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# TRADE HUB AND AFRICAN PARTNERS NETWORK

## VALUE CHAIN ASSESSMENT REPORT: LIVESTOCK - CATTLE

Contact 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>AARA</b>	Regional Food Security and Agricultural Agency
<b>AGDP</b>	Agricultural Gross Domestic Product
<b>ASF</b>	Animal Source Foods
<b>ATP</b>	Agribusiness and Trade Promotion
<b>AU-IBAR</b>	African Union-Interafrican Bureau for Animal Resources
<b>BCEAO</b>	Central Bank of West African States (BCEAO)
<b>BDS</b>	Business Development Services
<b>BMS</b>	La Bank Malienne de Solidarité
<b>BNDA</b>	Banque Nationale de Developpement Agricole
<b>CAADP</b>	Comprehensive Africa Agricultural Development Program
<b>CAHW</b>	Community Animal Health Worker
<b>CBO</b>	Community Based Organization
<b>CBPP</b>	Contagious Bovine Pleuropneumonia
<b>CBT</b>	Commodity Based Trade
<b>CILSS</b>	Comite Inter-Etats de Lutte contre la Secheresse dans le Sahel
<b>COBAS</b>	Commercialisation du <i>Bétail pour l'Approvisionnement de l'Abattoir</i> de Sikasso
<b>COFENABVI</b>	Confederation des Federation Nationales de la Filiere Betail Viande
<b>COMESA</b>	Common Market for Eastern and Southern Africa
<b>CORAF</b>	Conference of African and French Leaders of Agricultural Research Institutes
<b>CSM</b>	Cotton seed meal
<b>CVL</b>	Central Veterinary Laboratory
<b>CVO</b>	Chief Veterinary Officer
<b>DNPIA</b>	Direction Nationale des Productions et des Industries Animales
<b>DOD</b>	Department of Defense (USA)
<b>E-ATP</b>	Expanded - Agricultural Trade Program
<b>ECOFIL</b>	Economie des Filières
<b>ECOWAP</b>	ECOWAS' Agricultural Policy
<b>ECOWAS</b>	Economic Community of West African States
<b>ECTAD</b>	Emergency Center for Transboundary Animal Diseases
<b>EISMV</b>	L'Ecole Inter Etats des Sciences et Médecine Vétérinaires de Dakar
<b>ERL</b>	Endemic Ruminant Livestock

<b>ETL</b>	Trade Liberalization Scheme of ECOWAS
<b>EU</b>	European Union
<b>FAO</b>	Food and Agriculture Organization
<b>FCFA</b>	West African Currency Franc
<b>FEBEVIM</b>	Fédération des Eleveurs de la Filière Bétail et Viande au Mali
<b>FIDA</b>	International Fund for Agricultural Development
<b>FMD</b>	Food and Mouth Disease
<b>FtF</b>	Feed the Future
<b>FMD</b>	Foot and Mouth Disease
<b>GALVmed</b>	Global Alliance for Livestock Veterinary Medicine and Diagnostics
<b>GDP</b>	Gross Domestic Product
<b>GMM</b>	Grand Moulin du Mali
<b>GOM</b>	Government of Mali
<b>HA</b>	Hectare
<b>HORECA</b>	Hotels, Restaurants, and Cafes
<b>HPAI</b>	Highly Pathogenic Avian Influenza
<b>HUICOMA</b>	Huilerie et Cotonnerie Maliene
<b>ICT</b>	Information and Communication Technology
<b>IER</b>	Institut d'Economie Rurale
<b>IFDC</b>	International Fertilizer Development Corporation
<b>IGAD</b>	Intergovernmental Authority for Development
<b>ILRI</b>	International Livestock Research Institute
<b>IPR</b>	Institute Polytechnique du Rurale
<b>IRAM</b>	Institute for Research and Applied Development
<b>LCC-CRSP</b>	Livestock Climate Change – Collaborative Research Support Program
<b>LCV</b>	Laboratoire Central Vétérinaire
<b>LMIS</b>	Livestock Marketing Information Service
<b>LNA</b>	Laboratoire de Nutrition Animale
<b>LTC</b>	Livestock Technical Committee
<b>MLPI – 2</b>	Mali Livestock and Pastoralist Initiative – 2
<b>MMT</b>	Millions of Metric Tons
<b>MOLAF</b>	Ministry of Livestock, Aquaculture and Fisheries
<b>NEPAD</b>	New Partnership for Africa's Development
<b>NGO</b>	Non-Government Organization

<b>NTB</b>	Non-tariff Trade Barriers
<b>ODC</b>	Other Duties and Charges
<b>OIE</b>	Organization International Epizootic (also WAHO – World Animal Health Organization)
<b>OMA</b>	Observatoire des Marche Agricoles
<b>PADESO</b>	Programme d’Appui au Développement Durable de l’Elevage au Sahel Occidental
<b>PAFASP</b>	Programme d’Appui
<b>PCDA</b>	Programme de Compétitivité et Diversification Agricoles
<b>PIF</b>	Partners in International Finance
<b>PPR</b>	Peste des Petite Ruminants
<b>PROGEBE</b>	Projet Regionale de Gestion Durable du Betail Ruminant Endemique
<b>PTF</b>	Financial International Partners
<b>PVS</b>	Performance Vision and Strategy
<b>RAHC</b>	Regional Animal Health Center
<b>RC</b>	Regional Commission
<b>REC</b>	Regional Economic Commission
<b>SACCO</b>	Saving and Credit Cooperative
<b>SADC</b>	Southern Africa Development Commission
<b>SNV</b>	The Aid Organization of The Netherlands
<b>S/R</b>	Small Ruminants
<b>SUKALA</b>	Sucrerie de Kala Supérieur
<b>SYNOBOACI</b>	Conseil National des Sages de la Filiere Betail Viande in Abidjan
<b>SYNABCCI</b>	Syndicate National des Bouchers et Charcutiers de Cote d’Ivoire
<b>TAD</b>	Trans-boundary Animal Disease
<b>TB</b>	Tuberculosis
<b>UEMOA</b>	Union Economique et Monetaire de l’Afrique de l’Ouest
<b>USAID</b>	United States Agency for International Development
<b>USAID/WA</b>	USAID’s West Africa Regional Office
<b>USDA-APHIS</b>	US Department of Agriculture – Animal and Plant Health Inspection Service
<b>VAT</b>	Value-Added Tax
<b>VCA</b>	Value Chain Approach
<b>VIU</b>	Verifiable Indicator

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# I. INTRODUCTION AND BACKGROUND

## I.1 CATTLE VALUE CHAIN

The cattle value chain can be defined as the full range of activities required to bring a product (e.g. live animals, meat, milk, leather) to final consumers passing through the different phases of production, processing and delivery. It is a market-focused collaboration among different stakeholders who produce and market value-added products. Value chain analysis is essential to an understanding of markets, their relationships, the participation of different actors, and the critical constraints that limit the growth of cattle production and consequently the competitiveness of smallholder producers. These farmers currently receive only a small fraction of the ultimate value of their output, suggesting that the risk and rewards from their efforts should be better shared along the chain.

## I.2 VALUE CHAIN ASSESSMENT

Following in the Selection Report, the Value Chain Assessment Reports are the second step in planning activities for the Trade Hub and African Partners Network.

The assessment phase took place during May 2014. Assessments were carried out for each value chain recommended for targeted for partnership with and support from the Trade Hub. This livestock value chain assessment was commissioned by USAID/West Africa to assist in the design of a livestock program for Trade Hub. Livestock was strategically selected as livestock positively impacts the livelihoods of rural households and contributes to domestic and regional economies through cross-border trade. In addition, livestock is a crucial contributor to agriculture growth in the region, which is essential if the Millennium Development's goal of halving poverty and malnutrition by 2015 is expected to be achieved. Achieving this goal will require that the agriculture sector grow by a minimum of 6.8 percent per year.

The team responsible for this assessment adopted a comprehensive approach in assessing the livestock/meat value chain. The objective was to establish a point of reference from which the ATP project could develop an action plan for the intensification, profitability, and improvement in the competitiveness of the livestock/meat value chain.

The Value Chain Selection Reports provide brief overviews of each value chain; the Assessment Reports provides deeper perspective about the current status, structure, performance and challenges of the value chain than. They update previously available information where possible. Based upon this information and analysis, they recommend a Vision and Upgrading Strategy for each value chain and outline possible support roles for the Trade Hub in helping the value chain stakeholders to achieve their strategy.

As the first opportunity for the Trade Hub team to resume interacting with industry stakeholders and begin identifying lead firms and areas where the project can have a positive impact, the value chain selection and assessment process also provides an initial basis for dialogue and brainstorming/planning with key sector and value chain stakeholders.

The phase, nonetheless, provides only a brief glimpse at each value chain and serves as a vehicle to commence discussion and sharing ideas with partners. The assessment is not a detailed value chain analysis.

