Abidjan in 2016, it will be difficult to attain these figures during either the fiscal year or the calendar year. Perhaps the project can help fill any gaps with a big push to export fattened cattle and expand shipments of small ruminants during Ramadan and Tabaski.

Before formal contracts can be signed, the Trade Hub will need to identify lead cattle exporters (fatteners) willing to take risks and do business in a different way and link them to buyers in coastal markets. The next step would be for the project to encourage them to undertake test shipments to markets other than Abidjan (with Dakar the likely next choice for Malian cattle fatteners). The Trade Hub could also assist Burkinabé exporters in identifying and linking to buyers in Côte d’Ivoire, Ghana, and Benin. Finally, helping livestock value chain actors access finance would fill an existing gap (see Section 3.1.3).
West Africa Trade And Investment Hub

Terms of Reference:
Support to Livestock Trade in the Mali-Côte d'Ivoire Corridor

Period of Performance: December 2015

1. Introduction

USAID/West Africa’s Mission-wide goal is the West-African led advancement of social and economic well-being. This goal is supported by several development objectives, including “broad-based economic growth and resilience advanced through West African partners.” The Trade Hub and African Partners’ Network Project (the “Trade Hub”) will contribute to this development objective by achieving two critical intermediate results:

1) Improving the capacity of West Africa’s farmers and firms in targeted regional and global value chains.

2) Improving the business enabling environment by addressing transport constraints and trade barriers affecting the efficiency of the region’s corridors and borders.

The Trade Hub will work through regional private sector associations and regional governmental entities to help channel all partners’ efforts in a way that will address critical constraints to trade competitiveness, capture opportunities to expand trade, demonstrate West Africa’s productive potential to investors, and facilitate greater investment in the region. Its results will include both an increase in 1) regional trade in key agricultural commodities, a critical Feed the Future (FTF) indicator, and in 2) value-added global exports, a targeted indicator for the Africa Competitiveness and Trade Expansion (ACTE) Initiative, which ultimately aims to increase Africa’s share of world trade.

The project will build the capacity of several key groups of African partners—regional private sector associations and alliances, the Economic Community of West African States (ECOWAS), the Economic and Monetary Union of West Africa (UEMOA), a multi-donor funded Transport and Facilitation Observatory, and Global Development Alliances with private sector companies. As the Trade Hub works with associations and regional alliances, it will help them serve as leaders in promoting reforms, attracting buyers and investors, and adopting improved practices. Eventually, the Trade Hub’s partners will act independently and take on even greater leadership roles.

The Trade Hub’s major components are:

- Regional staple foods development (livestock and grains)
Global value chain development (targeted agro-processing and manufactured consumer goods)
Finance and investment
Transport and the trade enabling environment
Capacity building
Communications
Administration and management, including grants administration

1. Objectives

1.1 General Objective

Following on the Trade Hub’s successful promotion of expanded small ruminant exports from Mali and Burkina Faso to coastal markets during the recently ended Tabaski campaign, this assignment will provide support to cattle fattening enterprises in Mali in identifying Côte d’Ivoire buyers and facilitating contract negotiations.

1.2 Specific Objectives

More specifically, this short-term technical assignment will assist cattle fattening enterprises of Mali’s FEBEVIM to target urban coastal markets in Côte d’Ivoire, particularly Abidjan (and secondarily Bouaké and other coastal towns such as San Pedro). The consultant will work closely with a selected group of Malian cattle fatteners who wish to increase their exports to coastal markets. Part of this effort will include a prospecting mission to Abidjan with 2 – 3 Malian traders. These firms wish to develop longer-term contractual relationships with coastal buyers, which will enable the fatteners to better plan, schedule and coordinate production (3-4 month fattening cycles) so as to ship regularly to large-volume customers. Initially, the consultant will help Malian exporters to arrange test shipments of fattened livestock to Abidjan. One trader based in Burkina Faso who has recently successfully exported fattened animals to the Abidjan market will be invited to participate in the prospecting mission.

