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# TRADE HUB AND AFRICAN PARTNERS NETWORK

## OPPORTUNITIES FOR INCREASING LIVESTOCK TRADE IN THE MALI-CÔTE D'IVOIRE CORRIDOR

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

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### **DISCLAIMER**

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.

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# ACRONYMS

<b>ACTE</b>	Africa Competitiveness and Trade Expansion Initiative
<b>ATP</b>	Agribusiness and Trade Promotion Project
<b>CILSS</b>	<i>Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel</i>
<b>COFENABVI</b>	<i>Confédération des Fédérations Nationales de la Filière Bétail/Viande de l'Afrique de l'Ouest</i>
<b>COMTRADE</b>	United Nations Commodity Trade Statistics Database
<b>CRED</b>	Center for Research in Economic Development, University of Michigan
<b>DNPIA</b>	National Office of Production and Animal Industries ( <i>Direction Nationale des Productions et Industries Animales, République du Mali</i> ; replaced <i>Office Malien du Bétail et de la Viande</i> )
<b>ECOWAS</b>	Economic Community of West African States
<b>EMMP</b>	Environmental Mitigation and Monitoring Plan
<b>EU</b>	European Union
<b>FAOSTAT</b>	Food and Agriculture Organization Corporate Statistical Database
<b>FTF</b>	Feed the Future
<b>GDP</b>	Gross domestic product
<b>GMM</b>	<i>Grands Moulins du Mali</i>
<b>GNI</b>	Gross national income
<b>kg</b>	Kilograms
<b>MCC</b>	Millennium Challenge Corporation
<b>MFN</b>	Most-favored nation
<b>MIS</b>	Market information systems
<b>MMM</b>	<i>Moulin Moderne du Mali</i>
<b>MSU</b>	Michigan State University (Agricultural Economics Department)
<b>MT</b>	Metric ton
<b>NGO</b>	Nongovernmental organization
<b>OPA</b>	<i>Observatoire des Pratiques Anormales</i>
<b>PIVA</b>	Partner Institutional Viability Assessment
<b>PDG</b>	<i>Police, douane, gendarmerie</i>
<b>PROSUMA</b>	<i>Société Ivoirienne de Promotion de Supermarchés</i>
<b>REC</b>	Regional Economic Community (such as ECOWAS or UEMOA)
<b>RESIMAO</b>	<i>Réseau des Systèmes d'Information de Marché de l'Afrique de l'Ouest</i>
<b>SMS</b>	Short messaging service
<b>TTEE</b>	Trade and Transport Enabling Environment component (of Trade Hub)
<b>UEMOA</b>	Economic and Monetary Union of West Africa
<b>USAID/WA</b>	United States Agency for International Development/West Africa
<b>VAT</b>	Value-added tax
<b>VC</b>	Value chain

# ACKNOWLEDGMENTS

This report examines prospects for increasing cattle exports from Mali to Côte d'Ivoire. It is based on a review of recent literature, field work in Mali and Côte d'Ivoire during November–December 2014, and internal discussions among Trade Hub staff, particularly the Livestock Industry Specialist, Dr. Seydou Sidibé; the principal consultant, Dr. John Holtzman; and the Value Chain Coordinator, William Noble. Leaders of other Trade Hub and African Partners Network components, particularly the financial and investment services team, also provided input. USAID provided useful feedback on a PowerPoint presentation made by the Trade Hub team to USAID/West Africa staff in mid-December. The *Confédération des Fédérations Nationales de la Filière Bétail/Viande de l'Afrique de l'Ouest (COFENABVI)* cooperated fully with the team, providing information, access, and field support in Côte d'Ivoire. Sarah Kozyn of Abt Associates provided valuable research assistance and Victoria Okoye produced maps using Adobe Illustrator.

# EXECUTIVE SUMMARY

Although traditional livestock trade has changed little in the past several decades in West Africa, rapid urbanization, as well as population growth overall, is beginning to drive change in livestock marketing, beef consumption, and meat distribution channels. Demand for heavier, better-fleshed cattle is expanding, and an upper- and upper-middle-class market for superior-quality beef has emerged in large urban centers in coastal countries. Some of the more progressive wholesale butchers in coastal cities such as Abidjan, Dakar, and Accra are buying fattened cattle and paying premium prices.

This assignment focused on opportunities for expanding trade along the Bamako–Abidjan corridor as a way to focus project efforts in the livestock value chain in the coming year. According to data from the *Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel* (CILSS), this corridor represented about 20 percent of the value of livestock trade along project-assisted corridors during the baseline period of April 2013 to March 2014.

The main finding of the study is that there are worthwhile opportunities for increasing livestock trade that should be further tested in the coming months. Large institutional buyers such as the *Société Ivoirienne de Promotion de Supermarchés* (PROSUMA) in Abidjan are looking for regular supplies of well-fleshed cattle, but they are not yet linked with Sahel-based cattle-fattening enterprises. This creates an opportunity to structure formal contractual arrangements between coastal buyers and groups of cattle fatteners. As most of the larger fatteners are members of the *Confédération des Fédérations Nationales de la Filière Bétail/Viande de l’Afrique de l’Ouest* (COFENABVI), there is also a chance to help this key partner expand trade.

The project is responsible for achieving an ambitious increase in livestock trade by 2018 (\$91 million in additional value) and it will need to pursue multiple avenues to achieve that target. The team that conducted this study recommends both activities along the Bamako–Abidjan corridor as well as efforts with a wider regional impact. Along the corridor, there are two top priorities:

- Facilitating a test shipment of Malian fattened cattle to a large-volume buyer of meat products in Abidjan or a similar willing buyer. This shipment will serve as a pilot to evaluate the costs and profitability of trade in fattened cattle.
- Hosting a cattle-fattening training workshop in Burkina Faso to share information about the production and marketing practices of Burkinabé fattening enterprises, as well as to discuss and evaluate potential opportunities to expand shipments to coastal markets.

In the next six months, the results of these activities should yield enough information to allow the team to define a scaled-up effort for the FY 2016 work plan. During the rest of FY 2015, the following region-wide activities should also be pursued:

- Providing capacity building support and grants to COFENABVI. In particular, the Trade Hub will work to strengthen the association’s capacity to lobby for implementation of trade reforms already agreed upon among member-countries of the Economic Community of West African States (ECOWAS), such as the need for only one sanitary certificate in livestock trade and the removal of any value-added tax (VAT) applied on regional trade in unprocessed food products. Borderless Alliance can also assist in this advocacy, as well as in continuing to focus on reducing time and delays at border crossings.
- Exploring opportunities to expand trade in fattened cattle in Côte d’Ivoire, Ghana, and Senegal.
- Collaborating with sub regional veterinary officials in countries that are trading partners

(particularly Mali, Côte d'Ivoire, and Burkina Faso) on harmonization of livestock sanitary certificates and facilitation of cross-border livestock trade.

- Working with the *Réseau des Systèmes d'Information de Marché de l'Afrique de l'Ouest (RESIMAO)*, a regional umbrella for public sector market information systems (MIS), and COFENABVI to devise a workable livestock and meat MIS.
- Promoting women-owned cattle-fattening enterprises and encouraging women to invest in enterprises. The project will simultaneously look at ways to encourage women's participation in and management of small ruminant feeding and trade that targets Muslim and Christian holidays.
- Joining forces with the Trade Hub's financial and investment services team and Financial Access Facilitators in Mali and Burkina Faso to identify cattle-fattening enterprises that could, with technical assistance and financial management training, access formal credit or structure credit arrangements for feed suppliers or finished cattle buyers.
- Funding a technical innovation grant to design and test improved long-distance livestock carriers (trucks and trailers). The Trade Hub's trade and transport enabling environment (TTEE) component has begun working with the private sector to develop an improved transport vehicle for livestock, design and prototype to be finished during FY 2015.

# I. INTRODUCTION

## I.1 OVERVIEW OF THE PROJECT

The mission-wide goal of USAID/West Africa (USAID/WA) 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 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 to 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. The project’s results will include an increase in both 1) regional trade in key agricultural commodities, a critical Feed the Future (FTF) indicator, and 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 Trade Hub will build the capacity of several key groups of African partners—regional private sector associations and alliances, 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 project’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

## I.2 HIGHLIGHTS OF PRIOR RESEARCH ON LIVESTOCK MARKETING IN WEST AFRICA

Livestock trade in the central corridor of West Africa has been the subject of significant research over the past several decades. A series of studies by the University of Michigan’s Center for Research in Economic Development (CRED) established an excellent baseline in the late 1970s, culminating in a Red Meat Study done for the Entente Fund (1980). Abt Associates carried out a series of studies starting in the late 1980s for USAID and the World Bank (see Holtzman et al. 1992) that examined costs and

returns to long-distance livestock trade and explored market information issues. The International Livestock Research Institute (Williams et al. 2006), Abt Associates' Agribusiness and Trade Promotion (ATP) Project (see Josserand 2013), Texas A&M University (2012), and Malian and Ivoirien researchers in association with Michigan State University (Diallo et al. 2013; Diarra et al. 2013; Kouable Bi et al. 2014) have done more recent research on West Africa livestock trade. Many of the issues identified over three decades ago have not changed, and this report will not reiterate conclusions of earlier studies. Salient points from recent work include the following:

- Much of the livestock trade remains unrecorded; official statistics capture only about one-third of actual livestock trade (Josserand 2013; Texas A&M University 2012).
- Virtually all of the long-distance livestock trade in West Africa is in live cattle. Past efforts to slaughter ruminant livestock in Sahelian producing countries for shipment of chilled meat to coastal West African markets have failed, foundering on high-cost electricity, low volumes of slaughterhouse throughput (and hence lack of profitability), high-cost refrigerated truck transport, and competition from imported frozen meat imports.
- Livestock marketing infrastructure remains rudimentary in most places. At marketplaces, buyers and sellers are confronted by inadequate water and shade, as well as by the absence of enclosures and livestock loading chutes and ramps. Municipal or market authorities do not maintain market facilities or slaughter slabs, as market use fees collected evaporate into general revenue pools. Livestock arrival and sales data are collected but not analyzed or used.
- Trekking routes for trade cattle through farming areas are inadequate or no longer exist, due to increased population density and land cultivation.
- Transport costs in West Africa are high and are exacerbated by numerous *police*, *douane*, and *gendarmarie* (PDG) checkpoints where illicit fees are collected and transport is delayed. Border crossings are particularly problematic. The cost of corruption as a proportion of total marketing costs has risen over time.
- Trucks used to transport livestock are not specialized or adapted to long-distance trade. Ruminant livestock are overloaded onto tractor-trailers, leading to significant stress and bruising. Specially adapted livestock carriers have been proposed for years, but no action has been taken.
- Attempts to eliminate or simplify documentary requirements for long-distance trade are generally not fully implemented. Border officials insist on presentation of documents that are no longer officially required in intraregional trade (such as certificates of origin) or that are required from the exporting country only (such as sanitary certificates). Many livestock traders do not have these documents. This leads to bribes, fines, or forced payment for duplicative or unnecessary papers.
- The traditional long-distance livestock trade is concentrated within specific ethnic groups and who eschew written contracts, operate on trust, and buy and sell livestock based on visual estimates of carcass weight and animal sale value (at wholesale or retail). There are many intermediaries in this trade who take a de facto "commission" on transactions, which raises overall livestock prices and meat costs to consumers.
- Livestock producers, traders, and butchers have great difficulty accessing credit, and the value chain is highly illiquid. Banks do not lend to traditional traders with few or no assets other than live animals, which are not treated as moveable collateral. The value chain functions on supplier credit.

What has changed over time? The competitive pressure of imported red meat has decreased in part, as some governments have imposed tariffs, variable levies, or countervailing duties on imports. Frozen offal

and less-desired animal parts (hooves, poultry wings, and other cuts of low value in Western markets) still enter coastal markets, such as Abidjan, and are sold to lower-income urban households.

As urbanization increases at a rapid pace in West Africa, urban demand for red meat and other forms of animal protein has expanded. Per capita incomes have increased, and a rising middle class of consumers with disposable income and preferences for higher-quality meat has emerged. There is more product differentiation in urban supermarkets and specialized butcher shops. Open-air sales of beef bone-in and without bones in public markets still predominate, and there are many urban consumers whose incomes are constrained so they buy the cheapest source of animal protein, but this is changing.

Some issues have persistently defied resolution. Trade in agricultural and animal products is still not duty-free and sometimes draws VAT or unjustified illegal taxation. Excessive checkpoints and rent-seeking by uniformed agents, as well as difficult-to-transit borders, are ingrained in the political culture of West African governments. Telephone hotlines and embarrassing publicity can periodically help reduce the incidence and frequency of illicit practices and rent-seeking, but they do not eliminate them. As West African budget deficits persist, with attendant late payment of salaries, these practices will remain endemic for the private trade in livestock and other products.

While the entire traditional livestock value chain has depended on supplier credit for many years, according to key informants interviewed during the field work for this report, indebtedness and non-payment of supplier credit have become more problematic over time. Wholesale butchers in large urban markets are the most indebted group. As their debts have accumulated, exporters supplying coastal markets have become increasingly cognizant of the risks of supplying butchers with livestock on credit. This constrains supply at the margin and tends to push up livestock and red meat prices, which could discourage red meat purchases and consumption at the margin. Given problems of indebtedness and lack of credit-worthiness among some coastal buyers, cattle-fattening enterprises may have better opportunities by seeking out buyers in large coastal markets with greater liquidity and a reliable capacity to buy significant volumes of fattened cattle with their own financial resources.