### **1.3 ABOUT THE TRADE HUB AND AFRICAN PARTNERS NETWORK**

USAID/West Africa's strategic goal is to support the emergence of a politically stable and economically prosperous West Africa. The Trade Hub's goals are to promote increased regional trade in key agricultural commodities (a goal of Feed the Future, or FTF) and to reduce poverty through value-added exports (a goal of the Africa Competitiveness and Trade Expansion Initiative, known as ACTE).

The overall objective of the Trade Hub and African Partners Network is to increase Africa's share of world trade by increasing exports at a faster rate than the rate of growth in overall trade, and by improving West Africa's international private sector competitiveness in targeted value chains other than extractive industries.

The project will achieve two intermediate results: 1) improve the private sector capacity of the region's farmers and firms by addressing constraints to targeted value chains; and 2) improve the business enabling environment by addressing economy-wide constraints such as the transport and trade barriers that affect the efficiency of the region's ports, corridors, and borders.

At its heart, USAID/West Africa's Trade Hub and African Partners Network is a capacity building effort that will entail working with several key groups of African partners. The project's focus will be on developing associations and regional alliances that can act independently from donor support and take on a greater leadership role in promoting reforms, attracting buyers and investors, and adopting improved practices. The project will also work with individual companies that have a regional scope and could serve as lead firms in targeted value chains.

The Trade Hub will achieve its objectives by improving the private sector competitiveness of certain value chains. Based on the initial assessments made in USAID/West Africa's FTF Multi-Year Strategic Plan, five value chains were pre-selected for the project: rice, maize, millet/sorghum, livestock (cattle), and livestock (sheep and goats). They were selected based on the following criteria: importance to intra-regional trade, high potential for value addition, production by a large number of stakeholders, and synergies with other supported value chains.

The Trade Hub team also examined the development potential of other value-added value chains and selected several for inclusion in the project's set of targeted value chains. This selection was based on six high level criteria:

- Potential to increase trade
- Potential to create jobs
- Potential to attract investments (including from the U.S.)
- Number of households participating
- Extent of geographic dispersal in West Africa
- Current level of exports to global markets

The assessment phase thus focuses on the following value chains:

### FTF Regional Value Chains

- Maize
- Millet-Sorghum
- Rice
- Cattle
- Small ruminants

### Value-added Global Value Chains<sup>1</sup>

- Apparel
- Cashew
- Honey
- Mango (and possibly other cut fruits/vegetables)
- Sesame
- Shea

West Africa is on the verge of a transformative change if it can create a new dynamic for intra-regional and export trade. At present, intra-regional trade is inefficient, characterized by unpredictable distortions and uncompetitive practices, and subject to overly restrictive regulatory regimes. West African exports have limited success in the global marketplace due to poor quality, inconsistent supply, and high delivery prices, which can be traced back to the absence of economies of scale, high transaction costs, and a poor enabling environment.

The Trade Hub and African Partners Network aims to promote broader, more sustainable growth by improving both private sector capacity and the policies, rules, and practices that govern regional and external trade. This will achieve sustainable and measurable increases in regional and international exports, jobs, and investment by strengthening vertical and horizontal integration within value chains, assisting representative associations to become more effective and inclusive, and improving the enabling environment for trade. The project will also mount a cross-cutting effort to increase the professionalism of all major participants by providing role-specific competency training, facilitating access to modern technologies, and improving market linkages.

The Trade Hub will:

- **Leverage and strengthen already-identified or new private sector and public sector partnerships for commercial and development activities.**
- **Target the highest-impact opportunities in the value chains and policy regimes, to alleviate specific constraints hindering private sector growth.** The cornerstone of our structured approach to value chain development is identifying, in collaboration with our for-profit value chain partners and our public and non-governmental organization (NGO) partners, where high-impact change can be achieved to maximize the return on project resources. Our trade and transport enabling environment staff will target specific policy and regulatory constraints which, once changed, will open up regional and external markets, reduce seasonal blockages, lower supply chain friction, and encourage trade-based investment and growth. They will work closely with stakeholders to advocate and enforce reforms.

The Trade Hub's higher level results targets are summarized in Table I below.

---

<sup>1</sup> The home décor value and fashion chain was handled differently. A limited Trade Hub initiative is recommended for home décor and fashion. An assessment was not conducted for this value chain as it was no longer considered for a core Trade Hub focus.

**Table 1: Highest Outcome-Level Results**

<b>Results</b>	<b>Through Year 3</b>	<b>Through Year 5</b>
Increase in the value of global and regional transactions, on average, in targeted sectors of livestock, grains, and value-added products in West Africa	30%	50%
Creation of new jobs in Trade Hub-assisted West African firms	15,000	23,000
Facilitation of new investment in targeted sectors	\$62.5m	\$102.5m

Because different partners have different needs and levels of maturity, the project will tailor upgrading activities to each partner. We have recommended and will select value chains that offer opportunities to substantially contribute to achieving these objectives. We will choose value chains that can benefit from Trade Hub-supported activities such as:

- Improved buyer-seller intermediation
- Expanded use of grades and standards
- Increased access to and use of market information
- Increased access to and use of financial services
- More competitive transport and logistics enabling environment
- Reduced legal and regulatory barriers to trade

## 2. METHODOLOGY

Value chain assessment is the second of three phases that will lead to agreement on Trade Hub's target value chains:

1. Phase I: Select (recommend) value-added value chains
2. Phase II: Assess selected value chains
3. Phase III: Vet and obtain feedback, leading to confirmed selection

Eleven separate value chain reports present the findings of each value chain assessment.

As part of the research for the assessment reports, subject matter experts collected and updated data and trend information relevant to each of the value chains. The value chain assessments use a common set of criteria to describe the short-listed value chains and update information about them. In contrast to the selection process, which used subjective measures of only certain criteria based on expert opinion, the assessment utilizes the full set of criteria, quantifying them as much as possible. Based on this analysis, the report discusses strategic approaches that could be supported by the Trade Hub to achieve the "vision" of the value chain.

The existing value chain studies and their conclusions were strongly considered in the assessment, and the subject matter experts held meetings and phone/internet discussions with knowledgeable stakeholders. (Given time constraints, we did not collect primary market data from the field, or hold extensive interviews with a full roster of key informants.)

During the assessment, the team also began to analyze and discuss with stakeholders the opportunities and challenges within each value chain and make initial proposals for an upgrading strategy. If the stakeholders and the Trade Hub are able to identify a clear path for upgrading the value chain, it is more likely that the value chain will be ultimately included in the Trade Hub's set of focus value chains.

The cattle value chain assessment began with a review of existing documentation and informal interviews by phone and Skype with value chain stakeholders in Burkina Faso, Benin, Côte d'Ivoire, and Mali.

The assessment phase took place during May 2014. Stakeholders interviewed included representatives of producer organizations, livestock and meat traders, butchers, transporters, inter-professional organizations, and public administration officers. Livestock markets and abattoirs in Mali were visited and other observations made about the commercial movements of livestock products along trade and transport corridors. Private sector regional organizations, particularly the Confederation of National Federations of the Livestock/Meat Sector (COFENABVI), and national professional organizations such as livestock and meat cooperatives in Mali were interviewed.

## 2.1 VALUE CHAIN ASSESSMENT PROCESS AND SUBSEQUENT STEPS

**Table 2: Steps in Value Chain Assessment and Final Selection**

Task	Method
Assess short-listed value chains	Assess the five preselected value chains and the other selected value chains against a full set of criteria through desk studies, review of existing value chains studies, and key informant interviews with partner network
Obtain USAID/West Africa's feedback on Value Chain Selection Report	Review Value Chain Selection Report; meet with value chain Development Specialist and value chain team
Submit Value Chain Assessment Report	Assess all value chains, obtaining data and information through value chain studies, desk research, and key informant interviews; include discussion of potential value chain vision, upgrading strategy and Trade Hub intervention
Prepare facilitation guide for value chain stakeholder vetting	Based on the assessments, prepare summary presentation and process for vetting value chains
Vet value chain selection and assessment with stakeholders	Hold session within Project Partners Kick-off Workshop with Trade Hub stakeholders
Refine value chain selection and assessment, based on stakeholder feedback and suggestions	Continue interacting with key stakeholders and USAID as required

The final selection will only take place after the official Project Launch event, which will take place on or shortly after July 15, 2014. Immediately following the Launch the Project will engage individual value chain partners to discuss and vet the Assessments and come to a common vision of the value chain and how the Project will work with them. The final action plans for each value chain will be set after the engagement meetings, and will take into account the stakeholder feedback.

## 2.2 SOURCES OF INFORMATION

The information and data collected come from stakeholders, livestock sector actors and officials of administration. Some information was also collected from customs services and regional organizations. Most of data come from different reports published.