2. Expected Results or Deliverables

The consultant will prepare a final report with the following deliverables:

- Summary of the planning meetings with the Malian sellers prior to travel to Abidjan.
- Summary of results of face-to-face negotiations with buyers in Abidjan and of the test shipments of livestock from Mali to Abidjan.
- Negotiation of a test contract with a CDI buyer.
- Brief discussion of other opportunities in Côte d’Ivoire to sell fattened Malian and Burkinabé cattle.
- Travel to Accra for preliminary report write up and make a presentation to USAID/West Africa about this activity (a separate meeting with USAID/CDI will be requested prior to departure from Abidjan).
3. Methodology

**Contract Templates.** Prior to travel to West Africa, the consultant will review previous efforts to develop workable contract templates, based on documents for the grain trade and/or other templates developed for livestock. These will be revised and/or adapted to the livestock trade as a starting point in discussions with the traders. He will also consult other livestock trade specialists about best contractual arrangements in trade of live animals and attempt to obtain other contract templates (and associated training materials).

**Preparation and Planning with Malian Exporters.** The consultant will spend one week working closely with a selected group of Malian cattle exporters who are fattening animals in 60-90 day feeding cycles. He will assist the exporters to refine contract templates, review their fattening cost structure, and help them develop promotional materials and sales pitches.

It is possible that a two-day field trip will be made to Kayes to inspect an abattoir with cold storage. This could be used as a processing and staging point for refrigerated trucking of beef and small ruminant meat to Senegal.

**Trade Deal-Making in Abidjan.** The purpose of this trip is to negotiate one or more trade deals with high-potential buyer clients in Abidjan. The consultant will also attempt to identify additional buyers of well-fleshed Malian cattle. A Burkinabe trader who has successfully exported cattle to this market will join this prospection mission to provide insight, business contacts and pursue new commercial relationships with Trade Hub support (such as use of the contract template).

Prospective clients include:

- Wholesale butchers catering to a wealthier, more discriminating clientele than retail butchers who sell in open air markets to lower-income households.
- Specialized butcher shops who sell to higher-income customers.
- Wholesale food distribution enterprises, such as PROSUMA, who buy cattle and supply fresh beef to supermarkets, smaller grocery stores and mini-marts, (possibly) specialized butcher shops, and institutional buyers (hotels, restaurants).
- Importers of higher-quality beef carcasses or cuts from overseas suppliers. Although they may not appear to be the most likely customers initially, it would be useful to observe the quality/type of beef they import, learn to whom they sell and prices for imported beef, and explore their interest in sourcing high-quality finished cattle from the Sahel.
- Hotels, restaurants, and (cooperatives of?) meat grillers (gargotes).
- Any other institutional buyers to be identified.

In scouring the Abidjan market for potential buyers, the consultant will inquire about:

- Customer types and typical purchases (what cuts of beef are preferred by which class of buyer; how much are these customers willing to pay?).
- Current sources of supply, quality, prices, and reliability/frequency of supply.
• Buying arrangements, particularly use of supplier credit.

• Buyer interest in entering into contractual arrangements with selected Malian suppliers of finished cattle. If interested, FEBEVIM (with project assistance) will provide contract terms and conditions (frequency of delivery, preferred live weights of delivered cattle, how live weight will be estimated and how live animals will be priced at delivery point), short-term supplier credit possibilities, other).

• Share a contract template with high-potential prospective buyers and ask for their comments (as to the acceptability of the contract terms).

• Inquire about possible buyer interest in advancing credit for fattening enterprises.

**Report Writing.** After return to the US, the consultant will summarize actions taken during the mission and required follow up by Trade Hub staff to conduct expanded commercial transactions in the Ivorian market. This activity will also provide a working model to complete similar activities to expand fattened animal exports to other coastal markets, such as Senegal.

### 4. Schedule and Level of Effort

<table>
<thead>
<tr>
<th>Task</th>
<th>Date</th>
<th>LOE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home office preparation: review contracts and any information on Malian cattle fattening enterprises available</td>
<td>Nov. 9-20</td>
<td>3 days</td>
</tr>
<tr>
<td>Travel from US to Bamako</td>
<td>Nov. 29/30</td>
<td>1 day</td>
</tr>
<tr>
<td>Work week in Mali with selected exporters &amp; visit abattoir</td>
<td>Dec. 1-5</td>
<td>5 days</td>
</tr>
<tr>
<td>Travel to Abidjan</td>
<td>Dec. 6</td>
<td>1 day</td>
</tr>
<tr>
<td>Meet with potential buyers in Abidjan; facilitating trade deals and trial shipments (out brief with USAID/CDI)</td>
<td>Dec. 7-11</td>
<td>5 days</td>
</tr>
<tr>
<td>Travel Abidjan - Accra</td>
<td>Dec. 12</td>
<td>1 day</td>
</tr>
<tr>
<td>Out brief with Trade Hub &amp; Power Point – USAID/West Africa</td>
<td>Dec. 14-16</td>
<td>3 days</td>
</tr>
<tr>
<td>Travel from Accra to US</td>
<td>Dec. 17</td>
<td>1 day</td>
</tr>
<tr>
<td>Consultant Prepares final report</td>
<td>Dec. 18-28</td>
<td>5 days</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>25 days</strong></td>
</tr>
</tbody>
</table>