### 1.3 TRADE HUB LIVESTOCK CORRIDORS

With data provided by CILSS, the Trade Hub is tracking livestock trade along four trade and transport corridors in West Africa: Mali–Côte d’Ivoire, Burkina Faso–Ghana, Mali–Senegal, and Burkina Faso–Nigeria (by way of Benin). Trade along a fifth corridor (Burkina Faso–Côte d’Ivoire) is not captured by CILSS—the project would have to establish a data collection system if such data are desired.<sup>1</sup> Using baseline data on cattle trade, the corridor with the greatest trade volume and value of cattle is Burkina Faso–Ghana, with Mali–Senegal second and Mali–Côte d’Ivoire third (see **Error! Reference source not found.**). Field work for this study was initially slated to cover the Burkina Faso–Ghana corridor in late 2014. Political problems in Ouagadougou, however, led the project to change plans and instead have the study look at the Mali–Côte d’Ivoire corridor, where the Livestock Industry Specialist had organized and was planning to run a training workshop on cattle fattening (in Segou). This workshop presented an excellent opportunity to learn about cattle-fattening enterprise costs and returns, market outlets, and trade constraints and opportunities. It is also noteworthy that Mali–Côte d’Ivoire trade has increased in recent years following the cessation of hostilities in Côte d’Ivoire. Although Senegal was a more important destination for Malian livestock in the late 2000s (see Table D-1 in Annex D), this is unlikely to persist with the return to normalcy in Côte d’Ivoire and the recent rapid growth of the Ivoirien

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<sup>1</sup> Côte d’Ivoire’s official data includes some information about this trade, although it probably underestimates the trade volume and value.



d'Ivoire corridor was higher relative to 2013 in 8 of 12 months in 2014, illustrating the increasing strength of the Ivoirien market.

The right-hand side of Table 1-1 shows the targeted increases in the value of livestock trade corridor by corridor, assuming the proportion increase will be exactly the same in each corridor—15 percent relative to the base year by the end of September 2015, 30 percent relative to the base by the end of September 2016, and 50 percent by the end of September 2017.

The unit values of cattle traded were highest in the Burkina Faso–Ghana corridor (\$737/head) during the base year, second highest in the Burkina Faso–Benin/Nigeria corridor (\$684/head). These values were under \$600/head in the Mali–Côte d'Ivoire corridor (\$593/head) and the Mali–Senegal corridor (\$572/head). Using CILSS data, the Trade Hub will monitor changes in trade values, both in the aggregate and per unit, over the next few years to track changes in livestock value in different terminal markets. Shifts in these prices and trade values can provide clues about changes in underlying supply and demand in terminal markets.

## **I.4 THE COST OF IMPROVING MEAT QUALITY**

Strengthening regulation of the livestock marketing chain will improve the quality and safety of meat products, which ideally will increase sales and drive additional trade. These improvements, however, will bring higher costs, at least in the short run. Investments will be required in:

- Greatly improved livestock marketing infrastructure
- Modernized slaughterhouses, with close and attentive public oversight
- Well-adapted trucks for carrying live animals over long distances to market
- Improved veterinary services in general (e.g., vaccines, disease identification, and treatment) and specifically at assembly and terminal markets
- Cold storage and refrigerated transport (to the extent that livestock slaughter is done in production zones)

While the upper 25 percent of urban consumers may be willing and able to pay for the higher-cost meat that comes with upgraded sanitary measures and quality control, most West African consumers are less interested in quality (which requires higher costs to attain) and more focused on buying as much meat for their money as possible. If meat is well-cooked or simmered for a long time in stews, it is likely not viewed by many consumers as a health risk. As noted above, this is changing in urban markets, offering a more complicated challenge to increasing trade, especially in the coastal urban markets.

USAID/WA's previous ATP project delivered training on slaughterhouse sanitation for members of COFENABVI, which helped improve conditions at many facilities. The Trade Hub plans to lead two similar training programs on sanitary and phytosanitary (SPS) procedures, including instruction on current rules and regulations. The objective of this training will be to help butchers and slaughterhouses more fully comply with SPS procedures, which will help promote sales of high-value cuts of meat.

Private investment in abattoirs is a medium-term possibility, but it would probably have to be linked to a large-scale cattle-fattening operation. With scale in fattening, a small slaughterhouse becomes feasible, although it would need to be used on a custom-hire basis to process fattened cattle from other enterprises and to slaughter cattle going into traditional marketing channels. Past efforts to build modern, enclosed slaughterhouses in West Africa have been resisted by urban butchers and by the large

number of people they employ, as modern processing facilities displace labor. The proposed processing cost per head is also higher than per-animal slaughtering costs in traditional outdoor slaughterhouses.

## **I.5 TRADE HUB FIELD WORK IN NOVEMBER–DECEMBER 2014**

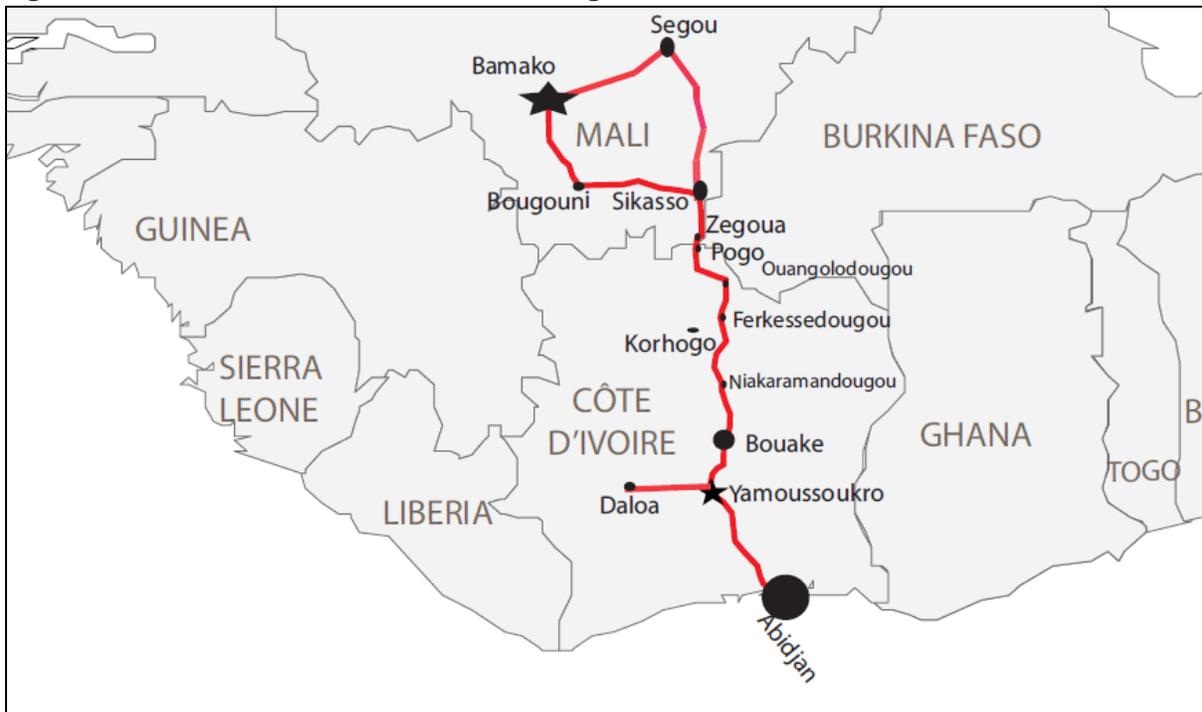
The Trade Hub's Livestock Industry Specialist managed a cattle-fattening workshop in Segou, Mali, during the week of November 24-28, 2014. He also conducted market research in Segou and southern Mali (the markets of Segou, Niono, Koutiala, Niena, and Sikasso) at the end of November 2014. From December 2-12, he traveled the livestock trade corridor south through Côte d'Ivoire to Abidjan, stopping at numerous points along the way, including Ouangolodougou, Ferkessédougou, Korhogo, Niakara, Bouaké, Daloa, and Yamoussokro, where he interviewed livestock traders, butchers, ministry representatives, and others (see Sidibé 2015). Maps on the following pages (Figure 1-1 and Figure 1-2) show the main points of trade along the Mali–Côte d'Ivoire livestock corridor, as well as key livestock markets and consumption centers in southern Mali.

## **I.6 KEY FINDINGS OF FIELD WORK**

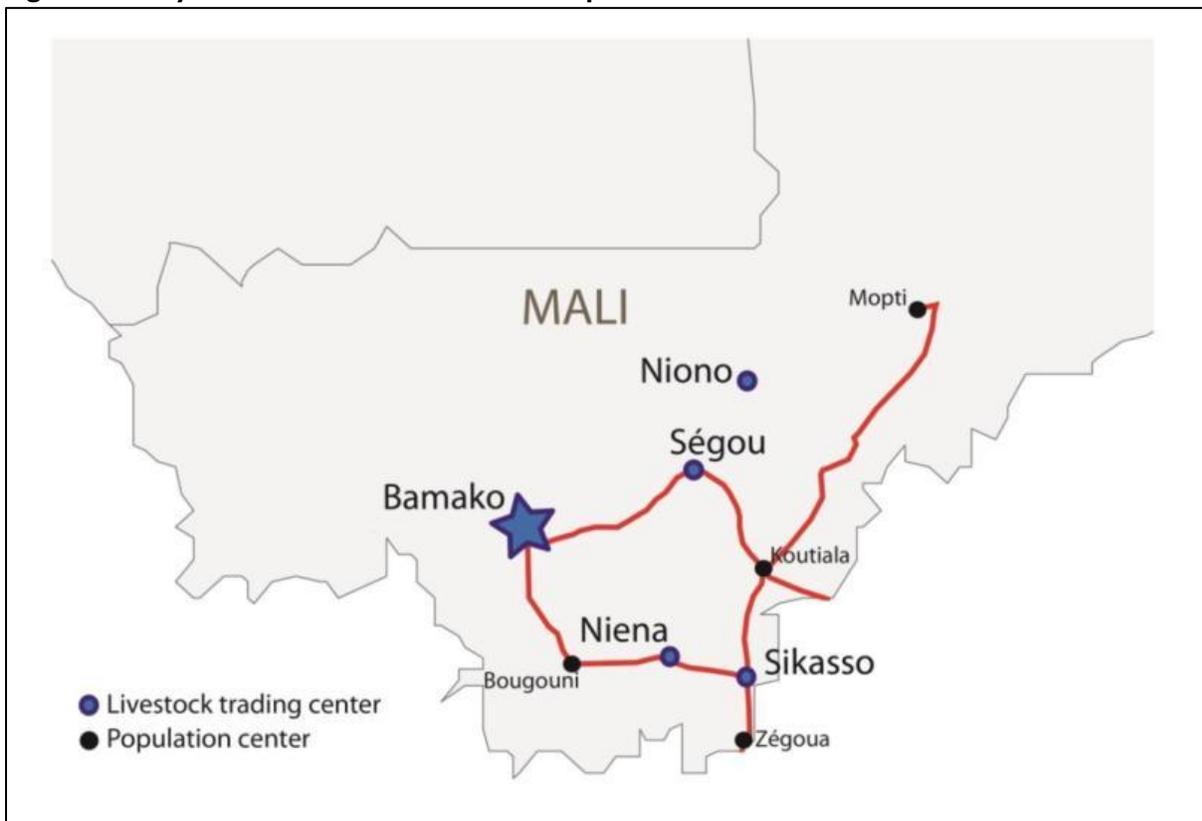
**Field work in Mali.** Salient findings of interviews with traders, butchers, and cattle fatteners in Mali were as follows:

- There are two seasons for commercial fattening: October–February (the dry season) and April–June (late dry season into the rainy season, when fewer animals are fattened as feed becomes scarce).
- Very few cattle feeders have contracts with buyers or are able to access formal finance.
- Domestic urban markets, particularly Bamako in Mali and Ouagadougou in Burkina Faso, offer increasing demand for higher-quality beef from fattened cattle. These markets offer lower cattle prices to fatteners but are easier and cheaper to access than distant coastal markets.
- It is very likely that livestock feed costs are rising, as demand for agro-industrial byproducts and grain (particularly maize) used in feed is increasing in Mali and Burkina Faso. Rice flour and bran are also important byproducts of rice milling; they are sold as-is or are included in formulated livestock feed.
- Livestock marketing infrastructure is in poor shape or is non-existent; it needs to be upgraded to facilitate livestock trade and maintain the condition of cattle prior to shipment.
- Informal, illicit costs in Mali represent 4 to 5 percent of total marketing costs from Segou to Abidjan; these costs are difficult to remove or reduce without high-level political commitment.
- Livestock exports to Côte d'Ivoire have increased since the internal political situation has stabilized (post-2010). With an estimated 6.35 million inhabitants, greater Abidjan (plus Bouaké with 1.08 million inhabitants) represents 69 percent of the urban population in Côte d'Ivoire. These are the key markets for live animals shipped from Mali.

**Figure I-1: Mali-Côte d'Ivoire Livestock Trading Corridor**



**Figure I-2: Key Livestock Markets and Consumption Centers in Southern Mali**



**Field work in Cote d'Ivoire.** Important findings in Côte d'Ivoire included the following:

- Fifty-three percent of Côte d'Ivoire's population is urban (in contrast to Mali, where 38 percent is urban). This is important because markets for Sahelian fresh beef from live animal imports are urban markets.
- There is undocumented and unrecorded evidence that significant numbers of cattle are trekked from Mali to Côte d'Ivoire. Niarela is a major assembly and redistribution market for Sahelian cattle trekked to Côte d'Ivoire, although it is not an important consumption center.
- An unrecorded number of cattle are trekked from Mali on transhumance to northern Côte d'Ivoire, where they spend much of the dry season. Some of these cattle are sold to Ivoirien butchers and some return to Mali once the rains begin in the Sahel and pasture conditions improve. Some of the returned cattle, maintained in good form in northern Côte d'Ivoire during the dry season, are marketed in Bamako and other larger Malian cities shortly upon returning to Mali, as rainy season prices for slaughter cattle are seasonally high. At this time most cattle in the Sahel are in poor condition, as agro-industrial byproducts and forage and silage from the previous growing season are exhausted.
- It is reported that cattle fattening is increasingly common in northern Côte d'Ivoire.
- As there is an increasing preference for higher-quality red meat than lower-grade frozen meat (and frozen poultry parts) in major urban markets, large urban buyers such as PROSUMA and wholesale butchers in Abidjan prefer heavier, better-fleshed animals.
- Demand spikes at key Muslim and Christian holidays, leading to high prices for cattle and small ruminants. As the Muslim holidays are now falling during the rainy season, the supply of trade cattle is inadequate, creating opportunities to target the supply of fattened cattle (and small ruminants) to those market windows.
- Informal, illicit marketing costs are firmly entrenched in Côte d'Ivoire, although they are lower since 2010 than they were during much of the decade of the 2000s. Livestock "escort" services (*sociétés de convoyage*) that accompany trucks carrying trade cattle appear to be widely used and officially tolerated as an institutionalized form of corruption. These escort services have established rates for payouts checkpoint by checkpoint in Côte d'Ivoire, and "save" Malian traders time and perhaps money by expediting livestock transport to the coast.
- PROSUMA is potentially a large client for cattle-fattening enterprises in the Sahel, capable of buying at least 50 head per week for slaughter and distributing the meat to supermarkets and other buyers in Abidjan.
- Although Mali supplies more trade cattle to Côte d'Ivoire than does Burkina Faso, buyers in Abidjan looking for well-fleshed cattle prefer to buy from Burkinabé suppliers. Southwestern Burkina Faso, a higher-rainfall zone of significant cotton and maize production, is also closer to Abidjan than are most livestock production zones in Mali.