### 2.2 DATA LIMITATIONS

The availability of quality and comprehensive data is problematic. Compiling recent information was a challenge. Many documents were reviewed with interesting information about the current livestock situation in West Africa, but the data is largely out of date, such as the OECD-ECOWAS study *Livestock and regional market in the Sahel and West Africa: Potentials and challenges*. It was noted that in most countries, there is a lack of coordination of many sources of information about this value chain.

# 3. DESCRIPTION OF THE VALUE CHAIN

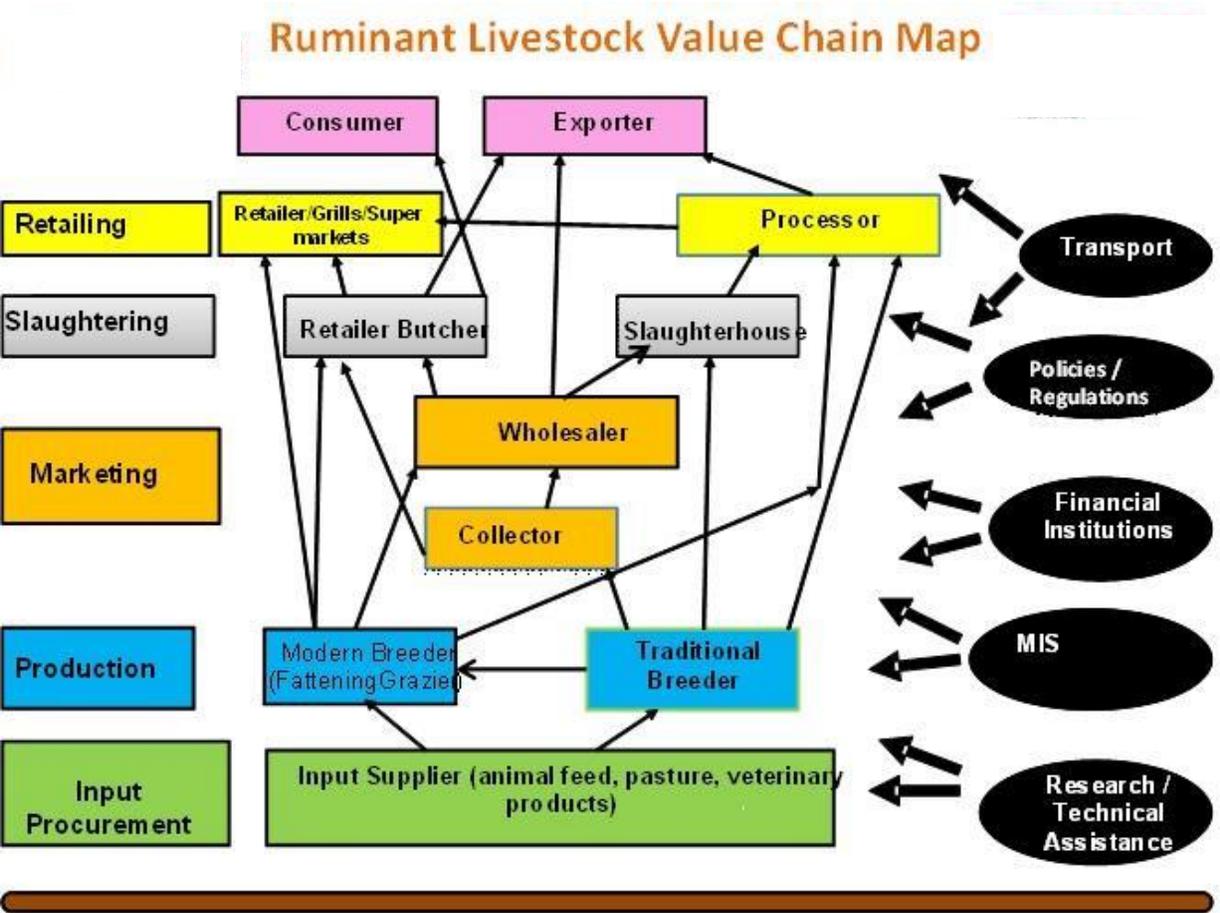
## 3.1 PRODUCTS INCLUDED IN THE VALUE CHAIN

This value chain is focused on cattle that are procured in the supplying countries and trucked largely to coastal markets. This will probably remain the predominant form of long-distance transport in West Africa of ruminant livestock for the near future. The value chain also includes red meat and assorted sub-products (hides).

## 3.2 VALUE CHAIN MAP

Activities and interrelations among the different actors in the value chain are mapped below. This value chain map is focused on cattle and highlights the interrelation between actors.

Figure 1: Value Chain Map: Ruminant Livestock



### 3.3. PRODUCT FLOW MAP

A 2004 study estimated the value of livestock exports in the West Africa region at approximately \$150 million annually. At the time, this represented the highest value agricultural commodity in intra-regional trade. (T.O. Williams, 2004). A more recent estimate, based on surveys of 13 markets in six countries, puts the value of livestock traded at \$293 million (ECOWAS, 2008).

The values of net exports of livestock (cattle, sheep and goats) from the Sahel in 1999 were: Mali (US\$65 million), Niger (US\$30 million), and Burkina Faso (US\$15 million). The value of net imports for the coastal countries were: Nigeria (US\$165 million), Côte d'Ivoire (US\$60 million), and Ghana (US\$50 million). (These are gross estimates taken from a graph in Williams, 2004.) From May 2013 to April 2014, CILSS estimates exports from Burkina Faso and Mali to coastal countries at 402,932 cattle for a total value of \$261 million (CILSS, 2014).

Animal products are mainly composed of cattle, sheep and goats and constitute the most traded products between the countries of the Sahel and coastal countries. There is some limited cross-border trade in smoked meats, mainly pork from Benin to Nigeria, and bush meat. There are two seasons of livestock marketing: October to April (dry season) and May-September (wet season). Prices are at their peak during the period from May to September when farmers intensify efforts to secure available pasture.

There has been a net increase in trade of livestock and animal products between the countries of the sub region in recent years. This is due to the combined effects of rapid population growth, urbanization, changes in food styles and increased household income, especially among urban populations.

**Table 3: Cattle exports between West Africa countries from April 2013 to March 2014**

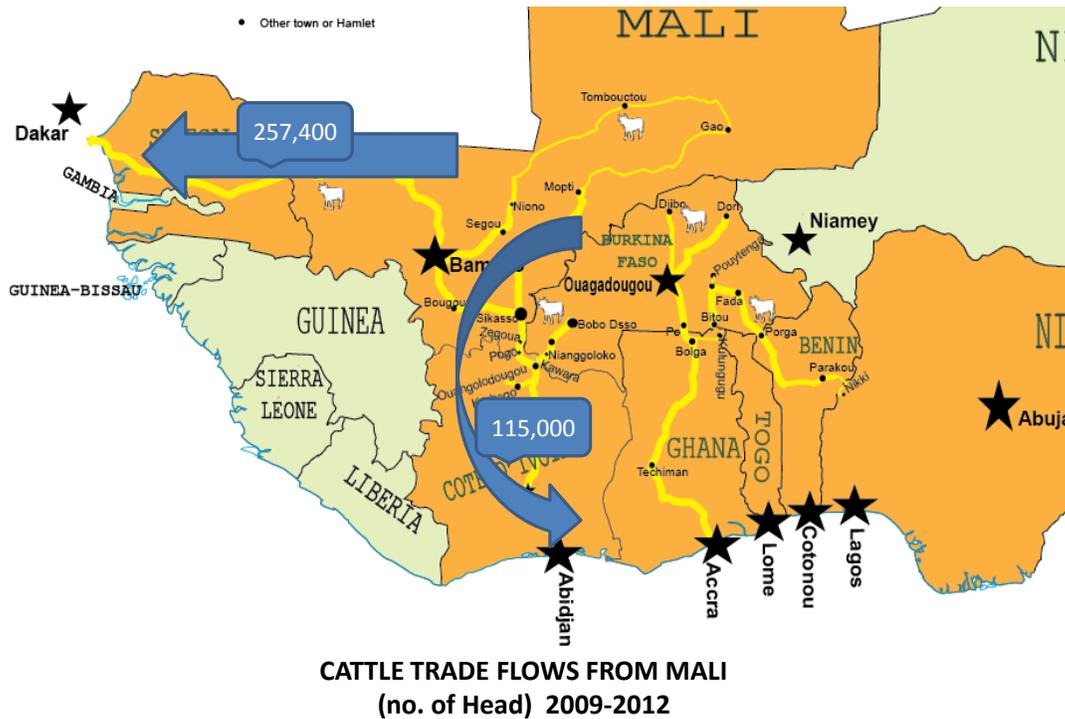
	Countries of Origin								
	Benin	Burkina	Cote I.	Ghana	Niger	Nigeria	Senegal	Togo	Total
Benin						11481			
Burkina	14161		35036	113794	1734	81609		1479	
Cote I.				6396					
Ghana									
Mali			44398				79673		
Niger		1350				10309			
Total	14161	1350	79434	120195	1734	103399	79673	1479	402932

Source: (CILSS, 2014)

Exports to Ivory Coast have increased with the improvement of the sociopolitical situation of the country. Indeed, there is significant demand in the country because the national production coverage of

national demand does exceeds 60%. Burkina Faso is the leading provider of cattle for the Abidjan market. Exports from Burkina Faso represent three-quarters of arrivals and nearly half of the total supplies.

