



**USAID**  
FROM THE AMERICAN PEOPLE

# OPPORTUNITIES MISSED OR SEIZED IN ECOWAS: TRADE BARRIER EFFECTS ON AGRIBUSINESS INVESTMENT

USAID AGRIBUSINESS AND TRADE PROMOTION (ATP) PROJECT

January 2013

This publication was produced for review by the United States Agency for International Development. It was prepared by Abt Associates for the USAID Agribusiness and Trade Promotion Project.

**Recommended Citation:** Nedelcovych, Mima and Denise Mainville . January 2013. “*Opportunities Missed or Seized in ECOWAS: Trade Barrier Effects on Agribusiness Investment.*” Prepared by Abt Associates Inc. Bethesda, MD.

**Contract/Project No.:** EDH-I-00-05-00005-00-08

**Submitted to:** Danielle Knueppel, COR  
Agribusiness and Trade Promotion Project  
USAID/WA  
Accra, Ghana



Abt Associates Inc. ■ 4550 Montgomery Avenue ■ Suite 800 North ■  
Bethesda, Maryland 20814 ■ T. 301.347.5000 F. 301.913.9061 ■  
[www.abtassociates.com](http://www.abtassociates.com)

# OPPORTUNITIES MISSED OR SEIZED IN ECOWAS: TRADE BARRIER EFFECTS ON AGRIBUSINESS INVESTMENT

AGRIBUSINESS AND TRADE PROMOTION (ATP) PROJECT

JANUARY 2013

## **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.



# ACKNOWLEDGEMENTS

The authors wish to thank all the ATP/E-ATP staff who supported the creation of this report through contributions of their time, expertise, and energy. We particularly appreciate the contributions of Marjatta Eilitta, Christine Ohresser, Sara Miner, David Ivanovic, Mamadou Sanfo, Seydou Sidibé, Kokou Zotoglo, Daouda Moussa, Salif Ouedraogo. Special thanks also to ATP/E-ATP consultants Ngane Cheikh (Senegal), Daouda Diomande (Cote d'ivoire) and Kojo Osae-Addo (Ghana) who took part in the interviews in their country. The substantive and logistical support of Abt home office staff, and especially Sally Cameron, Ed Keturakis, Franchesca Minikon-Reece and Micah Johnson, was greatly appreciated.

We would also like to thank the numerous interviewees who put aside time to respond thoughtfully and helpfully to our inquiries. While we hope that this report will contribute to the development of the respective value chains with which our interviewees engage, we also recognize their contributions are given without any expectation of direct benefit and appreciate their selfless contribution to the project.

Finally, we would like to express our appreciation of the reviewers of the initial draft of the document, as their constructive criticisms contributed to a stronger final report.

# TABLE OF CONTENTS

## Contents

<b>Acknowledgements</b> .....	<b>1</b>
<b>Table of Contents</b> .....	<b>2</b>
<b>Acronyms</b>	<b>4</b>
<b>Executive Summary</b> .....	<b>5</b>
<b>1. Introduction</b> .....	<b>8</b>
<b>2. Background</b> .....	<b>9</b>
2.1 West African Food Staples .....	9
2.2 Generalized Commodity Trade Flows .....	9
2.3 The Economic Community of West African States and Current Trade Barriers.....	10
<b>3. Data collection and methods</b> .....	<b>11</b>
<b>4. Results</b>	<b>14</b>
4.1 Maize Value Chain .....	14
4.1.1 Introduction to interviewed firms and their Business Models .....	14
4.1.2 Respondents' Perspectives on Value Chain Organization, Constraints, and Opportunities	14
4.1.3 Trade-Related constraints to Value Chain Development and Investment.....	15
4.1.4 Opportunities seized or missed .....	17
4.2 Millet–sorghum Value Chain.....	18
4.2.1 Introduction to interviewed firms and their Business Models .....	18
4.2.2 Respondents' Perspectives on Value Chain Organization and Opportunities.....	18
4.2.3 Trade-Related constraints to Value Chain Development and Investment.....	20
4.2.4 Opportunities seized or missed?.....	20
4.3 Rice Value Chain .....	21
4.3.1 Introduction to interviewed firms and their Business Models .....	21
4.3.2 Perspectives on Value Chain Organization, Constraints, and Opportunities .....	21
4.3.3 Trade-Related constraints to Value Chain Development and Investment.....	23
4.3.4 Opportunities seized or missed .....	25
4.4 Livestock Value Chain.....	26
4.4.1 Introduction to interviewed firms and their Business Models .....	26
4.4.2 Perspectives on Value Chain Organization, Constraints, and Opportunities .....	26
4.4.3 Trade-Related constraints to Value Chain Development and Investment.....	28
4.4.4 Opportunities seized or missed?.....	29
<b>5. Discussion and conclusions</b> .....	<b>30</b>