## 2. POLICY, MARKET INFRASTRUCTURE, AND TRANSPORT ISSUES

### 2.1 POLICY PROBLEMS AND MEASURES

A number of key policy and regulatory issues that impact livestock competitiveness and trade have been identified in recent years. Firstly, certificates of origin are in principal no longer required in West African trade in agricultural products. Uniformed agents insist that traders carry them, however, providing the agents with a pretext for extracting illicit rent payments. Secondly, current ECOWAS rules call for traded livestock to be accompanied by a sanitary certificate from the exporting country only, but in practice importing country veterinary agents insist on a duplicate certificate from their country as well, representing another rent-seeking opportunity. Lastly, there are no longer livestock transit fees, and VAT is not supposed to be paid on trade in unprocessed agricultural products. Nevertheless, fictitious transit fees and VAT charges are often levied in coastal countries, particularly by uniformed agents in Côte d'Ivoire.

Recent reviews of these issues typically conclude that uniformed agents are unaware of ECOWAS rule changes and hence apply outmoded texts. While this may be true in a few cases, the Trade Hub takes the view that this is simply a pretext for agents to ignore current rules and regulations. Rent-seeking is deeply ingrained in PDG agencies in West Africa, and no matter how many training courses or copies of documents explaining the rules are offered, the problem persists in some form or fashion unless there is a top-to-bottom of agency decision not to tolerate this opportunistic behavior.

The project recommends the following steps to address rent-seeking behavior:

- Fry a few “big fish” (call out and shame government officials managing rent-seeking schemes).
- Rotate uniformed officers often; do not let them get too comfortable for too long in any one location (checkpoint, border crossing).
- Put neutral ombudsmen at major road border crossings to closely monitor the practices and performance of uniformed agents.
- Ask drivers of livestock vehicles to track informal payouts along corridors (already being done by the *Observatoire des Pratiques Anormales*, or OPA, of UEMOA); process and publish findings regularly.
- Establish a telephone hotline for traders and transporters to call in information about abuses along roads and at borders; consider discreetly using video or microphones to record illicit transactions with uniformed agents.
- Take pictures of harassment (identify a handful of drivers to do this).
- Publicize through newspapers and websites instances where uniformed agents are “caught in the act.”
- Mobilize livestock trade organizations, nongovernmental organizations (NGOs), and civil society organizations to protest rent-seeking behavior and put pressure on governments to eliminate or

greatly reduce these abuses. Work with regional private sector organizations across value chains to protest these practices.

Ultimately, there needs to be high-level political will behind any effort to reduce “informal marketing costs.” Senior officials at the top of rent-seeking pyramid schemes will probably need to be let go. Since the practices are deeply rooted, vigorous efforts will be needed to reverse trends and make this behavior unacceptable. These types of activities are supported by the Trade Hub’s TTEE component, working with Borderless Alliance, a private sector advocacy organization that supports transparency and more effective regional trade.

The Trade Hub can continue to use conventional channels and methods of training and information dissemination to government agencies that regulate intraregional trade and that monitor and enforce trade and transport rules. This could help raise awareness and understanding of current rules and regulations. Similar trainings could be provided, via COFENABVI and coordinated with Borderless Alliance, to livestock traders as well.

During the Segou workshop on cattle fattening, several participants noted that selling fattened animals in Bamako is far easier than transporting them to Abidjan or Dakar. Even though delivered cattle prices are higher in coastal markets than in Bamako, the high transaction costs involved in shipping fattened cattle to coastal markets deter some exports. If informal marketing costs, the number of checkpoints, and border crossing times were reduced, exports would likely increase.

## **2.2 MARKET INFRASTRUCTURE**

Livestock traders complain uniformly about inadequate and dilapidated marketing infrastructure. Livestock markets require enclosures and, ideally, sizeable pens in which to segment groups of cattle. They also require water and feeding troughs. Cattle chutes leading to loading ramps would be very welcome additions. Most livestock markets lack these facilities.

Although municipalities are motivated to improve market infrastructure, they lack funds. Ultimately, national governments or donors will initially need to bear most of the costs of improved market infrastructure to serve the traditional long-distance livestock trade. Some private sector investment (through matching grants) could support the establishment of a pilot model livestock market. COFENABVI could use part of a Trade Hub grant to support such an initiative. Alternatively, the Trade Hub could encourage COFENABVI to explore ways to finance upgrades with the relevant municipal authorities. Upgrades will lead to higher facility user fees, however, which livestock traders may not be willing to pay. It would be useful to better understand the costs of market upgrades; COFENABVI could pursue this for one or two possible market locations along the value chain, initially in Mali. The higher user fees that traders would have to pay are likely to be more than offset by gains from moving cattle more quickly through the markets and higher prices for cattle that have lost less weight or suffered less from long, arduous travel and dehydration. These gains would in turn encourage more trade and increase the value of cattle arriving at terminal coastal markets, or at least reduce the time and the feed and watering costs required to rehabilitate livestock in end markets.

## **2.3 TRANSPORT ISSUES**

The main problem identified during this study is that the trucks being used to ship livestock, particularly cattle, are not suitable. Traders pack 40 to 45 head of cattle into 40 metric ton (mt) trucks with long trailers; livestock risk bruising, dehydration, weight loss, limb fractures, and stress in transit. The trucks have no water or feed, and cattle arriving at coastal markets require at least several days of re-conditioning before sale. As feed is scarce in large urban centers on the coast, it is expensive to

purchase feed to recondition cattle. Most of the large terminal markets are space-constrained and in poor condition.

The Trade Hub's TTEE team will address the issue of truck design as part of its transport improvement component. The TTEE component has begun working with the private sector in several countries to develop a design for a long-distance transport vehicle for livestock within the region. During 2015, a competitive tender will be issued to the private sector to present technical designs for this improved vehicle. After development of the prototype, the Trade Hub will explore the most effective way to pilot and expand the use of this improved design.

Use of adapted livestock carriers will undoubtedly require investment and raise shipping costs per head in the short run, as fewer cattle will be shipped per vehicle. In addition, such vehicles may not be able to carry backhaul cargo from coastal markets. There could be some cost savings, however, if each truck needs fewer cattle handlers. Having these handlers on board a truck filled with cattle typically invites fines by police or other agents, particularly at borders, as they ride on top of the trailer, which is a dangerous practice that is officially outlawed.<sup>2</sup>

The short-run benefit of using adapted vehicles will lead to cattle arriving in better condition at coastal markets. This result will complement a livestock trade promotion strategy that relies on increasing exports of fattened cattle. Such cattle should, in principle, command higher prices than cattle shipped in conventional, ill-adapted vehicles.

The Malian trucking industry, however, may not be willing to invest in buying trucks manufactured for livestock shipment or trucks adapted (retro-fitted) for such purpose. The key issue is backhaul; if such trucks cannot be used to backhaul goods from coastal countries, round trip transport costs are higher. As livestock exporters typically rent rather than own transport, they may also hesitate to make such an investment. There is reportedly interest, however, among some traders in improving long-distance transport of cattle. So, although West Africa could adapt truck types and practices for long-distance livestock shipping being used in other developing countries, the key question is whether there is an economic incentive to invest in well-adapted livestock-carrying vehicles in West Africa.

A practical option for lowering transit time would be to allow livestock shipping vehicles to move at night, which would require two licensed drivers per truck, as well as extended hours at key border crossings. This would decrease transit time, especially if the number of checkpoints was reduced, stops were shorter, and less time was spent in delays (especially important when cargo is live). The Trade Hub and the Regional Economic Communities (RECs)<sup>3</sup> are tackling all of these issues through ongoing initiatives.

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<sup>2</sup> By using well-designed livestock carriers, it may be possible to eliminate, if not greatly reduce, the need for livestock herders to ride on trucks. This would represent a cost savings of about 10 percent of total marketing costs.

<sup>3</sup> In the West African context, RECs refer to ECOWAS and UEMOA.

# 3. LIVESTOCK FATTENING AND MARKET OPPORTUNITIES

## 3.1 OVERVIEW OF LIVESTOCK FEEDING IN MALI

Enclosed and semi-enclosed cattle feeding have become a more common practice in Mali in recent years for several reasons:

- Cattle pasture land has decreased over time as the population has grown and as more pressure has been put on crop land. Transhumance routes are far more restricted now than they were in the past. Political instability in northern Mali has also altered the distribution of the livestock population and the trade corridors, shifting increasing numbers of cattle to southern Mali and northern Côte d'Ivoire.
- Production of grain, particularly maize, has expanded steadily since the 1990s. While there are competing uses for maize (human consumption and poultry feeding), the supply of maize grain has increased overall, making it a possible feed source for cattle feeders.
- Large industrial mills, such as *Grands Moulins du Mali* (GMM) and a Segou-based miller called *Moulin Moderne du Mali* (MMM), are grinding maize and producing livestock feed in addition to maize and wheat flour. In mixing the livestock feed, they add in other agro-industrial byproducts such as cottonseed cake and molasses from sugarcane.
- Expansion in paddy production over the past decade has led to an increase in the supply of rice flour and bran, a useful cattle feed. Milling capacity is concentrated along the Niger River, particularly in the *Office du Niger* zones in the Segou and Mopti regions. Herders are also able to graze rice stalks and stubble after the harvest.
- Demand for higher-quality beef is increasing in large cities of the Sahel such as Bamako and Ouagadougou, as well as in major urban centers in coastal countries such as Abidjan, Bouaké, Accra, and Kumasi. This is driven by increases in both population and income.

In Mali, there are at least 14 cattle producers associated with COFENABVI who do off-season feeding, producing nearly 900 head of well-fleshed cattle per year.<sup>4</sup> The adoption of cattle fattening by core COFENABVI members illustrates spread of this practice in the region.

Most cattle fatteners purchase feeder cattle, largely coming off the range, and do one feeding cycle of up to 90 days, typically during the dry season (beginning in November through January and ending in early February to early May). They then ship the fattened animals to coastal markets for sale at the end of the dry season. A few larger feeding enterprises purchase feeder cattle again and conduct a second cycle that may begin in the late dry season but falls mainly during the rainy season (starting in May/June and ending in August/September). Both production cycles take advantage of rising cattle prices cross-seasonally from the immediate post-harvest period throughout the dry season and into the rainy season,

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<sup>4</sup> In 2014/15, nine cattle fatteners are planning to feed 1,590 head in one cycle (650 head), two cycles (250 head), or three cycles (690 head).

when prices are highest (since livestock herds are dispersed and away from towns and cattle markets being reconditioned on plentiful pasture and water).

The following factors pose major constraints to expanding cattle fattening in the Sahel in general, and Mali in particular:

- The high cost of feed, particularly by the late dry season and during the rainy season. Feed typically comprises at least 60 and as much as 80 percent of the variable operating costs of a cattle-fattening enterprise.
- Significant upfront investment cost in feeder cattle (61 percent of total cattle-fattening enterprise costs in 2013 and 68 percent in 2012),<sup>5</sup> and limited access to formal credit.
- A perception among cattle fatteners in Mali that export of finished animals is fraught with problems and high costs and hence not worth the trouble. Many fatteners target the Bamako market, which is far more accessible than coastal markets such as Abidjan and Dakar.

The Government of Mali implemented a credit program targeting livestock-fattening enterprises, but it never fully met entrepreneurs' needs and it is ending. Access to credit is constrained by several factors:

- Most enterprises lack financial records and cannot produce clear or auditable financial statements for lenders.
- Most enterprises do not have well-formulated business plans with clear marketing plans and cash flow analyses.
- In Mali and Burkina Faso, livestock is not accepted as moveable collateral (although agricultural land with clear title, buildings on that land, and agricultural equipment are accepted).
- Agriculture in general is considered a high-risk lending area, with livestock perceived as especially risky.
- Formal contracts between fattening enterprises and established buyers are largely absent.

Given periodic droughts in Sahelian countries, livestock are found increasingly in the northern half of coastal countries during dry seasons, where forage conditions are better and where there are cropping enterprise byproducts (Diallo et al. 2013). Transhumance takes cattle from Mali into northern Côte d'Ivoire during the dry season. Some of these cattle are sold and slaughtered in Côte d'Ivoire in larger towns such as Bouaké and Korhogo. Others return to Mali during the rainy season as pasture conditions improve; some livestock returning to Mali, well-fleshed and in good condition, are slaughtered as cattle prices rise during the rainy season. This movement in two directions—south to better pasture in the dry season, and north to the Sahelian countries during the rainy season—can be considered livestock trade that is not accounted for, as the cattle move on foot across the border. The numbers of cattle involved in this two-way trade are unknown, but it is clear that some of the cattle slaughtered in Côte d'Ivoire counted as Ivoirien are in fact cattle of Malian origin.

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<sup>5</sup> These percentages are calculated from cattle-fattening enterprise data provided by one participant in the Mali workshop in November 2014.