**Figure 2: Cattle Trade Flows From Mali, 2009 - 2012**



### 3.4. CATTLE DATA AND INFORMATION

With more than 60 million head of cattle, West Africa stands out as a livestock region “par excellence.” Cattle in West Africa play an important role in reducing poverty and improving food security. Cattle trading is often the only source of income and subsistence for pastoralists. The commercial financial system, in the form of banks and insurance, is not readily available for the majority of pastoral populations, and as such the savings and insurance function remains important.

The cattle value chain contributes 10-25% of gross domestic product (GDP) in the Sahel countries. This contribution to GDP could reach 25-30% if the value of the labor force and animal manure produced is also taken into account. If labor and organic manure are counted as livestock products, the sector’s contribution to agricultural GDP is nearly 50% for West Africa – and case studies in fact show that alongside livestock farmers and herders, traditional marketing channels dealing in animal products generate thousands of secondary jobs. In Burkina Faso, for example, these were estimated as the equivalent of 60,000 full-time jobs (OECD-ECOWAS). The cattle value chain is one of the largest in regional trade; it is a significant source of incomes, job creation and food security.

## 3.5 MAIN ACTORS IN THE VALUE CHAIN

The cattle value chain actors are focused on three functions (production, marketing and/or processing) before the product reaches the consumer level. These three functions are implemented by the same actors. However, this breakdown is useful to facilitate the analysis and simplify the organizational complexity of cattle production chains.

### 3.2.1 DESCRIPTION OF THE VALUE CHAIN ACTORS

#### 3.2.1.1 *Lead Firms*

The lead firms include: Animal feed units, cattle fattening units and wholesale traders. Opportunities have been identified for feed companies to sell supplemental feeds and complete rations for fattening and provide training on better feeding practices.

#### 3.2.1.2 *MSMEs*

These include amongst others, private veterinary pharmacies, veterinary clinics, feed animal shops and economic interest groups that operate to improve the production and productivity of animals.

#### 3.2.1.3 *Other Actors and Stakeholders*

International organizations, ministries and umbrella regional organizations (COFENABVI, ROPPA, APESS) support the development of the livestock value chain. These actors help to build the capacity of national and regional organizations. Input providers help producers to get animal feed of good quality.

### 3.2.2 RELATIONSHIPS BETWEEN KEY ACTORS

**Producers:** Producers are an important link in the chain and often operate in association or federation. Generally producers in West Africa are divided into two groups: traditional and modern. The traditional producer sells his animal without special feed. A modern producer (or cattle fattener) expenses a substantial amount of money in order to provide good feed to the animal so as to get a better price. He is considered a commercial operator.

**Collectors:** Membership in this sub-group is transitory and occurs because the collectors do not have the financial means to engage in trade on their own account. Collectors attend cattle markets in different countries to assemble ruminants (cattle,) or their products (hides). They generally work for traders and receive commissions from their 'employers.'

**Traders:** Thousands of major traders are engaged in different aspects of the livestock value chain. Some traders are brokers who do not take ownership of livestock but rather facilitate the trade between sellers and buyers. A live animal market includes the seller (herder or smaller trader), the broker-dealer (selling on behalf of the seller) and the buyer (larger trader or butcher). Negotiations are based on trust and sealed with a verbal commitment. Livestock trader associations represent their members only when a problem occurs.

**Middlemen:** Middlemen's role is important; these actors ensure transactions, interface between sellers and buyers, host exporters, and save their time and money when checkpoints proliferate on the Côte d'Ivoire route. The presence of middlemen who operate in the informal sector contributes to increasing prices rather than facilitating trade, because they increase transaction costs of shipping livestock to the coastal countries.

**Meat Products Wholesalers:** These actors slaughter a number of head a day to sell to retailers, butchers, and restaurateurs.

**Retail-slaughters:** These actors do not have large operations, but they slaughter small quantities every day for direct sale to the market. Some members of this group operate shops where they sell grilled meat (*dibiteries*) or have traditional roasting ovens.

**Retail butchers:** These butchers are small meat retailers in markets in large cities and neighborhoods.

**Grillers and *dibitiers*:** These are mainly small economic actors who do not slaughter the animals. They buy sheep and goat carcasses from wholesale butchers in the large urban centers. Some large *dibitiers* in Mali, Niger, Nigeria, and Senegal can sell between 20 and 30 sheep and goat carcasses a day.

**Hides and skins collectors and processors:** As for hides and skins, processors can be divided into two categories—cottage-type and industrial. Cottage-type is the traditional processor/trader of shoes or bags made with sub-products in the local market. Industrial types export hides and skin.

### 3.2.3 OPPORTUNITIES AND ISSUES

#### Opportunities

- Increasingly high demand for cattle meat in local markets.
- Opportunities for improving upon sharing the chilled and frozen meat segment market by offering fresher, higher quality Sahel meat
- Governments' commitment and support to increase meat exports
- Individuals engaged in fattening practice
- Farmers' increasing awareness of the number of export abattoirs
- Sub-regional dynamics enable integration to trade in raw products.
- A growing enabling environment for the international cattle market.

#### Issues

The major constraints that depress the profitability of the marketing of cattle in the region are:

- Irregular supply markets, poor infrastructure
- Multiplicity of the number of intermediaries
- Inadequate institutional and regulatory frameworks
- Inadequate marketing facilities and transportation
- Lack of professional dynamism of national operators
- Difficult access to credit
- Lack of reliable information to the market
- Gaps in modern business management
- Absence of legislation and standardization of product quality

- Weak efficiency of sub-regional transport of cattle to the market because of lack of means and costs of transport, and lack of professional dynamism of national operators vs. their external competitors.

# 4. DISCUSSION OF VALUE CHAIN ASSESSMENT CRITERIA

## 4.1 MARKET INFORMATION

In West Africa, especially in coastal countries, the products sought by the market include animals in good condition, i.e. fattened cattle in acceptable quality for these markets.

- **Current size**

In the Sahel countries, the most important producers of cattle are Niger, Mali and Burkina Faso (8,736,000 head).

**Table 4: Evolution of number of cattle herds in Mali, Burkina Faso and Niger**

Countries	2008	2009	2010	2011	2012
Mali	8,385,703	8,896,392	9,163,000	9,438,182	9,721,328
Burkina	8,072,000	8,234,000	8,398,000	8,566,000	8,738,000
Niger	8,737,397	9,261,641	9,011,897	9,552,611	10,125,767
<b>Total</b>	<b>25,195,100</b>	<b>263,92,033</b>	<b>26,572,897</b>	<b>27,556,793</b>	<b>28,585,095</b>

Source: Annual reports of National Livestock Directorates, 2012

- **Market trends**

The coastal countries of West Africa have a deficit in meat production and depend on imports of live animals from the Sahel region and imported meat from outside of the continent. The livestock trade is well developed in the region, and borders are open for trade from Sahel countries. The West Africa region can be divided into three broad trading areas: the Eastern Trade Corridor (Benin, Chad, Niger, and Nigeria), a Central Trade Corridor (Burkina Faso, Benin Côte d'Ivoire, Mali, Ghana, and Togo), and the Western Trade Corridor (Mali, Mauritania, Senegal, Gambia, Guinea Bissau, Guinea, Liberia, Sierra Leone, and Cape Verde). Côte d'Ivoire imported 511,406 heads of cattle from Burkina Faso and Mali from 2008 to 2013 (Burkina and Mali National Livestock Annuals Report).

**Table 5: Importation to Cote d'Ivoire from Burkina Faso and Mali**

Countries	2008	2009	2010	2011	2012	2013
Burkina	29,701	43,040	40,367	13,310	7,905	20,319
Mali	82,436	76,952	85,061	19,030	46,922	46,365
<b>Total</b>	<b>112,135</b>	<b>119,992</b>	<b>125,428</b>	<b>32,340</b>	<b>54,827</b>	<b>66,684</b>

Source: Burkina and Mali National Livestock Annuals Reports)

Benin is considered to be a transit country for meat imports from Nigeria. From 2009 to 2012, Burkina Faso imported 175,885 head of cattle.

**Table 6: Importation Benin from Burkina Faso to Nigeria**

Countries	2009	2010	2011	2012	Total
<b>Burkina</b>	17,575	48,935	53,575	55,800	<b>175,885</b>

Source: Burkina National Livestock Annuals Reports

From 2009 to 2012, the slaughter of cattle in Burkina increased due to increasing population and probably increased household incomes.