**References 33**

<b>Appendix A: Scope of Work .....</b>	<b>33</b>
<b>Appendix B: Questionnaire .....</b>	<b>37</b>
Questionnaire in English .....	37
Questionnaire in French .....	38
<b>Appendix C: List of persons consulted.....</b>	<b>41</b>
<b>Appendix D: Commodity Production and Trade Data .....</b>	<b>43</b>

# ACRONYMS

<b>ATP</b>	Agribusiness and Trade Promotion
<b>COFENABVI</b>	<i>Confédération des fédérations nationales de la filière bétail/viande de l'Afrique de l'Ouest</i>
<b>E-ATP</b>	Expanded Agribusiness and Trade Promotion
<b>ECOWAS</b>	Economic Community of West African States
<b>FODEL</b>	<i>Fonds de développement de l'élevage</i> (Livestock Development Fund)
<b>ISO</b>	International Standards Organization (International Organization for Standardization)
<b>NGO</b>	Non-governmental organization
<b>PPP</b>	Public-Private Partnerships
<b>SITARAIL</b>	<i>La Société internationale de transport africain par rail</i>
<b>SME</b>	Small and medium enterprise
<b>USAID</b>	United States Agency for International Development
<b>VAT</b>	Value-added tax



# EXECUTIVE SUMMARY

It is broadly recognized that greater regional trade would enhance food security in West Africa. Nonetheless, numerous barriers limit cross-border trade of agricultural inputs and commodities, and imports of food staples to West Africa have increased consistently and significantly over time. These barriers have immediate effects on trade in agricultural inputs and commodities. They also have dynamic effects on the willingness of private sector actors to invest in the region by influencing both risks and expected returns on those investments. While the general nature of these constraints is well understood, their manifestations and impact for different market actors, and their developmental effects in terms of foregone and failed investments are not. This report documents the results of a field activity aimed at addressing this information deficiency.

Data was collected using semi-structured interviews conducted over a two-month period in Mali, Burkina Faso, Senegal, Cote d'Ivoire, and Ghana. Key informants representing 40 key companies and entities working in the maize, millet–sorghum, rice, and livestock–meat value chains were interviewed. Interviewees included producers, buyers, wholesalers, transporters, processors, and associations. The interview addressed interviewees' business models, perceptions on constraints to growth, responses to those constraints, and the extent to which trade barriers within the ECOWAS region impede investment into and development of the sector. The overriding purpose of the study was to provide insight into private sector views on regional integration in West Africa in order to inform public and private sector actors about the sorts of opportunities that were being foregone in the current trade environment, particularly in the context of the forthcoming ECOWAS-USAID conference: Food Across Borders: Improving Food Security through Regional Trade in West Africa, to be held in January 2013 in Accra Ghana. The study was *not* intended to provide an exhaustive assessment of trade constraints and their impacts; indeed, the results are intended to be illustrative and exploratory, rather than exhaustive, completely, or fully representative of the broad diversity of experiences and actors throughout the ECOWAS region.

Urbanization and growing consumer incomes are increasing demand for maize and maize-derived products, particularly poultry. Interviewees reported a shortage of primary materials (and related inputs) as the key constraint they face in the maize value chain. The underlying causes of these shortages result from both domestic and trade constraints and resolving them will require complementary investments in each. Important trade-related barriers include the lack of an effective common market, lack of uniform seed certification and, weak quality standards across ECOWAS, and inadequate access to packaging materials.

Millet and sorghum are both primarily subsistence crops, with generally limited cross-border trade beyond the Sahelian countries, particularly for processed products. Exceptions to this generalization include significant millet trade from Nigeria northwards to Niger (some of which continues onward to other countries) and demand for millet products among the Sahelian diaspora in West Africa and outside the region and sorghum for regional breweries. Traders reported that trade barriers exist and have a disproportionately discouraging effect for millet markets due to their overall low margins. Nonetheless, it was apparent from interviews that the primary constraint to regional development of these markets was the overall stagnant demand for the product beyond areas of its local production.