## 3.2 ILLUSTRATIVE COSTS AND RETURNS OF CATTLE FATTENING

The Trade Hub delivered a training-of-trainers workshop on commercialized livestock fattening in Segou, Mali, during November 2014. The training supported COFENABVI's efforts to enhance service provision to its members. The overall objective was to strengthen the technical, business, and financial management capacities of livestock value chain actors in Burkina Faso and Mali who are engaged in animal fattening. An additional benefit was that the workshop provided the Trade Hub with some quite detailed cost and return estimates for 90-day feeding cycles during the dry seasons of 2012 and 2013 (see **Error! Reference source not found.**).

**Table 3-1: Costs and Returns of Cattle Fattening in Segou, 2012 and 2013 (Dry Season Budgets)**

Costs	2012		2013	
	Total	Cost/Head	Total	Cost/Head
Number of cattle		150		200
Purchase of feeder cattle	45,000,000	300,000	64,000,000	320,000
Operating costs	19,650,000	131,000	38,202,000	191,010
Feed	16,150,000	107,667	28,180,000	140,900
Veterinary services	750,000	5,000	900,000	4,500
Depreciation	800,000	5,333	800,000	4,000
Personnel	750,000	5,000	1,500,000	7,500
Transportation	1,200,000	8,000	3,600,000	18,000
Informal marketing costs			3,222,000	16,110
Opportunity cost of capital	1,687,500	11,250	2,400,000	12,000
Total estimated costs	66,337,500	442,250	104,602,000	523,010
Revenue	Total	Revenue/head	Total	Revenue/head
Total revenue	76,575,000	510,500	118,757,100	593,786
Sale of empty bags	450,000	3,000	232,100	1,161
Sale of cattle manure	1,500,000	10,000	1,650,000	8,250
Sale of fattened cattle	74,625,000	497,500	116,875,000	584,375
To Côte d'Ivoire			45,000,000	600,000
To Bamako	35,625,000	475,000	25,000,000	500,000
To Senegal	39,000,000	520,000	46,875,000	625,000
<b>Net revenue</b>	10,237,500	68,250	14,155,100	70,776
<b>Net revenue as percent of total revenue</b>	13%		12%	

Source: Cattle-fattening enterprise, Segou

In conjunction with the workshop, the participants made a field visit to a successful Segou-based cattle-fattening and exporting enterprise to learn more about the business, assess its profitability, and think about how operations might be improved. The Trade Hub team used this enterprise as a proxy for commercial cattle-fattening operations in the region, analyzing its operating and production costs to better understand similar firms. The key finding from the analysis is that the cost of feed represented 70 percent of estimated production costs in 2012 and 63 percent in 2013. The enterprise uses already-formulated feed called *Aliment Bétail*, produced in Mali by GMM, which costs 120,000-140,000 FCFA per mt. The feed typically includes maize, cottonseed cake (a byproduct of pressing cotton seed), molasses from sugarcane processing, and other ingredients. Cattle fatteners purchase rice flour and bran, available

from small, artisanal rice mills in the Mopti and Segou Regions, for 60,000 FCFA per mt (flour) and 30,000 FCFA per mt (bran). Cattle-fattening enterprises also use rice straw, which sells for 124 FCFA per kg and is typically bought at harvest and stocked. They often purchase *blocs de melur*, a salt and mineral block licked by cattle.

The net returns to the Segou-based enterprise, as a proportion of total revenue, were 13 percent in 2012 and 12 percent in 2013. Taking into account the opportunity cost of capital tied up in cattle for at least three months, these returns do not appear to be excessive. In 2012, the entrepreneur sold 75 fattened cattle in Bamako and 75 in Senegal. In 2013, he sold 75 head in Senegal, 75 in Côte d'Ivoire, and 50 in Bamako, for a total of 200 head. Prices per head for sales in coastal cities were 20 to 25 percent higher than in Bamako in 2013 but also entailed higher marketing costs. Net revenue per head of cattle rose slightly from 2012 (68,250 FCFA) to 2013 (70,776 FCFA). These returns are promising enough to merit expansion of cattle-fattening practices. Producing better-fleshed livestock will also respond well to the emerging demand for higher-quality beef in coastal urban markets.

While fattening appears profitable, additional cost and return information needs to be collected and analyzed. Our sample is too limited, and may underestimate costs to fatten and market cattle. Another cattle-fattening workshop will be held in Burkina Faso in the spring of 2015 (see Section 5.2). The project will use this training event as an opportunity to collect more information on enterprise costs and returns.

### 3.3 BUYERS OF FATTENED CATTLE IN COASTAL MARKETS

In traditional livestock trade, the principal coastal buyers are Muslim wholesale butchers who obtain slaughter cattle on short-term credit from long-distance suppliers, who are also Muslim and who often share ethnic or linguistic ties. These wholesale butchers sell parts of the carcass to retail butchers, but may choose to retail some cuts of beef themselves. According to most observers, these wholesale butchers have become decreasingly solvent over time and have accumulated significant debts. Most butchers are not in a position to pre-finance cattle trade or fattening operations.

The most promising class of buyers for purchasing fattened cattle are supermarket chains (Carrefour and Shoprite), large-volume food import and distribution companies such as PROSUMA, and specialized butcher shops such as Master Meats in Ghana and Nigeria. These buyers require well-fleshed trade cattle in excellent form, regular supplies, and full traceability. Their clientele is upper- and upper-middle-class consumers in large coastal cities (Abidjan, Dakar, Accra, Lagos) who desire high-quality cuts of fresh beef. According to recent studies (Texas A&M University 2012) and the study team's observations in Abidjan, high-quality Sahelian beef competes well on price and quality with high-end cuts of imported beef from non-African sources.

During this assignment, the Trade Hub team met with the buyer of meat products for PROSUMA, a Lebanese/Ivoirien-owned food distribution company that supplies most of the supermarkets in greater Abidjan, a market of over six million consumers. PROSUMA's meat buyer<sup>6</sup> said the firm could buy 50 or more head of well-fleshed cattle of Sahelian origin per week. He prefers to buy directly from suppliers rather than through traditional cattle-trading networks, which he feels are full of price-inflating intermediaries. The Trade Hub's Livestock Industry Specialist is pursuing this opportunity seriously and trying to arrange for a trial shipment of fattened cattle from Burkina Faso to Abidjan. Agreeing on the

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<sup>6</sup> Dominique Lannes is the *Responsable du Département Viande de PROSUMA*.

price per head of cattle will be challenging, as the PROSUMA buyer is convinced that trade cattle arrive in Abidjan at greatly inflated prices.

The illustrative cattle-trading budget in the next section (

Table 3-2) supports this view in part. Assuming the Trade Hub team was able to fully enumerate

	Base Case: November 2014			High Transport Cost, Lower Sales Price		
	Average Case	Cost/Head	Percent of Total Market Cost	Average Case	Cost/Head	Percent of Total Market Cost
Number of cattle	43			43		
Livestock market costs, Mali	27,271	632	2.7%	27,271	632	2.1%
Sanitary certificates, Mali	6,000	139		6,000	139	
Export permit	54,286	1,258		54,286	1,258	
Subtotal export documents	60,286	1,397	6.0%	60,286	1,397	4.6%
Informal market costs, Mali	51,286	1,189	5.1%	51,286	1,189	3.9%
Informal market costs, Côte d'Ivoire	95,000	2,202	9.5%	95,000	2,202	7.3%
Trucking cost	400,000	9,272	39.9%	700,000	16,225	53.7%
Abidjan marketing costs	64,671	1,499	6.5%	64,671	1,499	5.0%
Cost of herders riding w/ truck	142,214	3,296	14.2%	142,214	3,296	10.9%
Implicit cost of capital	161,786	3,750	16.1%	161,786	3,750	12.4%
<b>Total marketing costs</b>	<b>1,002,514</b>	<b>23,237</b>	<b>100.0%</b>	<b>1,302,514</b>	<b>30,191</b>	<b>100.0%</b>
Acquisition cost of cattle	12,942,857	300,000		12,942,85	300,000	
Cattle sales revenue	19,414,286	450,000		17,257,14	400,000	
Net return per head	42.2%			23.3%		

marketing costs, trading margins appear to be quite high, with room for bargaining over price. On the other hand, the increasing pull of the Nigerian market for high-quality, well-fleshed cattle (coming largely from eastern Burkina Faso) is probably putting upward pressure on regional cattle prices. Higher cattle prices in the eastern Burkina Faso–Benin (to Nigeria) corridor will probably affect cattle prices in the central trade corridor (Mali/Burkina Faso–Côte d'Ivoire), but month-by-month time-series data over a longer period is needed to test this hypothesis. During the baseline period (April 2013–March 2014), cattle prices in the Burkina Faso–Benin (to Nigeria) corridor exceeded prices in the Mali–Côte d'Ivoire corridor by 15 percent. Dakar-based buyers are also reported to pay higher prices than Abidjan-based buyers for Malian trade cattle and fattened animals. These trade flows all affect prices in supplying countries, as does strong demand in domestic markets such as Bamako, Ouagadougou and Bobo-Dioulasso.

If cattle-fattening suppliers in the Sahel and PROSUMA reach an agreement to ship 50 head of well-fleshed cattle a week to Abidjan, two truckloads would be required. The cattle would be valued at 550,000 to 600,000 FCFA each, bringing the total monthly value to 27.5 to 30 million FCFA per month (\$50,000 to \$54,545). Regularity and reliability of supply will be issues. To date, fattening has been seasonal, meaning that suppliers can probably only meet this monthly order for five or six months of the year at most. One option for dealing with this challenge would be for COFENABVI or another entity to

coordinate the supply of 50 head or more per month across many suppliers (20, for example) in Mali or in Burkina Faso. In this way, it might be possible to extend the supply period to eight months. Following current fattening cycles, the fattened animals would be ready for market no earlier than February and only through September and hence not available for shipment every month of the year. PROSUMA would have to find well-fleshed trade animals during the other four months, which would be possible during the October through January market window. It would be a challenge to coordinate across geographically dispersed suppliers to stagger their fattening cycles to bring cattle to market weight month by month over an entire year. The challenge, however, could be met. Assuming a capability to supply PROSUMA for eight months, the value of fattened cattle shipments per annum would be \$400,000 to \$436,000.

If similar deals can be struck in other markets, such as Accra and Dakar, the volume of trade in fattened trade cattle could be expanded several-fold. If five such contractual arrangements are consummated across multiple terminal coastal markets, expanded trade value could reach \$2.0 to \$2.2 million per year. This could be increased by 50 percent if suppliers could ship 12 months a year. The challenge is to find several serious buyers able to regularly procure significant volumes who will sign contracts with Sahel-based suppliers. These contracts can be used to access credit for cattle-fattening enterprises.

Master Meats in Ghana is another attractive potential buyer. As a subsidiary of Zambia-based Zambef Products PLC, a well-regarded cattle-raising, slaughter, and retailing operation, Master Meats works in close association with Shoprite. The Trade Hub will explore this potential opportunity in the coming months, learning where and from whom Master Meats sources beef, whether Master Meats intends to expand its sourcing and sales, and if there is scope for an agreement with Sahel-based cattle-fattening enterprises to supply Master Meats.

### 3.4 ILLUSTRATIVE CATTLE MARKETING COSTS

During field research, the team asked seven Segou-based cattle exporters to detail their marketing costs for conventionally traded (non-fattened) cattle. These costs are presented in Annex A.

	Base Case: November 2014			High Transport Cost, Lower Sales Price		
	Average Case	Cost/Head	Percent of Total Market Cost	Average Case	Cost/Head	Percent of Total Market Cost
Number of cattle	43			43		
Livestock market costs, Mali	27,271	632	2.7%	27,271	632	2.1%
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Export permit	54,286	1,258		54,286	1,258	
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Cost of herders riding w/ truck	142,214	3,296	14.2%	142,214	3,296	10.9%
Implicit cost of capital	161,786	3,750	16.1%	161,786	3,750	12.4%
Total marketing costs	1,002,514	23,237	100.0%	1,302,514	30,191	100.0%
Acquisition cost of cattle	12,942,857	300,000		12,942,85	300,000	
Cattle sales revenue	19,414,286	450,000		17,257,14	400,000	
Net return per head	42.2%			23.3%		

Table 3-2 provides a summary breakdown of costs for two scenarios: 1) a November 2014 case based on averages of actual reported marketing costs (taken from Table A-1), and 2) a case using the highest estimate of transport costs that exporters pay and a lower average sales figure per head. In these scenarios, trade cattle are assumed to weigh approximately 300 kg liveweight, which is considered medium-sized. In principle no more than 40 head fit into the trailer of a 40-mt carrying truck, but in practice up to 45 animals may be stuffed into the trailer in very cramped quarters. In contrast, it is reported that only 25 to 27 fattened cattle can be loaded onto a truck, because they weigh 400-550 kg each.

**Table 3-2: Two Scenarios for Livestock Marketing Costs for a Truckload of Cattle from Segou to Abidjan, 2014/15**

	Base Case: November 2014			High Transport Cost, Lower Sales Price		
	Average Case	Cost/Head	Percent of Total Market Cost	Average Case	Cost/Head	Percent of Total Market Cost
Number of cattle	43			43		
Livestock market costs, Mali	27,271	632	2.7%	27,271	632	2.1%
Sanitary certificates, Mali	6,000	139		6,000	139	
Export permit	54,286	1,258		54,286	1,258	
Subtotal export documents	60,286	1,397	6.0%	60,286	1,397	4.6%
Informal market costs, Mali	51,286	1,189	5.1%	51,286	1,189	3.9%
Informal market costs, Côte d'Ivoire	95,000	2,202	9.5%	95,000	2,202	7.3%
Trucking cost	400,000	9,272	39.9%	700,000	16,225	53.7%
Abidjan marketing costs	64,671	1,499	6.5%	64,671	1,499	5.0%
Cost of herders riding w/ truck	142,214	3,296	14.2%	142,214	3,296	10.9%
Implicit cost of capital	161,786	3,750	16.1%	161,786	3,750	12.4%
Total marketing costs	1,002,514	23,237	100.0%	1,302,514	30,191	100.0%
Acquisition cost of cattle	12,942,857	300,000		12,942,85	300,000	
Cattle sales revenue	19,414,286	450,000		17,257,14	400,000	
Net return per head	42.2%			23.3%		

Source: Seven livestock exporters, Segou (see Table A-1)

Note: Cattle fattened for 90 days fetch higher prices than the sales prices listed above.