**Table 7: Evolution of slaughter of cattle in Burkina Faso**

Species	2009	2010	2011	2012	Total
<b>Cattle</b>	217,000	225,000	226,000	235,000	<b>903,000</b>

Source: National Livestock Annual Reports (Burkina Faso)

These examples are provided to reflect the positive increases in demand for meat from within the region.

**Meat Trade** The coastal countries also imported significant amounts of meat from outside the region. Ghana imported close to \$100 million in chicken meat and boneless beef. The region imported 56,000 MT in 2005, and the major exporter was Argentina. Côte d'Ivoire imported 15,300 MT of offal in 2005, mainly from the USA, Canada, and France. In 2009, Côte d'Ivoire imported 46,000 MT of offal with a value of US\$43 million. In visits to a supermarket in Accra in September 2011, meat products were from South Africa and Kenya (Farmers Choice brand). Prices of meat in various markets are found in Annex Table 8.4. The highest retail prices for meat were found were in Lagos.

A better system of collecting and reporting prices in coastal meat markets is needed. The type of information to be collected would include quantities of meat available, its origin (domestic, live imports or imported meats, their status (fresh, frozen and processed), prices, and trends in the markets. The meat markets are dynamic in terms of flows of product at different times of the year. This information would be useful for livestock pastoralists, producers, traders and processors in the Sahel. One of the most important import markets is Nigeria, and not enough is known about the livestock and meat trade for a country that dominates the region in terms of livestock produced and imported.

## 4.2 CONTRIBUTION TO ECONOMIC GROWTH

### 4.2.1 POTENTIAL TO INCREASE TRADE

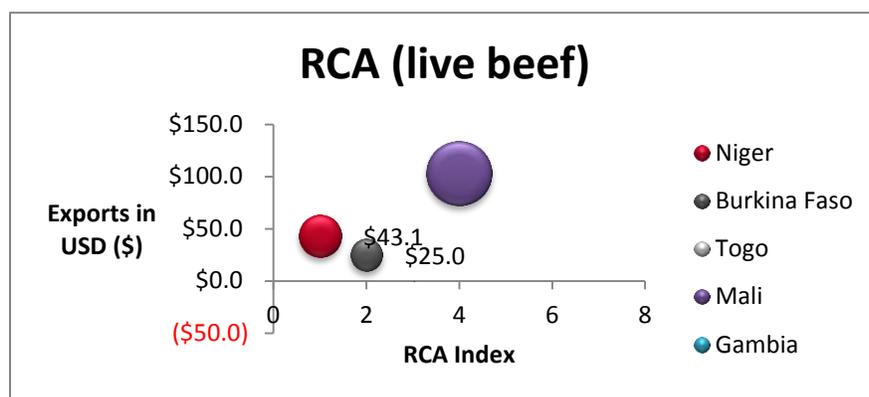
Trade opportunities are a driving force for development of the livestock industry in West Africa. There are a number of markets throughout the livestock production zones of West Africa; however, the supply chain for cattle is long and inefficient with many participants. Producers lack the necessary information on standards and prices to make decisions on producing quality livestock. The Livestock Market Information System (LMIS) implemented by the Livestock Climate Change - Cooperative Research Support Program (LCC-CRSP) in Mali generates needed information for traders. The results to date are mixed on the impact of producers' ability to obtain fair market prices for their livestock.

Market linkages between producers in Sahel countries like Mali and traders in the terminal markets, like Lagos, Accra, Abidjan and Dakar, can certainly be improved.

Higher rates of off-take are needed to move livestock industry closer to commercial standards seen in other grass-based, export-oriented livestock systems. The interventions in market improvements in the livestock value chain have to be coupled with the necessary improvements in production and the enabling policy environment. Livestock producers will need market incentives to invest in technological advances in up-stream production to meet demand requirements.

Presented in Annex 3 is a Revealed Comparative Advantage analysis for the cattle industry in West Africa. This presentation is based on data from 2011. The RCA index ranges from 0 to infinity with 1 as the break-even point. That is, a RCA value of less than 1 means that the product does not have export comparative advantage, while a value above 1 indicates that the product has a “revealed” comparative advantage. A graphic presentation for West Africa is included below.

**Figure 3: Revealed Comparative Advantage: Live Beef**



RCA (live beef, Niger) = 43.1. It means that Niger has a revealed comparative advantage for live beef compared to the rest of the countries in the reference group, since its RCA is greater than 1. Burkina Faso also has a revealed comparative advantage of 25. However, Mali, with RCA= 103, is a leader in the live beef exports in the sample group (based on available data, 2011).

#### 4.2.2 POTENTIAL TO CREATE JOBS

Livestock rearing is an important source of employment throughout the region. Meat processing generates the highest levels of employment in the livestock sector. FAO estimates that for 30 head of cattle, slaughtering requires 20 workdays, processing requires 80 workdays and marketing requires 4 workdays. Although milk is not examined in detail in this assessment, this is also an important sub-value chain, and it plays a large role in the creation of jobs.

An opportunity to facilitate the creation of new jobs lies in addressing the poor quality of cattle and the absence of norms in market and in abattoirs. A new generation of livestock producer is playing a larger role in the promotion of trade to introduce new technologies that allow the competitiveness of livestock. The estimated number of jobs directly generated by livestock activities is significant and well-integrated into most rural households. Agriculture in general and the livestock sector in particular provide 52.5% of jobs in West Africa as a whole. It is generally agreed that at least 50% of the cash income of on small farms Africa is derived from the sale of livestock products.

### **4.2.3 POTENTIAL TO ATTRACT INVESTMENTS**

Lack of water, feed, and ramps at markets and the high weight loss and mortality during transit are disincentives for entrepreneurs to invest in the livestock industry. Traders in coastal countries will pay premiums for quality meat animals, but there is a shortage of these animals being marketed. Business entrepreneurs are needed to invest along the livestock value chain. Suppliers of feed, veterinary drugs and other health services will need to invest in businesses to serve livestock pastoralists, agro-pastoralists, and peri-urban operators in the production of improved quality livestock for the export markets. The domestic market will also benefit. Examples of needed investments include: vaccination sites, better equipped markets and abattoirs and more trucks for animal transportation.

Investment opportunities include the removal of barriers to increase production and shorten the supply chain from production to end markets of quality cattle. New business investment models in contracting for feeder calves, fattening and then marketing finished cattle would have beneficial effects on a number of participants in the value chain. Private investors will have the burden of investing in the business, assuming all the risks but receiving the profits from their investment. (A new association, the Interprofessional Association of Livestock and Meat (FOFBEV), in Mali has discussed forming an association to represent abattoirs in Mali that want to upgrade their facilities and export meat.)

### **4.2.4 POTENTIAL TO GENERATE VALUE ADDITION**

An important feature of the added value of livestock industries lies in its “redistributive” character. A large part of the population is active in this value chain and receives benefits. The contribution of the value chain to the rural economy is large because of the vast number of poor rural households in most of these countries. In terms of export revenues, the livestock sector is the largest after cotton (which contributes between 15-20% of export earnings to the region).

### **4.2.5 POTENTIAL TO GENERATE MARKET-BASED IMPROVEMENTS IN PRODUCTION YIELDS**

According to statistics from Mali, Burkina, and Niger, the number of cattle has increased in the producing countries the past five years. However, off-take rates for cattle only hover around 12%.

Commercialization of livestock operations remains low with animals still primarily held as a “bank of assets” to be sold in times of difficulty. Producers lack access to credit, which further restricts their ability to invest and commercialize the industry. The private sector feed companies remain weak with a shortage of quality animal feed. The large quantity of cottonseed meal, which used to be available for animal feed, has declined as the cotton industry contracted because of falling world prices.

Notwithstanding these factors, West African countries have the potential to have sustained production growth where native pasturelands remains in surplus (Mauer, et al, 2011). Opportunities exist to improve off-take rates by developing livestock producer groups/associations for management of pastures, and accessing affordable credit for fattening livestock. The objective will be to create incentives for herders to “convert livestock assets to cash.” Business models are needed that support investments in the specialization of livestock production in specific agro-ecological zones.

Financial institutions, animal health service providers, and private sector feed companies will have to engage in these specialized business ventures. Private sector companies, like Bounafama (AMI Groupe), a feed company in Mali, reported they see business opportunities in the provision of technical training and sale of animal feed to specialized livestock groups.

### 4.3 IMPACT ON FOOD SECURITY

Households rely on livestock for food (meat and milk), transport, fuel, and in the barter for cereals. Livestock trade has the potential to contribute significantly to improved nutritional status of the region through the expanded availability of protein sources and income for vulnerable producers in the Sahel who have a comparative advantage in livestock production. Food access and availability are chronic problems in Mali. It is estimated that 11% of the population is underfed. Consequently, malnutrition is a problem, with 35% of the children less than five years old reported as malnourished. Vitamin A deficiency is common in African children and is caused by low intake of animal source foods; Vitamin A-deficient children have increased vulnerability to infections, malaria and parasites.