The rice value chain has great growth potential in the region, both due to its increasing demand as well as the region's potential competitiveness as a producer. Due to large gaps between demand and supply in the region's countries, expanded production will likely be absorbed into national markets initially, with

the exception of rice producing regions near border areas. However, as consumption increases, and as production increases to meet that demand, larger regional markets will quickly become a critical factor allowing for efficient investments in milling and distribution to be made on the basis of an ECOWAS market rather than numerous national markets. Nonetheless, very pronounced trade barriers, sustained in part due to the political sensitivity of rice as a key staple commodity, impede development of cross-border supply chains. These trade barriers include inconsistent policies, unofficial costs, import tariffs, and market-size related diseconomies of scale.

The livestock–meat value chain is growing in importance as urban consumers' incomes increase. Its structure, however, is organized in a very traditional manner with multiple points of intermediation that are driven more by customary organization than value addition, increasing the cost of the final product. Meanwhile, regulatory structures and price controls at abattoirs create disincentives for upgrading and modernizing. Significant trade barriers exist, many of them informal and resulting from border agents taking advantage of the high “perishability” of livestock to extract bribes from traders. In view of the fact that the cattle rearing regions are well-removed from the consuming urban areas, there is much to be gained from free flowing borders in this value chain. Nonetheless, these changes must be instituted alongside investments in the structure and organization of critical points along the value chain too if real payoffs to be realized.

Overall, our research revealed a variety of implications for ECOWAS trade barriers on the value chains we studied. These constraints have immediate “static” effects” on trade in agricultural inputs and availability of commodities. They also have “dynamic effects,” that influence the longer-term development trajectory of the sector by influencing willingness of private sector actors to invest in the region, as returns on investments are uncertain. Both static and dynamic effects were observed; these differed across value chains on the basis of market size, the degree of development of the value chain, and the political sensitivity of the commodity being traded. In particular, it was clear from our interviews that businesses organize themselves to operate the most efficiently they can within the parameters and constraints of the realities of the market.

With respect to production of raw material, the region's small national markets and political sensitivities created around short-sighted notions of food security create disincentives to increase domestic production. Significant quantities could be procured for processing right across borders which would increase efficiency and reduce costs, but such economies of scale are not taken advantage of due to the constraints described for each value chain. Improvements to production and milling could be gained from economies of scale if markets were allowed to expand, increasing efficiency and reducing costs. Ironically, Nigeria, which represents nearly 60% of the total ECOWAS region's population, is treated as a totally separate market by the processors than the rest of ECOWAS due to its size and political and economic power. More generally, the failure to impose a common external tariff, compounded by the divergent and uncertain cross border internal tariffs, only reinforces businesses' tendencies to think in terms of national rather than regional markets.

It was clear from the study that regional trade barriers create serious constraints to trade of the commodities, as well as the value added products made from those commodities, that we studied. In a number of cases, issues that are internal to the country were equally critical, and it was also clear that in many cases investments to increase productivity and strengthen support systems within the country must complement efforts to resolve trade barriers.

At the most dynamic level, the lack of vision of ECOWAS as a “common market” has the effect of sustaining a tendency for national-level business models, despite the economies of scale which could be achieved from taking a “common market” perspective. The lack of scale economies not only results in higher costs; it also impedes improvements in quality and the ability to compete with imports.

In summary, impacts on the private sector resulting from the lack of enabling environment for regional trade could be characterized as:

- Not making the investments which would allow realization of scale economies through focus on more than one country, in procurement of raw materials and/or in marketing of products.
- Avoidance of the company's involvement in procurement across borders by procuring from traders who are ready to bring the supply to doorsteps.
- Avoidance of company's involvement in marketing products to another country by using distributors who take charge of the product at doorstep.
- Disincentives to investment into capital goods for value added processing and/or packaging that can only be justified by larger markets.
- Disincentives to creating regional warehousing/storage facilities for raw commodities, as well as value added food products, under warehouse receipt or collateral management schemes.
- Diminishing potentially competitive assets throughout the region and across the value chains by not encouraging economies of scale and in effect nullifying benefits to be gained from improved transport, materials handling and logistics.

In all cases, results of these behaviors hurt the food security and economic development in West Africa. The first instance results are fewer and smaller investments; second and third results often mean continuation of 'informal' trade where regional trade is assigned to actors who are ready to do 'what it takes' to get supply or products across borders, which leads to continued losses due to inefficiency and graft rather than the larger-scale investment and improvements that are permitted in more enabling environments.