5. **Reporting Relationships**

The consultant will report to the Trade Hub livestock specialist and the Value Chain Lead. The Livestock Specialist will accompany the consultant during this field work to Mali, CDI and Ghana.
ANNEX 2: FEBEVIM CONTRACT

Contrat Test de Vente Commerciale (Bétail sur Pied)

1. PARTIES

Vendeur : Réseau des Emboucheurs du Mali
Nom : Dramane Diarra, Coordinateur du Réseau
Adresse : Rue 287 Porte 1010 Pelengana Segou –Mali
Téléphone 00223 76432670
E-mail : diarradramane307@yahoo.fr
Personne habilitée à signer : Dramane Diarra

Acheteur
Nom : Coopérative des Marchands de bétail de Port Bouet
Adresse : Marché à bétail de Port Bouet
Téléphone +225 05046559
E-mail (Courriel) Badiguesimaga@gmail.com
Personne habilitée à signer : Mahamadou Simaga di Fode, Marchand de Bétail

2. MARCHANDISES ET CONDITIONS DE TRANSPORT

Nature de la marchandise : Bovins vivants

Nombre d’animaux vivants à bord du camion : 40 têtes de bovins sur pied, de race zebu

Poids des animaux : Utilisation d’un pèse bétail ou d’un ruban barométrique
Tous les animaux seront pesés au départ. Le vendeur prévoira le moyen approprié de pesée.

Poids total des bovins : 16 000 kg soit 16 Tonnes

Nombre de camions : 1 camion de bovins

Taux de tolérance de perte de poids : (moins) : 3%

Tolérance de taux de mortalité : 1 %

Etat sanitaire des animaux vivants sur pied :
Contrôle par les services vétérinaires de : Sikasso
L’inspection des animaux au départ se fera par les services vétérinaires de Sikasso et de Zegoua et deux documents seront exigés à l’arrivée :

- Certificat de vaccination délivré par les services vétérinaires du Mali
- Certificat sanitaire délivré par les services vétérinaires des pays du Mali et de la Côte d’Ivoire

Conditions de transport :
- Documents à bord du camion pour le franchissement des frontières : OUI
- État technique du camion : BON
- Aménagement du camion : Paille sur le plancher
- Nom et adresse du transporteur : ND
- Numéro du camion : ND
- Poste de sortie du pays d’origine : Zegoua
- Poste d’entrée du pays de destination : Pogo
3. **LIVRAISON**
   - Lieu de livraison : Marché à bétail de Port Bouet à Abidjan
   - Date ou période de livraison : 23 Décembre 2015
   - Frais de déchargement à la charge de Dramane Diarra.

4. **PRIX**
   **Méthode de détermination du prix**
   Prix par kg de poids vif du bovin : 1250 F CFA /kg.
   Prix total du chargement de 40 têtes de bovins : 20 millions de F CFA (20 000 000 F CFA)

5. **PAIEMENT**
   Mode de paiement : En espèces, une semaine après la livraison

6. **DUREE DU CONTRAT**
   TEST

7. **MODALITES** :
   Ce contrat sert de test en vue de signature de contrat de longue durée en cas de succès. A défaut de moyens de pesage à l’arrivée, les deux parties conviendront d’une vente à vue d’œil. Une dizaine de têtes sera abattue, les carcasses seront pesées et la vente de la viande aura lieu au poids. Quant aux 30 autres animaux, ils seront vendus sur pied, et si le marché à bétail de Port Bouet est saturé, les animaux seront vendus au prix du marché ; et une comparaison sera faite entre le prix au kg et la vente à vue d’œil.