It is important to deal with this situation, not on an emergency basis, but rather by addressing structural factors that deal with food and nutritional insecurity. Meat and milk are good sources of protein, which makes livestock an important activity for addressing malnutrition. These foods also contain high levels of energy, and meats provide a combination of iron, zinc and hemoprotein. (Hemoprotein improves bioavailability of iron and zinc from cereal and other plant sources.)

### 4.4 SOCIAL IMPACT

**Female participation:** An increased role for women in cattle management could positively contribute to the family's quality of life because of better decision-making with regard to food access (and type of food to be consumed). At present, women have a limited role to play in the cattle value chain. The men take care of cattle and the women are very active in the production of small ruminants. In comparison with men, women face higher disadvantages, in particular in terms of mobility, access to assets and to productive resources, and access to market information.

### 4.5 COMPETITIVENESS

Export-quality cattle are fewer in number during the rainy season as agro-pastoralists are busy farming and animals have available forage. Transportation and handling costs make up a large component of final delivered price for the livestock. The cost of a truck shipment depends on the season.

Seasonal price varies by location and by type of market. During the dry season, livestock numbers would increase and prices decrease. The price fluctuations in the markets can be better monitored with improved MIS platforms. The absence of formal, commercial segments (with opportunity to go to scale) will not provide the necessary incentives for investments. For example, the large number of uninspected animals slaughtered in unauthorized sites around Bamako in Mali competes with the two private sector-owned abattoirs. This reality negatively impacts the establishment of more modern facilities. The same can be said for investing in other infrastructure to achieve the necessary economies of scale to provide quality meats to consumers. Commercial investments will be limited under the current business environment. This is not necessarily the case for regional and other export markets. To penetrate and capitalize on regional markets, professionals need to position themselves to compete with major beef exporting countries, particularly Argentina, Brazil, and South Africa. The relative prices paid in coastal markets for quality meat should be an incentive for traders of livestock to deliver animals to these markets. However, the livestock exporters will have to prepare to be more competitive in the export trade by properly conditioning animals before arrival to minimize weight loss in transit, and avoiding delays when animals arrive in the terminal coastal markets. Ideally, livestock should be pre-contracted (sold) before they are put on a truck in Mali. The costs and hassle associated with live animal

exports are well documented. While traders complain about these practices, it will be difficult to remove them completely.

Livestock are currently managed at a low input-low output level of production. The improvement in livestock production requires matching up production systems with the right genetics, feed and animal health services to meet market requirements. The objective of improved productive systems is for greater marketable outputs of livestock products with the same or smaller national inventory.

## **4.6 FACTORS THAT WOULD SUPPORT UPGRADING**

The factors that would support upgrading are:

1. Professionalization of actors to compete more effectively in the regional industry. This would include training in trade negotiations and in technical skills related to marketing
2. Reduction of transaction costs, including transport, alimentation, animal health costs
3. Improving the quality of products to improve cattle fattening
4. Improving access to market system information in order to have timely information about prices of animal in the different markets and transport costs
5. Strengthening the infrastructure for processing / marketing and fluidity of transactions. Markets and abattoirs must be equipped and secure, and facilitation of commercial movement of animal must to be done.

### **4.6.1 CHAMPIONS FOR CHANGE**

There are major individual companies (e.g. Mali Viande, Dibiterie Doucoure, Societe Aboubacar Ba in Mali) in the cattle value chain that are making efforts to support different actors in the same value chain. These champions for change are supporting other actors to put in place modern enterprises and improve the competitiveness of the same value chain.

### **4.6.2 ACCESS TO FINANCE**

Lack of credit to purchase and market animals is a frequent complaint. Improved access to credit for small-scale traders would help to increase competition in the market and reduce the margins received by the better capitalized, larger traders. However, bankers are reluctant to lend to livestock traders because of inherent risks of their business. One alternative to reduce this risk would be to formalize a system whereby some of the traders' livestock could be provided as collateral for other livestock that is being marketed in neighboring countries.

### **4.6.3 PRODUCTIVE INFRASTRUCTURE**

Productive infrastructure should be available in order to improve the cattle trade. Examples include: Roads to facilitate the transport of cattle, weighing stations to get the real yield of cattle, loading ramps to facilitate the loading of animals, cattle dips, and slaughtering and processing operations that meet approved standards. In West Africa, this type of productive infrastructure is limited. Along major transport corridors, roads are not well maintained or in poor condition, and markets and abattoirs can likewise be in poor condition.

#### **4.6.4 SYNERGIES WITH EXISTING PROGRAMS**

USAID/West Africa coordinates with the regional organizations ECOWAS, the West African Economic and Monetary Union (UEMOA), and CILSS in the dissemination of technology on best practices for implementation of regulations to reduce marketing inefficiencies. The Trade Hub will collaborate with these organizations and others; examples of potential collaborators include the Cereal Value Chain, Livestock Value Chain project and the Agricultural Competitiveness and Diversification Project in Mali, and the Resilience and Economic Growth in Sahel – Enhanced Resilience and the Agro-Sylvo Pastoral Systems Support Program in Burkina Faso and Niger. Another intended area for impact in the livestock subsector will be facilitating and integrating policy changes to support of livestock production, marketing and trade.

#### **4.6.5. POLICY ENVIRONMENT**

West Africa's policy environment supporting livestock has had mixed results. Existing policies, like the head tax and restrictions on the export of livestock under a certain age in Mali are disincentives to stimulating innovation. In fact, these policies constrict off-take. Investors face production and marketing risks, and yet they have limited access to improved services, e.g. feed and business advisory services. West Africa's public service organizations control the production and marketing of livestock vaccines. Unfortunately, the pricing structure does not always reflect market realities and the use of subsidies create market distortions at the local level, reducing the overall profitability of the sector. In addition, these constraints are set within the context of forecasted negative impacts of climate change on the livestock subsector. Governments in the region need a proactive policy agenda that includes the private sector stakeholders.

A recent Performance Vision, Strategy assessment by the World Organization for Animal Health for Nigeria suggested that government needs to invest at least 30% of its agricultural budget to the livestock subsector to meet Comprehensive Africa Agricultural Development Program guidelines of an average annual growth rate in agriculture of 6% by 2015. Most countries within the region have not met this benchmark, even though livestock is the third largest contributor to foreign exchange earnings after gold and cotton in West Africa. This deficiency will need to be addressed by West African governments and their technical and financial partners.

Other important policies where regional programs can be active include harmonization of rules and practices and adoption of a common external tariff, as well as policies related to customs procedures and charges that differ in neighboring countries and create a problem of illegal commerce. The main regulatory and legal constraints that the value chain must overcome to achieve an improved level of competitiveness are quality standards, transportation costs, and inadequate and uncoordinated livestock MIS. There are also a number of infrastructure constraints to be overcome: lack or inadequacy of roads, weighing stations, loading ramps, cattle dips, and slaughtering and processing facilities (which raise transaction costs and exacerbate information asymmetries between producers and traders, and discourages investment in processing). Simplification and reduction of tariffs facilitate the flow of regional trade in livestock. The Trade Hub should be a leader in promoting tariff simplification and reduction in order to increase trade in the region, and specifically seek to harmonize tax policies in the region.

## 4.7 CLIMATE RESILIENCE AND ENVIRONMENTAL SUSTAINABILITY

Given the probable impact of climate change on pasturelands in the West Africa countries, small ruminants is identified as having a large potential for positively impacting the largest number of rural households. Researchers at Yale University found that with declining rainfall and increasing temperatures, livestock herders in Africa will shift to production of sheep and goats (Seo, et al., 2006). The cattle industry will benefit from advancements made in feeding and marketing Small Ruminants since both species are normally held jointly by households, and both species are traded throughout West Africa.

Productivity of cattle can decline with lower fertility rates. If there are fewer cattle, this will change the trade patterns. Climate change will affect crop and livestock live weights. The result of climate change is for pastoralists in the drier areas to focus on being a breeding herd and selling yearling stock to producers in the higher rainfall areas of southern areas. The shift to small ruminants needs to be accompanied by more commercial off take as shoats can be destruction to the ecosystem if not managed properly. Livestock insurance could be part of a set of risk management tools.

## 4.8 OTHER HURDLES TO SUCCESS

The main regulatory and legal constraints that the value chain must overcome to achieve an improved level of competitiveness are quality standards, transportation costs, and inadequate and uncoordinated livestock market information systems. Infrastructure constraints to be overcome are: lack or inadequacy of roads, weighing stations, loading ramps, cattle dips, slaughtering facilities, and processing facilities (which raises transaction costs, exacerbates information asymmetries between producers and traders, and discourages investment in processing).

## 4.9 SWOT ANALYSIS

### Strengths

- Opportunities for greater efficiency in cattle exporting, if done correctly
- Existence of numerous cattle markets
- Significant levels of Sahelian cattle are sold in the coastal markets.