# I. INTRODUCTION

The Agribusiness and Trade Promotion (ATP) project and the Expanded Agribusiness and Trade Promotion (E-ATP) projects are companion initiatives of USAID/West Africa. Together, they seek to promote the development of staple food value chains, particularly maize, rice, millet–sorghum, and livestock. Both projects aim to increase the value and volume of intra-regional trade along the major commercial corridors linking Senegal, Mali, Burkina Faso, Niger, Benin, Togo, Ghana, Côte d’Ivoire, and Nigeria. The ultimate objective of the projects is to enhance regional food security.

It is broadly recognized that greater regional trade would enhance food security in West Africa, particularly given the fact that West Africa’s natural resource base and diversity of agro-ecologies provides the potential for individual countries to develop strong comparative advantages for production and marketing of agricultural commodities. In a market-oriented society with a significant degree of urbanization, the concentration of food production and consumption are generally geographically separated, meaning that trade is necessary for food needs to be met in deficit areas, and to motivate investments in production and value-addition. Thus, the flow of agricultural commodities from surplus to deficit areas is critical to improvements to regional development and food security. In West Africa, production areas and consumption areas are often separated by international borders, and a plethora of regulatory and other barriers preclude the realization of food security-enhancing trade between these areas.

Numerous factors exist that limit trade in agricultural commodities, and imports of food staples to West Africa have increased consistently and significantly over time (World Bank 2012). These limiting factors include regulatory restrictions, weak physical infrastructure, corruption, inadequate product and input availability to support the development of a self-sustaining market, and recurrent political crises.

These constraints have both immediate and long-term effects. For example, seasonal export bans, often unofficial and unregulated, have the immediate effect of curtailing that trade with present opportunity lost, and also dissuade producers from making investments to produce for cross-border markets despite attractive prices, due to the risk that they might be arbitrarily excluded from exporting in the future due to these barriers. These real and/or perceived barriers dissuade processors from making production and processing investments whose success depends on cross-border trade.

While the nature of these constraints is generally well understood, their manifestations and impact for different market actors, and their developmental impact in terms of foregone and failed investments are not. This report documents the results of a field investigation aimed at addressing some of these information deficiencies. The objectives of the study were to categorize the constraints faced by market actors, to assess the impacts of the constraints on private sector investments in a framework that takes advantage of regional procurement or supply in staple agricultural commodities, and to draw reasoned conclusions regarding the likely outcomes if the identified constraints were removed. (The scope of work for the study is provided in Annex A). To the extent possible, the analysis differentiates results by type of value chain actor (commercial farmer, supplier, buyer, wholesaler, transporter, processor, etc.), by commodity (maize, rice, millet–sorghum and livestock–meat), and by country.

It is critical to point out that this study does not attempt to document trade flows or value chain structure, though it does provide information of both of these as reported by the interviewees, to

provide a context for framing their perspectives. There are numerous sources of information on trade flows available, although limitations in data collection resources and capabilities, differing methodologies, and the significant extent of informal (and hence undocumented) trade mean that this data is often incomplete and at time contradictory.

## 2. BACKGROUND

### 2.1 WEST AFRICAN FOOD STAPLES

Rice, millet, sorghum, and maize are five of the seven most important sources of energy for West African consumers, as shown in Table I. Livestock is an important source of protein for particularly the more affluent consumers.

Table I: Staple food consumption in West Africa, 2009

	Food supply (kcal/capita/day) (2009)
Rice	337
Millet	267
Sorghum	244
Maize	243
Cassava	233
Yams	211
Bovine Meat	18
Mutton & Goat Meat	11
Poultry Meat	7

Source: FAOSTAT, 2013.

Despite their critical importance to food security and the agro-ecological/biological potential that West Africa has to produce them at a comparative advantage, West Africa is highly dependent on imports from outside the region to meet its staple food needs. Low productivity at the farm level is due to the paucity of appropriate farming systems and inputs and limited incentives to invest in increasing output or production efficiency. The limited incentives are themselves due to systemic constraints that reach across the value chains, such as inadequate scale of operations for cost efficiency, inadequate support services and infrastructure (such as finance, storage, transport, market information, etc.) (West African Trade Hub 2011). Together, these constraints conspire to keep West African value chains for these staples unproductive and uncompetitive.