8. **DATE ET SIGNATURE POUR LE VENDEUR ET POUR L’ACHETEUR**

   **VENDEUR**  
   Date: 12 Décembre 2015  
   Nom : Dramane Diarra  
   Signature :

   **TÉMOIN**  
   Date: 12/12/2015  
   Nom : Boureima Sidibé  
   Signature :

   **ACHETEUR**  
   Date : 12/12/2015  
   Nom : Mamadou Simaga dit Fode  
   Signature :
ANNEX 3: ESTIMATED RETURNS FROM LONG-DISTANCE TRADE IN FATTENED CATTLE

In an attempt to inform cattle pricing discussions between sellers (Malian exporters) and buyers (potential Ivoirien customers), we undertook some sensitivity analysis of returns to fattening and marketing cattle. Important assumptions in this analysis are:

- A shipment of cattle contains 35 head of fattened cattle (40 head are possible with lighter-weight animals)
- The average liveweight in the base case shown below is 350 kg. The analysis can also be done with liveweights of 400 kg. or even 450 kg.
- The carcass weight is assumed to be 50% of the liveweight in the base case. A range of 48-52% is often cited as the typical conversion ratio.

It is important to note that the estimates of cattle feeding and marketing costs come from information collected from a small sample of Malian fatteners in late 2014, so they should be taken as illustrative and perhaps on the low side of plausible costs. Feeding costs vary across years and seasons, depending on crop production (harvests), the tonnage of key crops (paddy, maize, cotton) that is processed, and imported feed (wheat bran from imported wheat, e.g.). It will be important to monitor Malian (and eventually Burkinabe) fatteners’ costs and export marketing costs over the next couple years to track the returns to this enterprise across seasons and over time.

The analysis also assumes that the Malian shipper pays all marketing costs up to Abidjan, with trucking cost set at 400,000 FCFA per shipment. This is another variable which can go higher during periods when demand for trucks is highest, as in during the cottonseed harvest (moving harvested cotton to gins) and when (ginned) lint cotton is trucked from Mali to coastal ports. Abidjan related marketing costs are accounted for, but not costs associated with holding and/or reconditioning cattle, particularly in the event of delays in selling the animals leading to significant feeding, watering, and ‘herding’ (guarding) costs.

In the table below, note that the analysis of returns per animal and shipment are calculated with and without the fifth quarter included. We also include the implicit (or opportunity) cost of capital in the calculation of returns, assuming that capital tied up in feeder cattle over 3-4 months could have an alternative use. Most cattle fatteners do not obtain bank loans for their enterprises, as bankers consider livestock production in the Sahel a risky venture.

In our base case, note that we estimate that net returns to cattle fatteners who export to Côte d’Ivoire are modestly positive. In scenario 5 (shown in orange), we use the 2,200 FCFA/kg. carcass weight, which corresponds to the 1,100 FCFA/kg. liveweight that the three Malian exporters accepted from the Port Bouet butchers’ cooperative, to estimate net returns. Not accounting for the opportunity cost of capital, net returns per head are 8,600 FCFA without including the 5th quarter (intestines, head, hooves,
hide, etc.), or 58,600 FCFA per head if the 5th quarter is included. If the implicit cost of capital is accounted for, the returns per shipment would be about 1.55 million FCFA (about $2,590). Returns increase if the price per kilogram carcass weight increases. Referring to the final two columns (to the right), the bare cost recovery scenario (budget de revient, shown in green) uses a price of 1,950 FCFA/kg. for carcass meat, where the 5th quarter is included in returns and the opportunity cost of capital in costs. The final column (shown in yellow) is our judgement of the price, 2,150 FCFA/kg, at which an exporter would take or leave the Côte d’Ivoire marketing deal. In this scenario, the net returns to shipping fattened cattle to Abidjan would be 1,247,000 FCFA per load ($2,078), a modest return given how long capital is tied up and the length of the production/marketing period, as much as four months from the start of the fattening cycle to the time the exporter receives his/her money from cattle sale. We have not built any mortality in shipment assumptions; there is some mortality though injury and forced sale (at lower prices) is a more likely than mortality, although both occurrences are rare.