### Weaknesses

- Unexpected delays on regional roads delay transport and reduce the export earnings
- Low attendance / use of livestock markets
- Difficulty of access to substantial funding
- Dilapidated roads and means of transport in animals export.

### Opportunities

- Existence of organizations like COFENABVI which could help traders to access to the coastal markets

- Existence and availability of financing institutions interested more in the livestock sector
- Existence of attractive coastal markets (Nigeria, Ghana, Benin, Côte d'Ivoire)

#### Threats

- Road harassment could decrease the revenues of traders
- The poor condition of many existing trucks can cause cattle mortalities
- A sudden increase in supply of animals in certain markets could lower prices

# 5. VISION AND UPGRADING STRATEGY

## 5.1 VISION

The cattle livestock value chain actors in West Africa will professionally supply quality livestock/red meat for West African markets in sufficient quantity to meet the region's demand at prices that are competitive with the out West Africa's region one.

## 5.2 UPGRADING STRATEGY

### a. Strategies

- Improve livestock feed and health
- Improve the property of cattle quality feed in the region
- Make inexpensive, high quality meat available for a growing population
- Help ease road harassment as well as administrative hurdles and reduce transport costs
- Facilitate access to financing for all actors of value chain
- Make available relevant information to cattle traders for more timely decisions
- Fluid trade integration into the financial system to increase the supply of animal products in areas with strong demand and improve the technical and economic performance of actors
- Assist the industries to achieve strategies
- Help cattle organizations and private actors to implement consistent policies through effective advocacy
- Strengthen equitable relations between and among women and men emphasizing the decision making process (activities, external relations, etc.) and access to services, opportunities and benefits of the project.

### b. Recommended role of the Trade Hub in achieving these strategies

The Trade Hub should assist stakeholder organizations to develop and implement strategies to improve quality of livestock products, reduce transportation costs and facilitate access to finance.

## 5.3 RISKS AND MITIGATION

- No increase in access to financing opportunities
- Government lag in making needed policy changes
- Low participation by actors in the cattle value chain.

## 6. ADDITIONAL INFORMATION NEEDED

In the future, the project should closely work with stakeholders to get recent data on trade flows, production, and participants. Working with bilateral missions will be required in each country in order to coordinate and harmonize activities.

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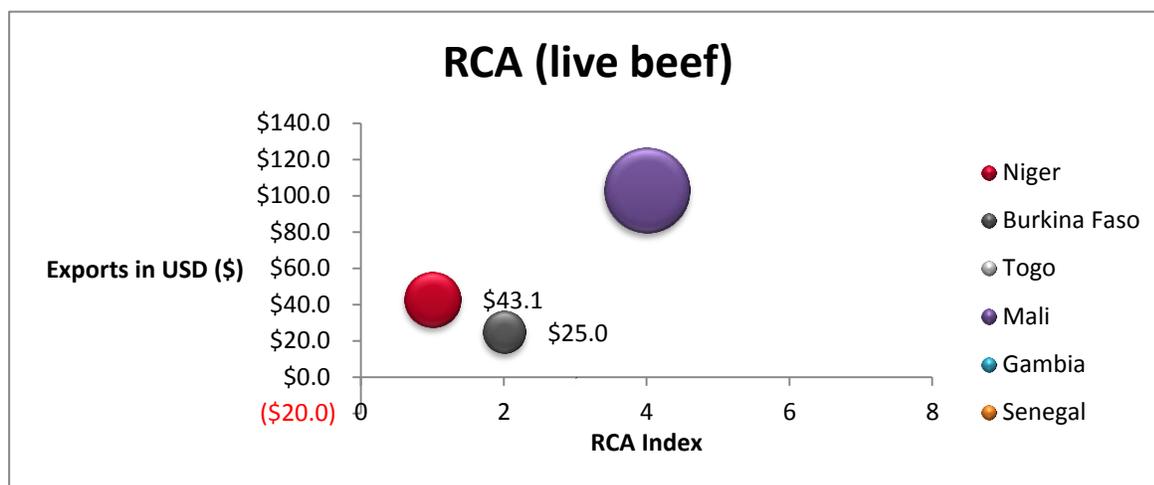
USAID ATP : Livestock Value Chain Development Plan

# ANNEX 2: PERSONS AND ORGANIZATIONS INTERVIEWED

	<b>Nom Prénom</b>	<b>Service</b>	<b>Occupation</b>	<b>Tel</b>	<b>Mail</b>
1	Issaka Sawadogo	COFENABVI	President	(225)77199 015	<a href="mailto:cofenabvi-ao@yahoo.fr">cofenabvi-ao@yahoo.fr</a>
2	Thomas Sawadogo	COFENABVI	Permanent Secretary	(226)70205 237	<a href="mailto:cofenabvi-ao@yahoo.fr">cofenabvi-ao@yahoo.fr</a>
3	Salif Coulibaly	Federation Nationale Cote d'Ivoire	President	(225)01989 608	<a href="mailto:cofenabvi-ao@yahoo.fr">cofenabvi-ao@yahoo.fr</a>
4	Boni Roger Felix	COFENABVI -AO	External relation Secretary	(225)57402 086	<a href="mailto:brf@yahoo.fr">brf@yahoo.fr</a>
5	Dr Moussa Coulibaly	COFENABVI -AO	General Secretary	(223)66730 528	<a href="mailto:bamoussacoulibaly@yahoo.fr">bamoussacoulibaly@yahoo.fr</a>
6	Rene Alphonse Barbier	FEBEVIM	President	(223) 66730528	<a href="mailto:barbieren@yahoo.fr">barbieren@yahoo.fr</a>
7	Dr Cisse Dadie	Mali Animal Production and Industry	Directeur	(223) 76440708	<a href="mailto:Cisse.dadie@yahoo.fr">Cisse.dadie@yahoo.fr</a>
8	Diane	Abattoir Sabalibougou	Manager	(226) 7888 6808	
9	Bocoum	Consultant	Consultant	(223) 66728131	
10	Aboubacar Ba	Traders Syndicat	Président	(223)66715 136	

# ANNEX 3: REVEALED COMPARATIVE ADVANTAGE

The Revealed Comparative Advantage (RCA) for Live Beef and its supporting data is shown below:



All data from 2011 except Togo (1998), Niger and Gambia (2010), and Mali (2012)

A	C	D	F	M	N	O	P
Product	Niger	Burkina Faso	Togo	Mali	Gambia	Senegal	World
Beef-live	22,058,424	\$8,964,764	\$25,453	54,749,759		2,969	\$8,391,854,000
Beef-meat	\$8,288	\$979	\$26,569	\$2,146	\$1,504	31,502	\$2,503,305,000
Beef-Total	\$22,066,712	\$8,965,743	\$52,022	\$54,751,905	\$1,504	\$34,471	\$10,895,159,000
country total exports	1,098,000,000	768,000,000	\$1,132,000,000	1,139,000,000	\$133,000,000	\$4,251,000,000	
World Total Exports							17,999,547,615,000
RCA Beef	33.2	19.3	0.1	79.4	0.0	0.0	
RCA (live beef)	\$43.1	\$25.0	\$0.0	\$103.1	\$0.0	\$0.0	
RCA (beef meat)	\$0.1	\$0.0	\$0.2	\$0.0	\$0.1	\$0.1	
product year is different							

Country export data from UN Comtrade, country totals from WTO.org, world exports from FAOSTAT 2011

## Explanation of Revealed Comparative Advantage

The idea to determine a country's 'strong' sectors by analyzing the actual export flows was pioneered by Liesner (1958).

The procedure was refined and popularized by Bela Balassa (1965, 1989) it is popularly known as the Balassa Index. Alternatively, as the actual export flows 'reveal' the country's strong sectors it is also known as Revealed Comparative Advantage.

Balassa defined the export performance of a specific product/industry from a country – as measured by revealed comparative advantage index – as the relative share of the country's export of the product in the world export of the same product, divided by the overall share of the country in world exports. More specifically, the revealed comparative advantage index of product j exported from country i (RCA<sub>ji</sub>) can be expressed as follows:

$$RCA_{ji} = (X_{ji}/X_{jw}) / (X_i/X_w), \text{ where:}$$

$X_{ji}$  = exports of product j from country i  
 $X_{jw}$  = world exports of the product j  
 $X_i$  = exports of country i  
 $X_w$  = world exports

The RCA index ranges from 0 to infinity with 1 as the break-even point. That is, a RCA value of less than 1 means that the product does not have export comparative advantage, while a value above 1 indicates that the product has a "revealed" comparative advantage.