Livestock marketing costs per truckload vary between 1.0 and 1.3 million FCFA for shipping 40 to 45 head of medium-weight cattle from Segou, Mali, to Abidjan, Côte d'Ivoire. The largest cost factor by far is the truck rental cost, which varies between 350,000 and 700,000 FCFA, representing 40 to 51 percent of total marketing costs. The second largest component (12 to 16 percent) is the cost of capital tied up in trade animals for a month; this is calculated as the purchase value of the 40 to 45 head held for one month at an opportunity cost of capital (implicit) rate of 15 percent per year. A one-month rotation is considered necessary to assemble a trade herd, transport it to market, sell the animals over several days to wholesale butchers in the terminal market, and wait for butchers to pay for short-term credit extended by the seller. Informal, illicit marketing costs represent 11.0 to 14.5 percent of marketing costs and clearly contribute to higher delivered cattle prices in terminal markets. The cost of the four to five animal handlers (herders) who accompany each truck is nearly as large a cost component, comprising 10 to 14 percent of marketing costs. The presence of these men typically triggers a police or gendarme fine, as they ride on top of the truck, which is not only a personal safety hazard but is also illegal.

There are some relatively minor cost factors that are not included in these calculations, such as annual licensing and business registration fees, which are scaled to the business turnover of the trader. These costs are likely to be quite modest when annualized over a large number of trade stock. If a trader ships eight truckloads of cattle to the coastal markets per year, he will ship at least 320 head of cattle (40 cattle per shipment on average). Even if the annual fees reach 500,000 FCFA, the cost per head would be a modest 1,560 FCFA.

Livestock traders invariably rent rather than own vehicles. Truckers carry general goods, so they have vehicles suitable for a wide range of cargoes, including fertilizer, grain, live animals, and even goods in cartons. This is one reason why there are no adapted livestock carriers.

Transport costs vary in relation to the cotton harvest, as trucks are hired to collect seed cotton in rural areas of Mali after the harvest (November–December) for transport to centralized gins in towns and later to ship baled lint cotton in containers to ports for export to overseas textile buyers. Cotton exports are concentrated in the December to March period. Exports of other products, such as mangoes and shea nuts during different periods, may also lead to periodic spikes in truck rental costs.

Possible measures to reduce marketing costs could include addressing seasonal transport constraints and lowering (and ideally eliminating) illicit informal payouts to uniformed agents. Another approach would be to increase the supply of trucks in the short to medium term for livestock shipment from Mali to Abidjan and other Ivoirien markets, but this may require bilateral trucking agreements between Mali and Côte d'Ivoire to be revised. Freight-sharing agreements between coastal and interior West African countries are in place; they may restrict the availability of the vehicles carrying general goods that ply the Bamako to Abidjan corridor. Mali-based transporters who ship to the coast need to be assured of backhauls to the interior. If there is a queueing system in place, as in the Tema port, or if there are limits on the percent of Malian trucks that can load at the port of Abidjan or perform cabotage functions in Côte d'Ivoire, this may constrain the supply of truckers willing to transport livestock to coastal markets. The TTEE component of the Trade Hub will be working on issues of long-distance shipping quotas and rotation systems at some point in the future.

Reducing illicit payments that PDG representatives extract from traders along roads and at borders would reduce marketing costs by 11 to 14 percent, or approximately 3,400 FCFA per head of cattle. The monetary value of these cost savings does not appear significant, but there are also the time costs of delays induced by numerous checkpoints and slow, cumbersome border crossings. Furthermore, there is the “hassle factor,” which is difficult to quantify yet influences whether a cattle-fattening enterprise ships finished animals to Bamako or to distant coastal markets. Exporting fattened cattle to

other countries in the region may require an inducement in the form of an established contractual relationship with a serious buyer in a foreign market, who ideally can pre-finance part of the costs of the fattening operation.

# 4. COMPONENTS OF THE LIVESTOCK VALUE CHAIN WORKPLAN

## 4.1 LIVESTOCK VALUE CHAIN STRATEGIES

The Trade Hub's FY 2015 work plan highlights five core subcomponents for livestock value chain work:

- Strategy #1: Increase the amount of quality fattened animals that arrive in coastal market countries such as Ghana, Senegal, Côte d'Ivoire, Benin, Togo, and Nigeria.
- Strategy #2: Improve veterinary services provided for animal health both prior to and after transport.
- Strategy #3: Support more opportunities for women to become actively involved in the livestock value chain, including targeted training and financing opportunities.
- Strategy #4: Support efforts to expand the COFENABVI membership base within the region and strengthen national federations.
- Strategy #5: Support operationalization of a livestock MIS.

Based on field research and the findings of this study, this chapter comments on each of these components except Strategy 1, which was addressed in Section 3 and is a key focal point of this investigation. This chapter also addresses access to finance issues.

## 4.2 IMPROVEMENT OF VETERINARY SERVICES

Improving public sector veterinary services would contribute to overall livestock health and ensure that animals entering trade channels are healthy. This has to be done at the national level, country by country, and is beyond the scope of this project. The main trade-related issue is the sanitary certificate required for intraregional trade. Technically, only one certificate is required for long-distance trade across borders, but in practice veterinary officials at the borders of importing countries do not accept sanitary certificates issued by exporting countries. This obliges traders to pay for a second (or third) certificate. The cost of a veterinary certificate for a truckload of Malian livestock shipped from Mali to Côte d'Ivoire is 6,000 FCFA; Ivoirien authorities charge an additional 250 FCFA per head of cattle and 150 FCFA per small ruminant. While this is a small fraction of the total marketing cost of 1.0 to 1.3 million FCFA per truckload, it is an unnecessary expenditure that contravenes established ECOWAS rules.

The Trade Hub will work closely with UEMOA and ECOWAS to rectify this problem. The Livestock Industry Specialist will work with veterinary service staff on both sides of the borders of key trading partners to harmonize sanitary certificates and ensure they are valid in both countries.

### **4.3 SUPPORT FOR WOMEN'S PARTICIPATION IN THE VALUE CHAIN**

This diagnostic assessment focused on the cattle trade, which is dominated by Muslim men in West Africa. Women, especially urban women looking for investment opportunities, do play a small role in the value chain, however, and 3 of the 16 participants in the Segou cattle-fattening workshop in November 2014 were women.

Women's roles in the livestock value chain have traditionally involved raising small ruminants and poultry, as well as pigs in coastal countries. They have also contributed labor to smallholder livestock enterprises in feeding and dairy. Taking advantage of these roles to create a gender-exploitative strategy for increasing women's participation in the value chain, the Trade Hub will look into encouraging women's participation in and management of small ruminant feeding and trade that targets Muslim and Christian holidays. The upfront investment costs for this trade are lower than they are for cattle, and small ruminant feeding on small farms is feasible in limited numbers by using agricultural byproducts and household waste. Women's producer groups could play a useful role in accessing finance, acquiring supplemental feeds, and aggregating finished sheep or goats for sale.

The Trade Hub's Gender Specialist will include women's groups interested in small ruminant production and marketing in his investigations. Most smaller-scale small ruminant-fattening enterprises are not likely to initially attract commercial bank financing, but the project will explore other sources of credit such as micro-finance or mutual savings cooperatives and grants from other donors, NGOs, or challenge funds.

### **4.4 STRENGTHENING OF COFENABVI**

USAID/WA has worked closely with COFENABVI since 2008. Initial support was provided through the ATP project, which held workshops and used USAID's Partner Institutional Viability Assessment (PIVA) tool to identify institutional capacity building needs. Creating a Ghana chapter of COFENABVI was pursued but not completed under ATP, and there remain two livestock trade associations in Ghana—one in Kumasi and a second in Accra—that do not collaborate with each other.

COFENABVI cooperated closely with the Trade Hub on this assignment, providing a staff member to accompany the project's Livestock Industry Specialist on his travels and market visits throughout Côte d'Ivoire and assisting in accessing data on Ivoirien livestock imports. The Trade Hub will support COFENABVI to expand membership, organize trainings on cattle fattening, contribute to and possibly manage a livestock trade MIS, and advocate for a uniform sanitary certificate and actual removal of remaining livestock transit taxes and VAT (both of which were abolished by the RECs but continue to be required at checkpoints).

### **4.5 MARKET INFORMATION SYSTEMS**

Livestock MIS are difficult to mount and run in West Africa. Live animals are not weighed and weigh bridges are costly to install and maintain. Traders and butchers prefer to estimate carcass weights by visual inspection, which they claim to be able to do accurately. They also point out that most range-fed livestock are not used to narrow or tight enclosures and to being weighed, so weighing them may lead to livestock bruising or injury. Instead of reporting by weight, cattle price data are reported by general class of animal (race; sex/age; and small, medium, or large size).

One way to indirectly gauge livestock price differences across countries and markets is to collect, process, and transmit retail meat price data. This retail price data is more useful to traders and butchers

as final sellers and buyers of live animals than it is to farmers or herders selling cattle or small ruminants. Retail meat prices can be collected by the national partners of the regional umbrella organization RESIMAO and shared intraregionally. Such data are of broad interest to the livestock trade as well as to analysts in governments or research institutes who can track regional developments for government managers and policymakers. The best unit for reporting is price per kilogram. To verify if retail butchers sell by the kilogram,<sup>7</sup> meat samples can be weighed periodically, although this must be done well.

It is a challenge to produce livestock price data that will have value to farmers or herders who occasionally sell small numbers of live animals in specific marketplaces, often rural assembly markets. They are less likely to monitor livestock and meat prices in distant urban markets than are managers of fattening enterprises or cattle traders, who have regular contact with *correspondents*, trading partners, and market intermediaries in distant markets.

As part of the FY 2015 workplan, the Trade Hub's MIS Coordinator will work with RESIMAO and COFENABVI to propose a workable MIS system for livestock information exchange. The national agencies that make up RESIMAO and are responsible for MIS are public agencies that produce market price data on staple food crops, which are used by analysts, research institutes, and policymakers to monitor developments in national and regional markets. The Trade Hub's challenge will be to strengthen RESIMAO's web-based platform and text-based short messaging service (SMS) system for collecting and communicating price data that are of real-time use to the private sector, particularly livestock traders, butchers, and producers in the livestock value chain. In addition, governments (as well as donors, NGOs, projects, researchers, and policy analysts) can use public sector-generated data to monitor market access, trade opportunities, and trade policy issues.

## 4.6 FINANCE AND INVESTMENT

Access to finance constrains livestock marketing along the entire value chain, from cattle purchase to eventual slaughter and sale of meat in urban areas. The system runs largely on supplier credit. In only a few cases do well-established buyers provide credit backwards along the value chain, as it is usually construed, to cattle-fattening enterprises. Only 10 participants in the Mali workshop on cattle fattening are currently receiving credit from buyers. In those particular cases, large fattening enterprises in Mali have clients in Dakar and Banjul that partly pre-finance their operations.

As the initial investment and livestock feeding costs are significant, managers of fattening enterprises may need to tap multiple sources of finance—banks (lending on the basis of collateral and *caution solidaire* or group guarantees of repayment), micro-finance institutions, savings cooperatives (*caisses mutuelles*), buyers, and perhaps even feed suppliers. Structuring a set of financial arrangements could be advantageous, as no one lender will cover more than a fraction of the high fattening-cycle finance costs.

Alternative sources of credit (feed supplier or formal) might include:

- Grain miller or feed supplier seasonal credit for maize-based livestock feed, which might be partial credit (e.g., 50 percent of feed cost, with the rest payable with interest at the end of the fattening cycle when the enterprise gets paid for its cattle)
- *Caisses mutuelles*, micro-finance institutions, or other smaller-volume providers of credit (to help cover the investment cost in cattle at the beginning of the fattening cycle)
- Buyer advances (particularly from well-financed clients in Bamako, Dakar, and Abidjan)
- Commercial banks or agricultural development banks (seasonal credit on commercial terms)

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<sup>7</sup> In some cases, retail sales units are small piles of meat, which need to be weighed to provide meaningful per-kilogram estimates. Even meat sold by the kilogram should be cross-checked by data collectors on a spot basis to verify accuracy.

Obtaining multiple sources of finance is likely to be labor-intensive initially but could pay off over the longer run and allow for expansion in fattening operations (a doubling of cattle fattened per cycle, for example). This might contribute to significant increases in trade in cattle. In the short run, the Trade Hub should work with well-qualified fattening enterprises to tap formal credit.

The Malian industrial grain millers, including GMM of Koulikoro and MMM of Segou, are big businessmen with significant financial resources. They may be able to provide feed on seasonal credit to fattening entrepreneurs if they are assured of repayment and an adequate return on provision of supplier credit. Since feed is a major operating cost component of fattening enterprises, this would help cattle finishers expand their operations.

Providing significant feed volume to a number of large clients is one way for millers to guarantee significant sales. It would be useful to know more about actual output of formulated feed by large mills (and as a proportion of installed capacity), as well as the distribution of millers' sales by client type.<sup>8</sup> At the time of the cattle-fattening workshop in November 2014, a Segou-based miller provided 100 mt for free as a test marketing initiative to the participants. Not only is this a savvy goodwill-building gesture, but it should lead to eventual sales. It is important to follow up on this initiative to find out what the fattening enterprise managers think of this particular feed mix. The Trade Hub should ask if the feed is satisfactory as a ration, how it compares to other feed sources on price and quality measures, how much cattle fatteners are willing to pay for feed, what their future buying intentions are, and whether other ingredients are needed to supplement this miller's feed. It would also be useful to track rising feed prices post-harvest, throughout the dry season, and into the rainy season.

## 4.7 ENVIRONMENTAL CONSIDERATIONS

As regional trade in live animals increases, particularly trade in animals sourced from intensive livestock production systems, the Trade Hub will pay additional attention to gauging the value chain's waste stream and recommending mitigating measures where appropriate. The project's Environmental Mitigation and Monitoring Plan (EMMP) identifies areas where environmental management needs to be improved. The results of the EMMP will drive the project's environmental module training for COFENABVI and its other value chain organization partners.