If we assume cattle have higher average live and carcass weights, the profitability of fattening improves (without changing underlying feeding costs, which may not be a realistic assumption). With higher average liveweights and carcass yields, exporters could accept lower per kilogram prices and still make an adequate return. Assuming an average liveweight of 450 kg. per head, an exporter would still earn a decent return of 1.47 million FCFA per shipment by accepting 1,700 FCFA/kg. carcass weight (or 850 FCFA/kg. liveweight). With an average liveweight of 400 kg. per head, an exporter would still earn a decent return of 1.38 million FCFA per shipment by accepting 1,900 FCFA/kg. carcass weight (or 950 FCFA/kg. liveweight).
Table A3-1: **Estimated Returns to Shipping Fattened Cattle from Mali to Abidjan**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
<th>Scenario 5</th>
<th>Scenario 6</th>
<th>Scenario 7</th>
<th>Scenario 8</th>
<th>Bare Cost</th>
<th>Minimum</th>
<th>Acceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec. 2015</td>
<td>Bare Cost</td>
<td>Minimum</td>
<td>Recovery</td>
<td>Acceptable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat Price (FCFA/kg)</td>
<td>1,800</td>
<td>1,900</td>
<td>2,000</td>
<td>2,100</td>
<td>2,200</td>
<td>2,300</td>
<td>2,400</td>
<td>2,500</td>
<td>1,950</td>
<td>2,150</td>
<td></td>
</tr>
<tr>
<td>Value of the Cattle Carcass (FCFA)</td>
<td>315,000</td>
<td>332,500</td>
<td>350,000</td>
<td>367,500</td>
<td>385,000</td>
<td>402,500</td>
<td>420,000</td>
<td>437,500</td>
<td>341,250</td>
<td>376,250</td>
<td></td>
</tr>
<tr>
<td>5th quarter (FCFA)</td>
<td>50,000</td>
<td>50,000</td>
<td>50,000</td>
<td>50,000</td>
<td>50,000</td>
<td>50,000</td>
<td>50,000</td>
<td>50,000</td>
<td>50,000</td>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td>Total Value (FCFA)</td>
<td>365,000</td>
<td>382,500</td>
<td>400,000</td>
<td>417,500</td>
<td>435,000</td>
<td>452,500</td>
<td>470,000</td>
<td>487,500</td>
<td>391,250</td>
<td>426,250</td>
<td></td>
</tr>
<tr>
<td>Feeder Cattle Purchase Cost (FCFA)</td>
<td>325,000</td>
<td>325,000</td>
<td>325,000</td>
<td>325,000</td>
<td>325,000</td>
<td>325,000</td>
<td>325,000</td>
<td>325,000</td>
<td>325,000</td>
<td>325,000</td>
<td></td>
</tr>
<tr>
<td>Subtotal: Cost of Fattened Cattle (FCFA)</td>
<td>376,400</td>
<td>376,400</td>
<td>376,400</td>
<td>376,400</td>
<td>376,400</td>
<td>376,400</td>
<td>376,400</td>
<td>376,400</td>
<td>376,400</td>
<td>376,400</td>
<td></td>
</tr>
<tr>
<td>Net Revenue per Head</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without 5th Quarter (FCFA)</td>
<td>(61,400)</td>
<td>(43,900)</td>
<td>(26,400)</td>
<td>(8,900)</td>
<td>8,600</td>
<td>26,100</td>
<td>43,600</td>
<td>61,100</td>
<td>(35,150)</td>
<td>(150)</td>
<td></td>
</tr>
<tr>
<td>With 5th Quarter (FCFA)</td>
<td>(11,400)</td>
<td>6,100</td>
<td>23,600</td>
<td>41,100</td>
<td>58,600</td>
<td>76,100</td>
<td>93,600</td>
<td>111,100</td>
<td>14,850</td>
<td>49,850</td>
<td></td>
</tr>
<tr>
<td>Net Revenue per Shipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without 5th Quarter (FCFA)</td>
<td>(2,149,000)</td>
<td>(1,536,500)</td>
<td>(924,000)</td>
<td>(311,500)</td>
<td>301,000</td>
<td>913,500</td>
<td>1,526,000</td>
<td>2,138,500</td>
<td>(1,230,250)</td>
<td>(5,250)</td>
<td></td>
</tr>
<tr>
<td>With 5th Quarter (FCFA)</td>
<td>(399,000)</td>
<td>213,500</td>
<td>826,000</td>
<td>1,438,500</td>
<td>2,051,000</td>
<td>2,663,500</td>
<td>3,276,000</td>
<td>3,888,500</td>
<td>519,750</td>
<td>1,744,750</td>
<td></td>
</tr>
<tr>
<td>Implicit Cost of Capital (FCFA)</td>
<td>497,656</td>
<td>497,656</td>
<td>497,656</td>
<td>497,656</td>
<td>497,656</td>
<td>497,656</td>
<td>497,656</td>
<td>497,656</td>
<td>497,656</td>
<td>497,656</td>
<td></td>
</tr>
<tr>
<td>Net Revenue per Shipment accounting for Cost of Capital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without 5th Quarter (FCFA)</td>
<td>(2,646,656)</td>
<td>(2,034,156)</td>
<td>(1,421,656)</td>
<td>(809,156)</td>
<td>(196,656)</td>
<td>415,844</td>
<td>1,028,344</td>
<td>1,640,844</td>
<td>(1,727,906)</td>
<td>(502,906)</td>
<td></td>
</tr>
<tr>
<td>With 5th Quarter (FCFA)</td>
<td>(896,656)</td>
<td>(284,156)</td>
<td>328,344</td>
<td>940,844</td>
<td>1,553,344</td>
<td>2,165,844</td>
<td>2,778,344</td>
<td>3,390,844</td>
<td>22,094</td>
<td>1,247,094</td>
<td></td>
</tr>
</tbody>
</table>
ANNEX 4: ANALYSIS OF CILSS TRADE DATA