For the case of live beef:

Export data ( $X_{ji}$ ) for each country are shown in row 2 under respective country names; so it can be written as X (live-beef, Nigeria); X (live beef, Burkino Faso), etc

$X_{jw}$  or X (live beef, World) in cell P2 = \$8.4Bil (rounded)

$X_i$ , exports of the countries, are shown in row 4

$X_w$ , world total exports, in cell P5 = \$18Trillion (rounded)

$RCA(\text{live beef, Niger}) = (C2/P2)/C4/P5 = 43.1$ . It means that Niger has a revealed comparative advantage for live beef compared to the rest of the countries in the reference group, since its RCA is greater than 1. Burkina Faso also has a revealed comparative advantage of 25. However, Mali, with  $RCA = 103$ , is a leader in the live beef exports in the sample group (based on available data, 2011).

These calculations are limited by the availability of export data.

# ANNEX 4: OTHER DATA

### Evolution of number of cattle from 2003 to 2012 in Mali, Burkina and Niger to CI, Benin

Species	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Mali</b>	7 233 580	7 450 588	7 532 000	7 904 329	8 141 459	8 385 703	8 896 392	9 163	9 438 182	9 721 328
<b>Burkina Faso</b>	7 312 000	7 458 000	7 607 000	7 759 000	7 914 000	8 072 000	8 234 000	8 398 000	8 566 000	8 738 000
<b>Niger</b>	6 529 092	6 920 838	7 336 088	7 737 397	8 242 827	8 737 397	9 261 641	9 011 897	9 552 611	10 125 767

### Cattle exports from Burkina Faso, Côte d'Ivoire, Mali to Coastal Countries (2009 - 2013)

Country of Origin	DESTINATION																									
	2009													2010											2011	
	Benin		Cote d'Ivoire		Gabon		Ghana		Nigeria		Senegal		Benin		Cote d'Ivoire		Ghana		Nigeria		Senegal		Togo		Benin	
	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur
Burkina Faso	9213	5848515	1075	678976	27	18876	30687	14722964	33743	20431505			27444	16308503	1190	705896	118225	57752962	112462	59602277			1925	584975	72	33222
Cote d'Ivoire																	958	472456								
Mali			22709	8436895							17400	9259902			39797	14712201					92309	47449104				
Total général	9213	5848515	23784	9115871	27	18876	30687	14722964	33743	20431505	17400	9259902	27444	16308503	40987	15418096	119183	58225417	112462	59602277	92309	47449104	1925	584975	72	33222
	2011																									
	Cote d'Ivoire		Ghana		Niger		Nigeria		Senegal		Togo															
	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur
	295	173764	121018	119823179	603	324230	113866	67307551					2746	999047												
	39301	16412758									117362	59001272														
	39596	16586522	121018	119823179	603	324230	113866	67307551	117362	59001272	2746	999047														
	2012													2013												
	Benin		Cote d'Ivoire		Ghana		Niger		Nigeria		Senegal		Togo		Benin		Burkina Faso		Cote d'Ivoire		Ghana		Nigeria		Togo	
	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur
	624	301848			103199	73787507	109	48585	130902	77889722			2760	1006571	117	65031	473	330783	1815	1330460	13873	11218568	21610	13766749	577	235490
			13287	6260335								30325	14731035						10333	7206631						
	624	301848	13287	6260335	103199	73787507	109	48585	130902	77889722	30325	14731035	2760	1006571	117	65031	473	330783	12148	8537091	13873	11218568	21610	13766749	577	235490

## Cattle exports (2013 - 2014)

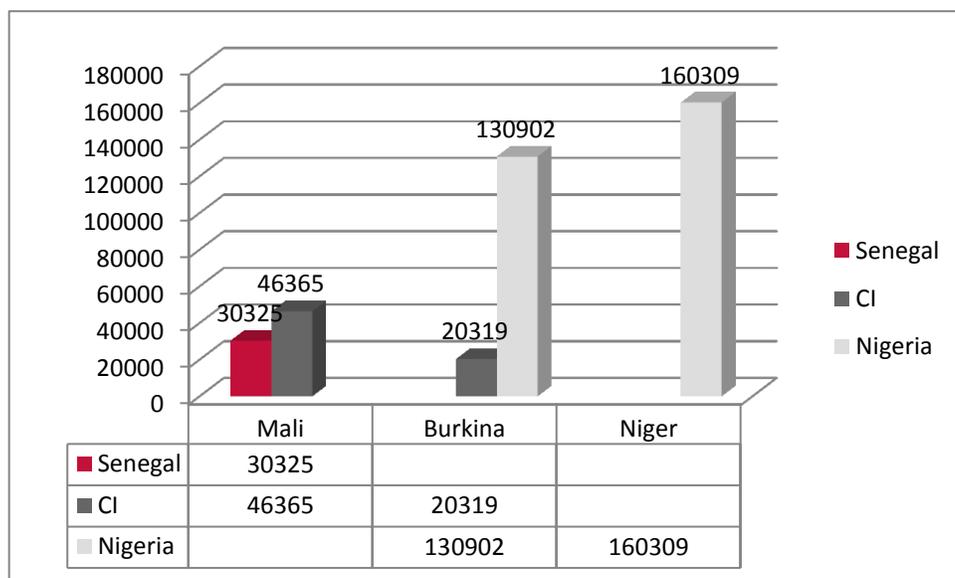
Country of Origin	DESTINAION																											
	2013																2014											
	Benin		Burkina Faso		Cote d'Ivoire		Ghana		Niger		Nigeria		Senegal		Togo		Benin		Cote d'Ivoire		Ghana		Nigeria		Senegal		Togo	
NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	NB	Valeur	
Benin	1507	816803										11481	6341304									2941	1851469					
Burkina Faso	14161	9616512			20260	13744221	91638	68254994	1734	1172227	81609	55148405			1479	708220	577	369874	14776	9364401	22156	14982059	36173	25252485		831	391	
Cote d'Ivoire							6396	4718362													178	119924						
Ghana							5	3243																				
Mali					44398	25880080								62075	34830627					19272	11525937							
Niger			1350	1375281								10309	7702201												10360	7555738		
<b>Total général</b>	<b>15668</b>	<b>10433315</b>	<b>1350</b>	<b>1375281</b>	<b>64658</b>	<b>39624301</b>	<b>98039</b>	<b>72976599</b>	<b>1734</b>	<b>1172227</b>	<b>103399</b>	<b>69191910</b>	<b>62075</b>	<b>34830627</b>	<b>1479</b>	<b>708220</b>	<b>577</b>	<b>369874</b>	<b>34048</b>	<b>20890338</b>	<b>22334</b>	<b>15101984</b>	<b>49474</b>	<b>34659692</b>	<b>17598</b>	<b>10602701</b>	<b>831</b>	<b>391</b>

## MALI : Destination of export cattle (Unité : Têtes) 2012 (DNPIA)

SPECIES	DESTINATIONS												TOTAL
	Algérie	Bénin	Burkina	Gambie	Ghana	Guinée	Libéria	Niger	Nigeria	RCI	Sénégal	Togo	
Cattle	690	10 022	6 319	127	401	18 269	245	967	965	46365	30325	482	207 266

Source: DNPIA, 2012

### Cattle Exports from Mali, Niger and Burkina to Senegal, Côte d'Ivoire and Nigeria



### Principaux Resultats des flux de Bovins depuis ATP et CILSS en Avril 2013

Année	Origine	Nombre Têtes	Destination
2009	Burkina-Faso	17 575	Nigéria
	Bénin	4 519	Nigéria
2010	Burkina-Faso	48 935	Nigéria
	Gogounou	6 790	Parakou
	Mali	1 313	Nigéria
	Parakou	14 849	Nigéria
2011	Nikki Dérassi	10 282	Nigéria
	Parakou	16 299	Nigéria
	Burkina-Faso	35 575	Nigéria
	Gogounou	6 857	Parakou
2012	Nikki	7 964	Nigéria
	Parakou	17 553	Nigéria
	Gogounou	7 243	Parakou
	Burkina-Faso	24 496	Nigéria

### Prices at Selected Supermarkets in Abidjan

Description of Items	Price in CFA/kg of meat				
	Local		Imported	Country of Import	Other Country of Import and their Prices
	From Imported Animals	From Local Ranch			
<b>Whole chicken</b>	3,200				
<b>Chicken breast</b>	7,980				
<b>Tenderloin</b>	6,490	9,990	14,900	Brasilia	
<b>Leg</b>	4,430				
<b>Leg of Lamb</b>	4,900		21,500	France	
<b>Veal Liver</b>			40,000	France	
<b>Loin</b>	5,980	6,980	30,980	France	
<b>Kidney</b>					
<b>Beef Rib eye</b>	5,980	6,980	30,980	France	
<b>Liver</b>					
<b>Shoulder</b>	2,980				
<b>T-Bone Steak</b>					
<b>Lamb Chops</b>					
<b>Ground Beef</b>	4,980				
<b>Ground Beef</b>	5,080				
<b>Pork Chops</b>	4,780				
<b>Rumpsteak</b>		6,980			
<b>Beef roast</b>					
<b>Beef Ribs</b>					
<b>Beef steak</b>	3,280				
<b>Beef Kidney</b>	3,280				
<b>Beef Tongue</b>	3,280				