The project will provide technical assistance and environmental management guidelines to COFENABVI to ensure proper construction, operation, and maintenance of fattening enterprise facilities. This will also cover live animal marketplaces, including feeding and watering facilities, holding pens, veterinary facilities, loading ramps, and solid fences. Second-generation improvements might include cleaner, more sanitary facilities for butchering, chilling/freezing, and proper handling of meat products. These innovations would have positive food safety and public health impacts, in addition to helping to address environmental concerns.

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<sup>8</sup> A forthcoming Trade Hub examination of trade possibilities for cereals will follow up with grain millers on this point.

# 5. PRIORITY ACTIVITIES FOR FY 2015

## 5.1 TEST SHIPMENT OF FATTENED CATTLE

As described in Section 3.3, in discussions with Trade Hub staff the meat buyer for PROSUMA expressed interest in purchasing well-fleshed cattle from Sahelian suppliers. The project team is following up by trying to arrange a test shipment of fattened cattle. As noted previously, the sticking point could be the price per head of delivered cattle. Cattle feeding estimates shown in Section 3.4 could be useful in showing the skeptical PROSUMA buyer that there are real and significant costs to fattening enterprises, given that feed is costly in the Sahel and net returns do not appear high. Furthermore, alternative buyers in Dakar pay attractive prices. The project is working to build similar representative cost and return budgets for cattle-fattening enterprises in Burkina Faso; these estimates will also be instructive.

If a deal can be struck with PROSUMA, the Trade Hub should closely monitor costs and returns, including feeding costs, other operating costs, and marketing costs. This information will help build a stronger empirical base on which to evaluate costs and profitability for trade in fattened cattle. It could be shared anonymously, without identifying specific fattening enterprises, with prospective entrants into cattle feeding in Mali and Burkina Faso. The goal would be to encourage more firms to produce fattened cattle in order to increase trade in this superior (to most range-fed animals) product.

## 5.2 CATTLE-FATTENING WORKSHOP IN BURKINA FASO

The Trade Hub is planning a cattle-fattening training workshop in Burkina Faso in the first quarter of 2015. This event will provide an opportunity for the project to learn more about cattle-fattening practices, costs, and returns in Burkina Faso, as well as to better understand current market outlets and perceived opportunities. The Trade Hub will offer participants technical input and feedback on livestock feeding practices, as well as suggestions on how to target coastal West African markets. The questionnaires used at the Segou workshop will be adapted to the Burkinabé context and improved using information gathered in Mali and Côte d'Ivoire during field work for this report.

The workshop will help shed more light on the markets targeted by Burkinabé fattening enterprises. Cotton and maize production are significant in southwestern Burkina Faso, meaning feed sources are accessible. This area is also closest to the Ivoirien market, which historically has been an attractive market for Burkinabé cattle from this region. In central and eastern Burkina Faso, fattening enterprises are increasingly targeting Nigeria by way of Benin. It will be important to learn whether Burkinabé fatteners also target markets in Ghana, and to understand what proportion of their fattened cattle are sold for slaughter within Burkina Faso, particularly in the two largest cities.

The study team recommends that significant time and attention during the workshop be spent enumerating feed sources, availability, and costs in Burkina Faso and, where applicable, feed availability and costs from imports. The comparative quality, suitability, and price competitiveness of different sources of feed also need to be well-understood. After this workshop, Trade Hub staff or consultants should visit one or more major formulated feed suppliers to learn about their production capacity and current capacity utilization, mix of customers, prices, and available supplies. The purpose of this visit will

be to ascertain if there is scope for cattle fatteners in Burkina Faso, organized into groups, to purchase more feed at attractive prices.

### 5.3 EXPLORATION OF OTHER TRADE OPPORTUNITIES

The study team recommends that the Trade Hub carefully monitor potential large-scale buyers of fattened cattle from Sahelian countries, because these institutions offer the best opportunity to increase trade in the value chain. In addition to following up with PROSUMA (the largest supplier of meat products to supermarkets, mini-marts, and small modern butcher shops in certain quarters of Abidjan), the Livestock Industry Specialist will continue to communicate with COFENABVI about other discriminating large-volume buyers in Côte d'Ivoire. The entry of Carrefours, a multinational supermarket chain based in France, into the greater Abidjan market should be monitored closely and the company's meat buyers contacted as soon as feasible.

Ghana also provides marketing opportunities for cattle-fattening enterprises from Mali and Burkina Faso. Both Kumasi and Accra are potential markets, although greater Accra has a larger population and more higher-income consumers willing to pay premium prices for high-quality beef. Shoprite supermarkets are an obvious entry point, as is Master Meats.<sup>9</sup> There may also be opportunities among specialized butcher shops, larger hotels, and restaurants in Accra.

In recent years, the Dakar market has increased in importance for Malian livestock exporters, including cattle fatteners. Within the next year, the Trade Hub plans to explore livestock trade along the Bamako–Dakar corridor in order to identify barriers to trade and find specific buyers willing to enter into contracts with Malian suppliers. This market research will take on more urgency if fattened cattle trade deals between Malian cattle fatteners and the candidate Ivoirien buyer are not successfully negotiated.

As pointed out in Section 5.2, cattle-fattening enterprises in eastern and central Burkina Faso sell in the Nigerian market. An important eventual task will be to estimate the scale of these sales and scope for expansion. Cattle and beef prices in Nigeria, relative to those in Accra and Abidjan, may show that the Nigerian market offers better opportunities than Ghana or Côte d'Ivoire for suppliers to expand exports of fattened cattle. Given the challenges of conducting market research in Nigeria, the project will have to rely on Burkinabé shippers to provide information on their costs and margins.

### 5.4 CAPACITY BUILDING

The Trade Hub plans to provide substantial capacity building and grant support to COFENABVI. There is a history of partnership between the previous ATP project and COFENABVI; the Trade Hub expects to continue this close and productive relationship. COFENABVI collaborated with the project to organize the Segou cattle-fattening workshop; it also facilitated and participated in field research in Côte d'Ivoire for this assignment.

The Trade Hub team is working with COFENABVI to confirm the content of a multi-year grant that will support key aspects of the association's strategic plans. The grant should be approved by the end of March 2015. A separate grant (expected later in 2015) will support a platform for livestock information exchange through a private sector-driven MIS system that will be eventually managed by COFENABVI. The MIS system will link up with RESIMAO efforts.

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<sup>9</sup> Master Meats is a Zambef Products PLC subsidiary that has been expanding into Nigeria and Ghana. See <http://www.zambeefplc.com> for more information about this Zambian success story.

In addition to receiving grant support, COFENABVI should participate in generating and diffusing livestock market information. It also needs to prioritize policy advocacy measures to be undertaken together with the Trade Hub. This advocacy will target relevant national authorities in Burkina Faso, Côte d'Ivoire, Ghana, and Mali.

By strengthening its services to members (training in cattle fattening, improved market information, policy advocacy to reduce or eliminate trade barriers) COFENABVI will encourage livestock trade and help Sahelian suppliers of live animals, both range-fed and fattened, to expand traded volumes. As there are more entrants to cattle fattening, the supply of higher-quality, well-fleshed cattle shipped to coastal markets will also expand. This is an important example of value addition in interior countries with a regional comparative advantage in livestock production.

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# ANNEX A: LIVESTOCK MARKETING COSTS, MALI TO CÔTE D'IVOIRE

**Table A-1: Livestock Marketing Costs for a Truckload of Cattle from Segou to Abidjan**

		Trader 1	Trader 2	Trader 3	Trader 4	Trader 5	Trader 6	Trader 7	Average	Cost per Head	% Total Mkt Cost
No. Cattle		42	44	42	45	42	45	42	43.1		
Livestock Market, Mali	Entry Fee	4,200	4,400	4,200	4,500	4,200	4,500	4,200	4,314	100	
	Purch Straw	10,000	12,500	12,500	12,500	12,500	12,500	12,500	12,143	281	
	Herder	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	116	
	Loading	4,200	4,400	4,200	4,500	4,200	4,500	4,200	4,314	100	
	Cut Horns	750	1,250	1,000	1,250	1,750	2,500	2,000	1,500	35	
	Subtotal	24,150	27,550	26,900	27,750	27,650	29,000	27,900			2.7%
Certificates, Mali	Sanitary	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	139	
	Export	50,000	55,000	55,000	55,000	55,000	55,000	55,000	54,286	1,258	
	Subtotal	56,000	61,000	61,000	61,000	61,000	61,000	61,000	60,286	1,397	6.0%
Checkpoints, Mali	Segou	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	116	
	Bla	2,000	2,000	2,000	2,000	5,000	5,000	5,000	3,286	76	
	Koutiala	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	93	
	Sikasso	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	116	
	Zegoua	34,000	34,000	34,000	34,000	34,000	34,000	34,000	34,000	788	
Border Post	Subtotal	50,000	50,000	50,000	50,000	53,000	53,000	53,000	51,286	1,189	5.1%
Border Post	Pogo	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	695	
	Major Customs Stop	Niele	15,000	15,000	15,000	15,000	15,000	15,000	15,000	348	
	Escort to Abidjan	along route	50,000	50,000	50,000	50,000	50,000	50,000	50,000	1,159	
	Informal Market Costs	Subtotal	95,000	95,000	95,000	95,000	95,000	95,000	95,000	2,202	9.5%
Trucking Cost		400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	9,272	39.9%
Entry Fee, Livestock Mkt	Abidjan	52,500	55,000	52,500	56,250	52,500	56,250	52,500	53,929	1,250	

		Trader 1	Trader 2	Trader 3	Trader 4	Trader 5	Trader 6	Trader 7	Average	Cost per Head	% Total Mkt Cost
Municipal Tax	Abidjan	4,200	4,400	4,200	4,500	4,200	4,500	4,200	4,314	100	
Trucking Syndicate Tax	Abidjan	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	58	
Miscellaneous	Abidjan	3,500	4,000	3,500	3,000	4,500	5,000	4,000	3,929	91	
	Subtotal	62,700	65,900	62,700	66,250	63,700	68,250	63,200	64,671	1,499	6.5%
Herders/ride w/truck	Salaries	100,000	150,000	100,000	100,000	100,000	100,000	100,000	107,143	2,483	
	Return Trip	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	579	
	Food	10,000	9,500	10,000	11,000	10,000	10,000	10,000	10,071	233	
	Subtotal	135,000	184,500	135,000	136,000	135,000	135,000	135,000	142,214	3,296	14.2%
Implicit Cost of Capital	Calculated	157,500	165,000	157,500	168,750	157,500	168,750	157,500	161,786	3,750	16.1%
Total Marketing Costs		980,350	1,048,950	988,100	1,004,750	992,850	1,010,000	992,600	1,002,514	23,237	100.0%
Avg. Purchase Price/head		300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	
Sales Price		450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	450,000	
Net Return per Head		42.2%	42.1%	42.2%	42.6%	42.1%	42.5%	42.1%	42.2%	42.3%	

Source: Livestock Exporters, Ségou

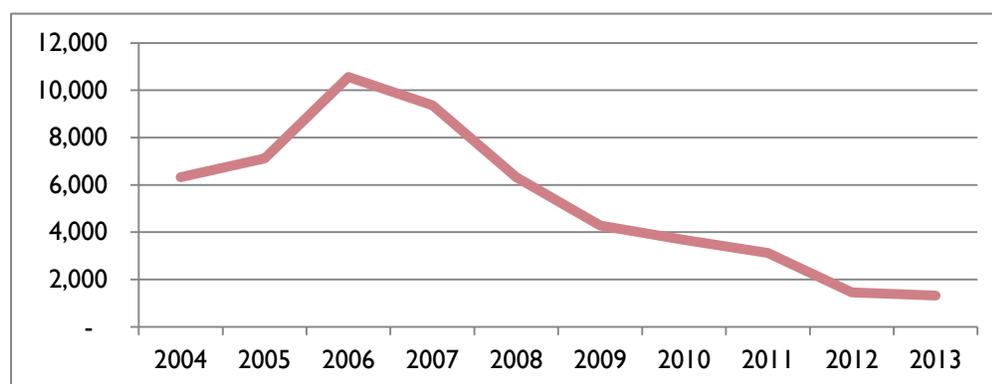
Notes:

1. The implicit or opportunity cost of capital calculation assumes that the capital invested in cattle takes one month to recover. An annualized interest rate of 15% is assumed.
2. Five accompanying herders travel with a truckload of cattle.
3. *Lettre de voiture* is the French translation for the tax paid to the Ivorian truckers' syndicate by trucks entering the livestock market.

# ANNEX B: MEAT IMPORTS TO CÔTE D'IVOIRE

Historically, Côte d'Ivoire has allowed some imports of lower-grade frozen beef and poultry (including hoofs, wings, and other less desirable parts) from western markets with nominal duties. Since 2006, the volume of frozen beef imports to Côte d'Ivoire has dropped significantly—from 6,330 mt in 2006 to 1,319 mt in 2013. Figure B-1 shows this trend over the ten-year period (2004–2013).

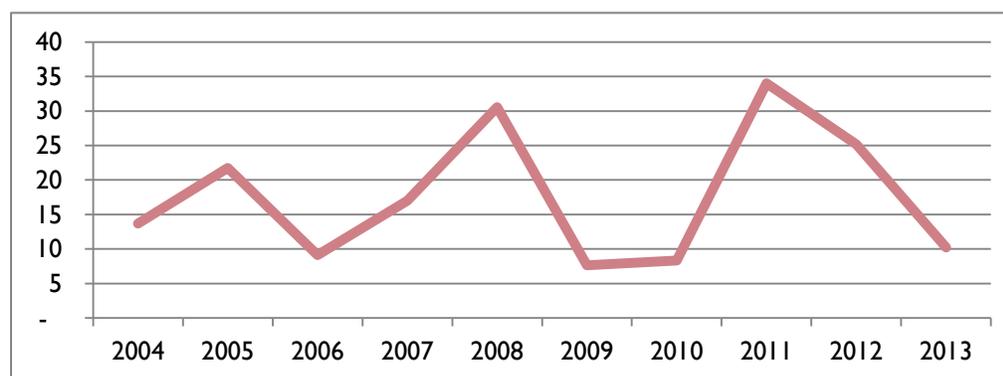
**Figure B-1: Frozen Beef Imports to Côte d'Ivoire, 2004–2013 (mt)**



Source: United Nations Commodity Trade Statistics Database (COMTRADE)

By contrast, fresh and chilled beef imports to Côte d'Ivoire are very small, and have not experienced a consistent decline since 2006. After peaks of 30 mt in 2008 and 34 mt in 2011, these imports have declined over the past three years, as shown in Figure B-2.