Livestock trade data for the Mali to Côte d’Ivoire corridor over the period April 2013 through September 2015 show an increase in the number of cattle shipped between FY14 and FY15, but an 18% drop in the average cattle unit value, leading to a modest 3% decline in the overall value of cattle sales from $42.3 to $40.8 million. Reported small ruminant exports dropped significantly (54%) in volume from 311,246 head to 142,880 head, with overall value of this trade falling 63% from $46.6 million to $17.35 million (although the average unit value declined less—19% from $150 to $121).

A major driver of unit value declines has been the drop in the value of the CFA franc (and Euro, to which it is tied) relative to the US dollar. The CFA franc depreciated 18% from FY14 to FY15), averaging 484 FCFA to the dollar in FY14 to 573 FCFA to the dollar in FY15. This 18% exchange rate depreciation matches the 18% decline in the cattle unit price between the two periods. Hence, cattle prices probably fell little in CFA franc terms between the two periods. It would be useful to see the original CFA franc value data as well as the dollar equivalents, presumably obtained by using the average exchange rate prevailing month by month.

Figure A4-1: CFA Franc to U.S. Dollar Exchange Rates during Trade Hub Implementation (2013–2015)
<table>
<thead>
<tr>
<th>Type of Animal</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nb.</td>
<td>Value</td>
<td>Price per Unit</td>
</tr>
<tr>
<td>January</td>
<td>Total</td>
<td>42,980</td>
<td>$9,745,817</td>
</tr>
<tr>
<td>Cattle</td>
<td>6,334</td>
<td>$3,952,349</td>
<td>$605</td>
</tr>
<tr>
<td>Sheep</td>
<td>280</td>
<td>$2,265,000</td>
<td>$81</td>
</tr>
<tr>
<td>Goats</td>
<td>36,166</td>
<td>$5,770,818</td>
<td>$160</td>
</tr>
<tr>
<td>February</td>
<td>Total</td>
<td>31,153</td>
<td>$6,519,860</td>
</tr>
<tr>
<td>Cattle</td>
<td>5,221</td>
<td>$2,997,671</td>
<td>$574</td>
</tr>
<tr>
<td>Sheep</td>
<td>120</td>
<td>$10,190</td>
<td>$85</td>
</tr>
<tr>
<td>Goats</td>
<td>25,812</td>
<td>$3,511,999</td>
<td>$136</td>
</tr>
<tr>
<td>March</td>
<td>Total</td>
<td>33,281</td>
<td>$8,309,559</td>
</tr>
<tr>
<td>Cattle</td>
<td>7,517</td>
<td>$4,575,917</td>
<td>$609</td>
</tr>
<tr>
<td>Sheep</td>
<td>160</td>
<td>$13,378</td>
<td>$63</td>
</tr>
<tr>
<td>Goats</td>
<td>25,604</td>
<td>$3,720,364</td>
<td>$145</td>
</tr>
<tr>
<td>April</td>
<td>Total</td>
<td>27,147</td>
<td>$5,666,747</td>
</tr>
<tr>
<td>Cattle</td>
<td>6,122</td>
<td>$3,330,540</td>
<td>$544</td>
</tr>
<tr>
<td>Sheep</td>
<td>400</td>
<td>$25,384</td>
<td>$63</td>
</tr>
<tr>
<td>Goats</td>
<td>20,625</td>
<td>$2,310,822</td>
<td>$112</td>
</tr>
<tr>
<td>May</td>
<td>Total</td>
<td>15,599</td>
<td>$5,054,369</td>
</tr>
<tr>
<td>Cattle</td>
<td>3,459</td>
<td>$1,849,694</td>
<td>$535</td>
</tr>
<tr>
<td>Sheep</td>
<td>280</td>
<td>$21,970</td>
<td>$78</td>
</tr>
<tr>
<td>Goats</td>
<td>9,860</td>
<td>$1,182,644</td>
<td>$120</td>
</tr>
<tr>
<td>June</td>
<td>Total</td>
<td>11,882</td>
<td>$3,253,124</td>
</tr>
<tr>
<td>Cattle</td>
<td>4,382</td>
<td>$2,362,287</td>
<td>$539</td>
</tr>
<tr>
<td>Sheep</td>
<td>140</td>
<td>$8,637</td>
<td>$62</td>
</tr>
<tr>
<td>Goats</td>
<td>16,676</td>
<td>$2,166,829</td>
<td>$130</td>
</tr>
<tr>
<td>July</td>
<td>Total</td>
<td>21,585</td>
<td>$4,907,692</td>
</tr>
<tr>
<td>Cattle</td>
<td>4,729</td>
<td>$2,727,593</td>
<td>$577</td>
</tr>
<tr>
<td>Sheep</td>
<td>7,360</td>
<td>$892,201</td>
<td>$120</td>
</tr>
<tr>
<td>August</td>
<td>Total</td>
<td>14,857</td>
<td>$4,257,676</td>
</tr>
<tr>
<td>Cattle</td>
<td>4,737</td>
<td>$2,767,108</td>
<td>$584</td>
</tr>
<tr>
<td>Sheep</td>
<td>10,120</td>
<td>$1,490,568</td>
<td>$147</td>
</tr>
<tr>
<td>September</td>
<td>Total</td>
<td>17,729</td>
<td>$5,903,000</td>
</tr>
<tr>
<td>Cattle</td>
<td>6,894</td>
<td>$4,080,012</td>
<td>$592</td>
</tr>
<tr>
<td>Sheep</td>
<td>10,835</td>
<td>$1,822,980</td>
<td>$160</td>
</tr>
<tr>
<td>October</td>
<td>Total</td>
<td>24,844</td>
<td>$4,038,260</td>
</tr>
<tr>
<td>Cattle</td>
<td>3,604</td>
<td>$2,287,997</td>
<td>$635</td>
</tr>
<tr>
<td>Sheep</td>
<td>21,240</td>
<td>$1,751,262</td>
<td>$82</td>
</tr>
<tr>
<td>November</td>
<td>Total</td>
<td>25,300</td>
<td>$6,411,322</td>
</tr>
<tr>
<td>Cattle</td>
<td>5,860</td>
<td>$3,569,708</td>
<td>$609</td>
</tr>
<tr>
<td>Sheep</td>
<td>19,440</td>
<td>$2,841,614</td>
<td>$146</td>
</tr>
<tr>
<td>December</td>
<td>Total</td>
<td>33,242</td>
<td>$7,104,002</td>
</tr>
<tr>
<td>Cattle</td>
<td>4,611</td>
<td>$2,905,141</td>
<td>$630</td>
</tr>
<tr>
<td>Sheep</td>
<td>180</td>
<td>$12,316</td>
<td>$68</td>
</tr>
<tr>
<td>Total</td>
<td>190,185</td>
<td>$44,596,132</td>
<td>244,171</td>
</tr>
<tr>
<td>Cattle</td>
<td>44,398</td>
<td>$25,880,080</td>
<td>$583</td>
</tr>
<tr>
<td>Sheep</td>
<td>1,180</td>
<td>$81,579</td>
<td>$69</td>
</tr>
<tr>
<td>Goats</td>
<td>144,607</td>
<td>$18,634,473</td>
<td>$129</td>
</tr>
<tr>
<td>Source: CILSS, Programme Régional d'Appui Accès aux Marchés</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Note: Livestock trade data are not yet available for the final quarter of 2015.