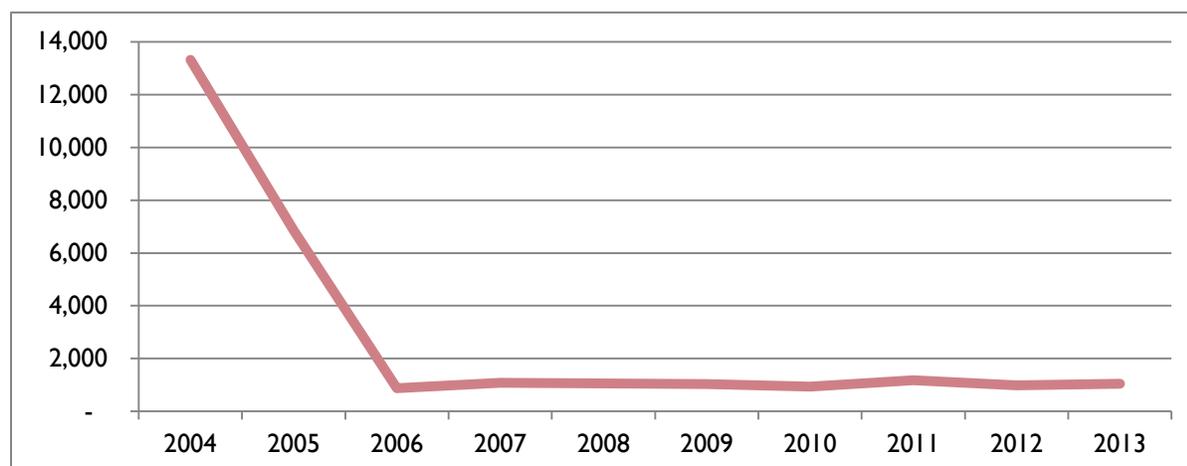
**Figure B-2: Fresh/Chilled Beef Imports to Côte d'Ivoire, 2004–2013 (mt)**



Source: COMTRADE

Poultry imports to Côte d'Ivoire have also experienced a significant decline since 2004, with imports falling from a high of 13,312 mt in 2004 to a low of 881 mt in 2006. Since 2006, poultry imports to Côte d'Ivoire have remained relatively stable, fluctuating between 881 mt (2006) and 1,178 mt (2011). See Figure B-3.

**Figure B-3: Frozen/Fresh/Chilled Poultry Imports to Côte d'Ivoire, 2004–2013 (mt)**



Source: COMTRADE

Currently, a 20 percent most-favored nation (MFN) tariff is imposed on all meat, including poultry, imported to Côte d'Ivoire.<sup>10</sup> However, the *ad valorem* tariffs for frozen and fresh/chilled beef and offal are 15 percent, while those for frozen poultry are only 4 percent. Non-MFN tariffs are 0 percent, and apply to UEMOA trading partners; duties are not supposed to be applied to food products.

Going forward, it will be important to monitor how trade partnership agreements between the European Union (EU) and West African countries affect EU exports of frozen beef and poultry products to coastal West African countries such as Côte d'Ivoire.

**Table B-1: Meat Imports to Côte d'Ivoire, 2004–2013 (mt)**

Year	Frozen Beef <sup>11</sup>	Fresh/Chilled Beef	Fresh/Chilled/Frozen Poultry
2004	6,330	13.7	13,312
2005	7,119	21.8	6,855
2006	10,567	9.1	881
2007	9,362	17.0	1,089
2008	6,325	30.5	1,060
2009	4,285	7.7	1,036
2010	3,678	8.3	939
2011	3,129	34.0	1,178
2012	1,457	25.1	993
2013	1,319	10.2	1,044

Source: COMTRADE

<sup>10</sup> World Trade Organization Tariff Download Facility (accessed January 2015)

<sup>11</sup> It appears that the COMTRADE data cover beef cuts and not the offal/other parts of the carcass. An MSU report on livestock exports to Côte d'Ivoire (2014) includes the following data that complements the above frozen beef figures in Table B-1 (in mt).

	2007	2008	2009	2010	2011
Offal/other parts	19,328	21,523	27,952	33,213	2,982

**Table B-2: Apparent Availability of Livestock Products in Côte d'Ivoire (mt)**

	2006	2007	2008	2009	2010	2011
Cattle (meat, offal, other)	73,222	79,682	74,753	83,607	88,680	75,210
Small ruminants (meat, offal, other)	22,831	22,360	24,307	23,107	29,065	22,695
<b>Total</b>	<b>96,053</b>	<b>102,042</b>	<b>99,060</b>	<b>106,714</b>	<b>117,745</b>	<b>97,905</b>

Source: *Ministère des Ressources Animales et Halieutiques/Direction de la Planification et des Programmes* (Kouable Bi 2014)

**Table B-3: Supply of Imported Meat, Offal, and Other into Côte d'Ivoire (mt)**

	2008	2009	2010	2011
Meat and offal from live imports	25,872	29,389	36,181	19,879
Imports of frozen meat and offal	55,697	58,306	69,034	59,783

Source: Kouable Bi 2014

# ANNEX C: DETAILED MAP OF CÔTE D'IVOIRE

Figure C-1: Map of Côte d'Ivoire



Source: Cartographie Hachette Tourisme, as found in [http://www.routard.com/guide\\_carte/code\\_dest/cote\\_d\\_ivoire.htm](http://www.routard.com/guide_carte/code_dest/cote_d_ivoire.htm)

# ANNEX D: SELECTED LIVESTOCK TRADE DATA, MALI AND CÔTE D'IVOIRE

Livestock trade data in West Africa from different sources are conflicting and of questionable reliability. In a few instances, the figures match up quite well, but in others they are not even close. The Trade Hub is working with CILSS to improve trade data for cereals and livestock across selected borders, including both Mali and Burkina Faso into Côte d'Ivoire.

**Table D-1: Mali Live Animal Exports by Destination Country (Number of Head)**

	Côte d'Ivoire			Senegal		
	Cattle	Sheep	Goats	Cattle	Sheep	Goats
2007	44,334	35,846	1,258	85,419	96,951	522
2008	26,733	49,016	6,727	101,733	63,669	4,656
2009	-	-	-	-	-	-
2010	3,600	478	226	-	312	-
2011	80,943	92,009	6,523	87,326	79,342	1,209
2012	109,786	128,575	14,809	58,993	85,368	2,592

Source: Mali National Office of Production and Animal Industries (DNPIA) (Diarra et al., 2013)

**Table D-2: Mali Live Animal Exports by Destination Country, According to COMTRADE (Number of Head)**

	Côte d'Ivoire			Senegal		
	Cattle	Sheep	Goats	Cattle	Sheep	Goats
2007	39,285	35,821	-	41,771	193,825	-
2008	27,871	107,365	-	62,688	296,233	-
2009	-	-	-	-	-	-
2010	28,347	58,994	-	25,548	161,521	-
2011	27,165	96,713	-	16,264	61,643	-
2012	22,988	168,035	-	11,266	68,223	-

Source: COMTRADE

As detailed below in Table D-3, urban population in the Central Corridor of West Africa is higher in absolute and relative terms in the coastal countries than in the Sahelian countries, and per capita incomes are much higher as well. There are 2.5 times as many urban inhabitants in Côte d'Ivoire and Ghana as there are in Mali and Burkina Faso. Agriculture as a proportion of GDP is higher in the more rural Sahelian countries, and their livestock populations are far larger, comprising two-thirds of the cattle and small ruminant populations in the subregion. Hence, Sahelian livestock producing countries have a regional comparative advantage in supplying live animals to coastal populations with limited livestock but large and growing urban markets.

**Table D-3: Comparative Statistics, West Africa Central Corridor plus Senegal**

	Year	Key Coastal Markets			Sahelian Suppliers		Secondary Markets		Total or Average for Region
		Côte d'Ivoire	Ghana	Senegal	Mali	Burkina Faso	Togo	Benin	
<b>Agricultural and Income Growth</b>									
Agriculture % GDP	2011	27%	23%	16%	42%	35%	31%	32%	29%
Agriculture growth rate (%)	2006/10				8.2%				
Agriculture growth rate (%)	2010/12	3.6%	2.8%	3.3%	5.4%	9.1%	3.2%	1.4%	4.1%
GNI, Atlas method	2013	\$1,380	\$1,760	\$1,070	\$670	\$670	\$530	\$790	\$981
GDP per capita growth rate	2010/13	8.7%	7.1%	3.5%	2.1%	6.5%	5.1%	5.6%	5.5%
Ease of doing business rank	2014	147	70	161	146	167	149	151	154
<b>Population Data</b>									
Total population (million)	2012	19.840	25.905	13.726	14.854	16.460	6.643	10.050	107.48
Urban population (million)	2013	10.72	13.66	5.872	5.87	4.77	2.66	4.45	48.00
Urban population (as % of total)	2013	53%	53%	43%	38%	28%	39%	43%	45%
Urban population growth rate	2010–2014	3.7%	3.4%	3.6%	5.0%	5.9%	3.8%	3.7%	4.2%
% urban population in largest city	2013	43%	17%	54%	39%	50%	34%	15%	
% pop. in cities > 1.0 million	2013	22%	18%	23%	15%	14%	0%	0%	
<b>Livestock and Beef Production</b>									
Livestock production index	2012*	118.9	131.7	142%	156.3	111.2	143.1	126.4	
Cattle population (million)	2013	1.59	1.55	3.43	10.01	8.80	0.44	2.12	27.94
Small ruminant population (million)	2013	3.10	9.50	11.28	32.86	22.10	0.03	2.58	81.45
Beef production (mt)	2012	31,080	21,221	76,927	169,000	128,357	9,625	30,800	467,010
Small ruminant meat (mt)	2012	12,620	39,285	43,988	127,895	56,855	11,340	8,500	300,483
Total beef & small ruminant meat	2012	43,700	60,506	120,915	296,895	185,212	20,965	39,300	767,493
Indigenous beef production	2012	24,053	18,483	46,728	178,464	132,955	11,330	29,319	441,332
Indigenous small ruminant prod.	2012	11,693	37,105	36,443	127,895	56,855	9,648	7,852	287,491
Indigenous beef & small ruminant	2012	35,746	55,588	83,171	306,359	189,810	20,978	37,171	728,823
Estimated beef & small ruminant consumption per capita (kg)	2012	2.2	4.4	8.8	20.0	11.3	3.2	3.9	7.1

Source: World Bank and the Food and Agriculture Organization Corporate Statistical Database (FAOSTAT)

Note: The average ease of doing business score omits Ghana in the calculation, as Ghana does far better on this indicator than other countries, which are tightly clustered in the 146 to 167 rankings.

 best figure  worst figure

As noted above, livestock trade data are currently inconsistent across sources, and are of questionable reliability. The data in Table D-4 demonstrate comparable trends in cattle and small ruminant imports into Côte d'Ivoire over the 1994–2011 period. These data are relatively consistent with the COMTRADE data above (Table D-2), but not consistent with the data in Table D-1 (from DNPIA).

**Table D-4: Côte d'Ivoire Live Animal Imports by Species (Number of Head)**

	1994	1995	1996	1997	1998	1999	2000	2001	2002
<b>Cattle</b>	150,277	143,838	133,094	137,266	154,088	140,988	146,477	135,705	72,826
<b>Small Ruminants</b>	199,072	259,991	258,927	235,257	253,064	229,188	195,423	190,672	124,889
	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Cattle</b>	72,172	105,527	96,407	106,669	130,742	99,252	121,612	127,603	80,466
<b>Small Ruminants</b>	128,147	208,955	233,300	244,923	217,803	241,791	237,204	377,480	158,089

Source: Ministère des Ressources Animales et Halieutiques/Direction de la Planification et des Programmes-DPE-Société Internationale de Transport Africain par Rail (Kouable Bi 2014)

**Figure D-1: Côte d'Ivoire Live Animal Imports by Species (Number of Head)**

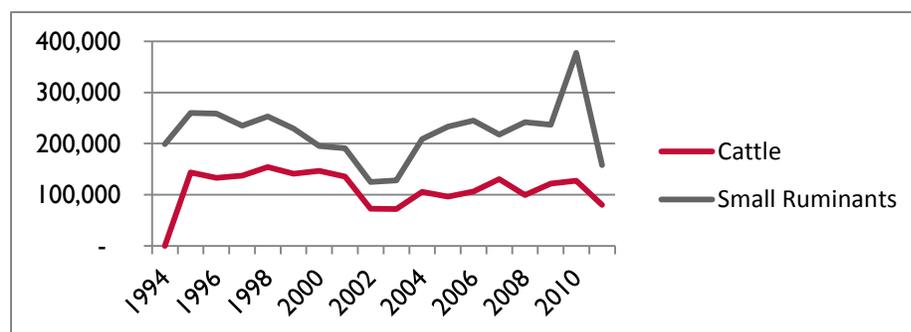


Table D-5 below shows that Mali recently surpassed Burkina Faso in cattle exports to Côte d'Ivoire. These data are consistent with the COMTRADE numbers detailed in Table D-2 above, showing that although overall cattle exports from Mali may not have risen in recent years, exports to Côte d'Ivoire remain very important and are increasing as a proportion of Mali's overall livestock exports. With the cessation of hostilities in Côte d'Ivoire earlier this decade, Mali cattle exports to Côte d'Ivoire have increased, according to traders. Preliminary 2014 data, shown in

Table D-6, also confirm that Mali exported more cattle and small ruminants to Côte d'Ivoire than to Burkina Faso. Some exports of cattle from Burkina Faso transit from Mali or are of Malian origin.

**Table D-5: Côte d'Ivoire Livestock Imports by Country of Origin (Number of Head)**

		2004	2005	2006	2007	2008	2009	2010	2011
<b>Burkina Faso</b>	Cattle	73,524	74,079	75,159	67,307	44,292	60,852	43,702	32,186
	Small Ruminants	178,499	204,424	216,684	184,494	210,341	221,174	275,107	118,054
<b>Mali</b>	Cattle	30,788	22,037	31,287	63,435	51,060	60,760	83,901	48,280
	Small Ruminants	27,847	24,209	26,246	33,309	28,650	16,030	102,373	40,035
<b>Niger</b>	Cattle	80	-	120	-	3,900	-	-	-
	Small Ruminants	2,583	4,667	1,993	-	2,800	-	-	-

Source: Kouable Bi 2014

**Table D-6: Monthly Livestock Imports to Côte d'Ivoire by Country of Origin, 2014 (Number of Head)**

	Country of Origin	Cattle	Small Ruminants		
January	Burkina Faso	3,687	26,426		
	Mali	4,417	31,946		
	Total	8,104	58,372		
February	Burkina Faso	1,803	16,347		
	Mali	3,198	17,872		
	Total	5,001	34,219		
March	Burkina Faso	3,474	16,880		
	Mali	5,418	22,504		
	Total	8,892	39,384		
April	Burkina Faso	1,110	11,475		
	Mali	3,305	16,250		
	Total	4,415	27,725		
May	Burkina Faso	1,663	10,685		
	Mali	3,694	11,175		
	Total	5,357	21,860		
June	Burkina Faso	1,435	14,500		
	Mali	3,560	14,455		
	Total	4,995	28,955		
July	Burkina Faso	1,559	11,770		
	Mali	3,842	17,765		
	Total	5,401	29,535		
August	Burkina Faso	1,410	12,890		
	Mali	4,342	14,840		
	Total	5,752	27,730		
September	Burkina Faso	1,217	9,260		
	Mali	2,237	36,803		
	Total	3,454	46,063		
October	Burkina Faso	2,108	19,720		
	Mali	1,670	10,914		
	Total	3,778	30,634		
November	Burkina Faso	1,400	13,900		
	Mali	1,184	11,060		
	Total	2,584	24,960		
December	Burkina Faso	-	-		
	Mali	-	-	Value of Cattle (FCFA)*	Value of Small Ruminants (FCFA)**
	Total	-	-		
Yearly Total (2014)	Burkina Faso	20,866	163,853	6,259,800,000	11,469,710,000
	Mali	36,867	205,584	11,060,100,000	14,390,880,000
	<b>Total</b>	<b>57,733</b>	<b>369,437</b>	<b>17,319,900,000</b>	<b>25,860,590,000</b>

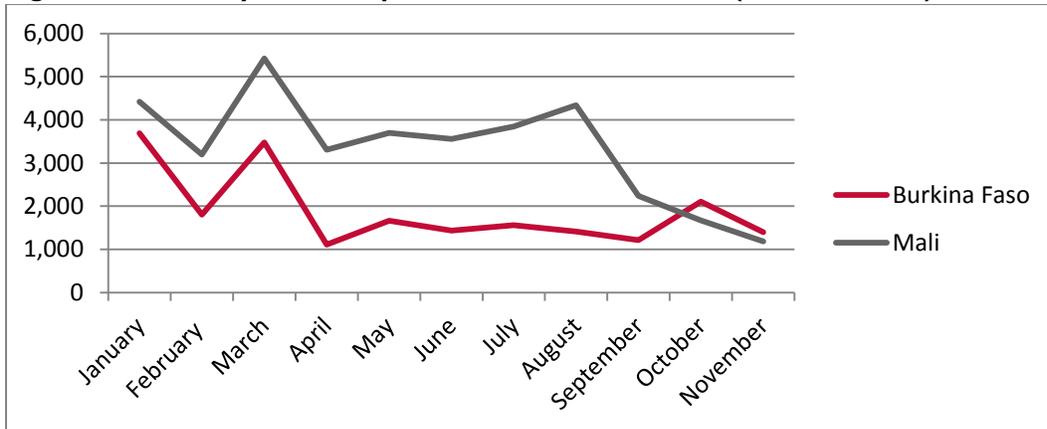
Source: Government of Côte d'Ivoire

\*Assumes value per head of cattle is 300,000 FCFA, averaged across seasons

\*\* Assumes value per small ruminant is 70,000 FCFA, averaged

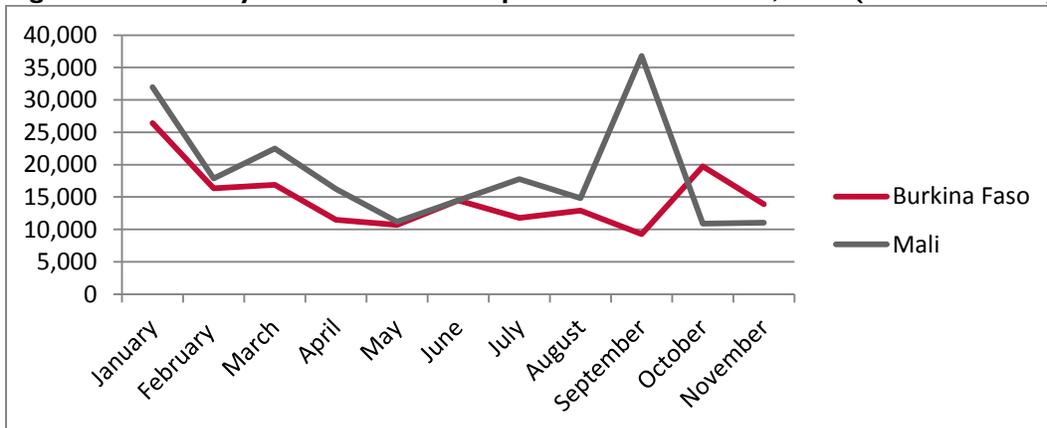
Figure D-2 and Figure D-3 below show that monthly exports of cattle to Côte d'Ivoire from Mali and Burkina Faso are highest in the early dry season, after the main harvest, when cattle are at their highest live-weights, as they graze on crop stubble and good-quality pasture. As feed availability declines, cattle exports drop off, except for a slight rise in imports of Malian cattle into Côte d'Ivoire in July/August, corresponding to Ramadan. December data, not yet available, would likely show cattle imports rising due to increased demand for beef around the year-end holidays. Small ruminant imports follow much the same cross-seasonal pattern, but with a more pronounced upward seasonal spike in September as Tabaski or Eid-al-Adha approaches.

**Figure D-2: Monthly Cattle Imports to Côte d'Ivoire, 2014 (Head of Cattle)**



Source: data from Table D-6

**Figure D-3: Monthly Small Ruminant Imports to Côte d'Ivoire, 2014 (Head of Cattle)**



Source: data from Table D-6

# ANNEX E: STUDY TERMS OF REFERENCE

## Trade Hub and African Partner Network

### Identification and Prioritization of Opportunities for

#### Increasing Trade in Livestock along the Bamako-Abidjan Corridor

##### I. 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 (TTEE)
- Capacity building
- Communications
- Administration and management, including grants administration

## I. Context for this Assignment

The livestock value chains (cattle and small ruminants) are critical to the project's Feed the Future work. The corridor with the greatest potential for increasing livestock trade is the Bamako to Abidjan corridor. During the first quarter of FY15, therefore, the project will examine the needs and opportunities for increased trade along this corridor and identify priority project interventions. The following individuals will collaborate on this work:

- VC team leader, Bill Noble
- Livestock specialist, Seydou Sidibe
- Short-term agribusiness/livestock advisor, John Holtzman (Abt home office)
- Research assistant, Sarah Kozyn (Abt home office)
- Communications specialist, Victoria Okoye

The main deliverable from this assignment will be an addendum to the work plan outlining what we will do along this corridor.

In addition, as time permits at the end of this **assignment, the ST agribusiness/livestock advisor and the project's livestock advisor will** visit some livestock buyers in the Accra market to get a better idea of the unmet demand there. This information will inform the project's work along the Ouagadougou-Accra corridor and possibly be included in the TOR for further corridor-based strategy development, as needed.

## 2. Objectives

### 2.1 General Objective

The general objective of this assignment is to identify and prioritize opportunities for increasing regional livestock trade to the targeted amounts below:

Value chains	Baseline trade along CILSS monitored corridors	Target (= baseline value plus 50%)	Increase needed
Cattle	\$140 million	\$210 million	\$70 million
Small ruminants	\$41 million	\$62 million	\$21 million

Within the regional context, this assignment focuses on the Bamako-Abidjan corridor.

### 2.2 Specific Objectives

There are five specific objectives that will contribute to the general objective:

- **Existing trade.** The first objective is to better understand existing trade in livestock. How much is being traded along all corridors in the baseline? What about the Abidjan-Bamako corridor? Who is trading along that corridor? At what times of year?
- **Market opportunities.** The second objective is to better understand the potential opportunities for significantly increasing trade. What buyers would be interested in increasing purchases? What requirements do they have (quantity, quality, timing, prices, delivery). What new market outlets could be developed? If these opportunities were captured, how much new trade would result?

- **Private sector needs.** The third objective is to understand what is currently preventing the private sector from responding to these opportunities. Is there a lack of market information? Is the supplier not able to supply the product at a competitive price? Does the buyer have standards that the seller does not understand or cannot meet? Is there a problem with financing? Is it hard for buyer and seller to communicate with or trust each other? Are there recent bad trading experiences that have soured either suppliers or buyers on intraregional trade? Are there problems with the enabling environment? Do imports from the international market undercut incentives for intraregional trade by capturing coastal markets for selected products and certain consumer groups?
- **Responding to private sector needs.** The fourth objective is to consider ways that the project, its partners, or other actors (e.g., government officials) could help the private sector overcome the barriers and capture the market opportunities. For example, could the project provide training, assistance with access to finance, or trade facilitation? Could an association provide better market information or training? Are there problems related to the enabling environment, e.g., are new regulations required or better enforcement?
- **Priority activities.** The fifth objective is to help the project decide how to allocate its resources in the coming year so as to attain its FY15 targets of a 20% increase in trade and maximize increases in trade over the life of the project. What sorts of activities is the project best equipped to carry out and would they bring an adequate return in terms of increased trade?

### 3. Expected Results or Deliverables

The expected result is a 20 pp. document that includes:

- Analysis of existing trade (including quantities sold at major markets, names and contact information for major buyers and sellers, and a map showing production areas and markets).
- Analysis of market opportunities including suggestions of potential deals.
- Analysis of private sector needs in order to capture the opportunities.
- Possible project and partner response to private sector needs.
- Priority activities for the project and partners to undertake, ideally to achieve a 20% increase in trade by the end of FY15 and a 50% increase by the end of 2018. This section will be written in a format that could become an addendum to the project work plan.

### 4. Methodology

The work will be carried out by a combination of project staff and a senior agribusiness advisor in phases:

- **Initial analysis via desk work (Until Nov 25).** Using project files, CILSS data, internet research, email inquiries, and phone interviews, the VC team will collect and write up basic information on existing trade and major actors. Bill Noble will take the lead on this work. Information collected will include, but not be limited, to:
  - Trade flow data for two or three years, including data by major supplying region and market destination
  - As a proxy for livestock production data:
    - Data on livestock slaughtered in Bamako and Sikasso (if available).
    - Animals presented/sold in key livestock markets in Mali.

- Livestock population data by species (for last 4-5 years or so).
- Urban population data for Korhogo, Bouaké, Yamoussokro, Abidjan, and selected other market destinations.
- Any recent urban food consumption/expenditure/income survey for Abidjan and other Ivoirian cities, which would provide breakdowns in quintiles by income, since this would help understand the market for red meat. Possible sources of this information are the most recent LSMS (Living Standards Measurement Study) done with WB funding.
- COMTRADE data (volume and value data on annual imports into Côte d'Ivoire and exports from Mali and Burkina Faso) for the last five years, with import data disaggregated by supplying country.
- Cost of transport data, per mt km, along major trucking routes from Mali to RCI.
- Maps showing costs of corruption, number of checkpoints, and delay data for the last two or three years.

The team will also develop a first cut of possible market opportunities and their estimated value. The communications specialist will prepare a rough working map showing production areas and markets along the corridor. They will send this information to the lead consultant, agribusiness advisor John Holtzman.

- **Preparation for field work** (Nov 14-21). The VC team and agribusiness advisor will discuss the findings of the initial analysis, plan the field work, and finalize the report outline. Key informant interviews should be scheduled with the following, inter alia:
  - Livestock market association
  - Key traders or market monitors
  - IFPRI/GSSP for recent studies
  - Ministries of agriculture in both countries for production data and lists of producers
- **First phase of field work** (Nov 17-28). The livestock value chain specialist of the TH team will carry out field work in Mali.
- **Second phase of field work** (Dec 1-12). The livestock specialist and agribusiness specialist will carry out field work along the corridor. Note: the agribusiness specialist was unable to do the field work due to an injury suffered right before traveling; he did, however, provide detailed guidelines in French to the livestock specialist for interviews with cattle fatteners and traders, reviewed and responded to the specialist's interview notes (sent while in the field), and had periodic email and skype conversations with the specialist during his field research. He also produced the first full draft of the December PowerPoint presentation to USAID.
- **Writing and mission presentation** (Dec 13-19). The VC team, agribusiness specialist, and communication specialist will complete a first draft and present a summary of the findings to the mission on/about December 19. Time permitting, the team will meet with buyers in the Accra/Tema market to understand demand for livestock products shipped along the Ouaga-Accra/Tema corridor.
- **Completion of the report** (Dec 17-19). The VC team leader, agribusiness specialist, and communication specialist will complete the report.
- 5. **Reporting Relationships.** Everyone will report to the VC team leader, Bill Noble, who will have primary responsibility for coordination of all inputs, compilation of the draft report, and presentation to the COP for final review before submission to USAID.