### 2.2 GENERALIZED COMMODITY TRADE FLOWS

Authors such as Haggblade, Longabaugh et al. (2012), World Bank (2012a) and World Bank (2012b) have used the concept of “market sheds”, “food sheds” and “trade basins” in West Africa. For cereals, for example Haggblade, Longabaugh et al. (2012) characterize three “food sheds”, based on comparative advantages in production. The “Eastern Market Shed” encompasses Niger, Nigeria, Chad and Benin, sorghum and millet produced in Northern Nigeria and Southern Niger moves from local assembly markets to the wholesale market in Kano Nigeria and on to consumption centers. The “Central Market Shed”, including Cote d’Ivoire, central and eastern Mali, Burkina Faso, Ghana and Togo, dominates maize production and trade in the region. Finally, the “Western Market Shed”, including Mauritania, Senegal, central and western Mali, Sierra Leone, Guinea, Liberia, and the Gambia, is responsible for a growing share of rice trade in the region. Despite the regional nature of these market sheds, trade barriers among countries tend to inhibit intra-regional trade while encouraging reliance on domestic production and imports from outside of Africa. Rice, for example, is a key staple in West Africa, yet trade barriers and insufficient production in every single country means that most commerce takes place within the country of production. Meanwhile, though the region produces approximately half of the rice it consumes, 90% of the marketed rice comes from imports, most of which is imported from countries such as China, Thailand, Vietnam, India and the U.S. which currently have advantages over West African countries in cost and quality. With respect to livestock, Sahelian countries, particularly Burkina Faso, Niger and Mali, are critical sources of supply to the region (Josserand, 2012).

## 2.3 THE ECONOMIC COMMUNITY OF WEST AFRICAN STATES AND CURRENT TRADE BARRIERS

In addition to the internal issues (described above) which contribute to a generally low level of development of the agricultural sector in countries throughout West Africa, barriers to trade among the West African countries have also been identified as a key constraint to the development of the sectors. This is particularly the case given the small size and low purchasing power of each country (with the exception of Nigeria) which means that if scale economies and production efficiencies are to be achieved, the individual West African countries need to ease and promote trade among themselves in order to allow their relative comparative advantages to develop.

The Economic Community of West African States (ECOWAS) was formed in 1975 with the mission of promoting regional economic integration (African Union). In 2002, the ECOWAS Trade Liberalization Scheme was adopted, and in 2005, ECOWAS’s 15 member countries agreed to a common agricultural policy. The dissemination and implementation of ECOWAS’s trade policy is still incomplete, however, and it is broadly recognized that many barriers to regional trade, both formal and informal, persist. Indeed, in some cases the situation has worsened as national governments restricted trade and implemented protectionist policies following the 2008 food price crisis (World Bank 2012). As a result of these policies and other barriers in the ECOWAS and other regions, the World Bank estimates that only 5% of Africa’s international trade in food staples takes place between African countries with the remaining 95% coming from outside of Africa (World Bank 2012, piii).

Table 2 below provides examples of trade barriers that exist for our value chains of interest in the ECOWAS region. These examples were drawn from a study conducted by the Agribusiness and Trade Promotion project conducted in 2011.

Table 2: Summary of Policy Barriers to Intra-Regional Trade in Basic Foodstuffs

Value Chains	Identified Policy Barriers to Trade in West Africa
Rice	<ul style="list-style-type: none"> <li>• Seasonal export bans</li> <li>• Value-added tax (VAT) of 18 percent charged in discriminatory fashion</li> <li>• Countries prohibit the export of rice produced with subsidized inputs</li> </ul>

Value Chains	Identified Policy Barriers to Trade in West Africa
	<ul style="list-style-type: none"> <li>• Need for certificate of origin to avoid paying the full range of customs duties</li> <li>• Cote d'Ivoire asks for certificate of origin for the bags in which cereals arrive</li> <li>• Non-respect of equivalence of phytosanitary certificate</li> <li>• Refusal by Burkina Faso certification body to certify seeds intended for export</li> </ul>
<b>Millet/ Sorghum</b>	<ul style="list-style-type: none"> <li>• Seasonal export bans</li> <li>• VAT of 18 percent charged only on imports not on local production</li> <li>• Senegal special surcharge on millet imports</li> <li>• Need for certificate of origin to avoid paying the full range of customs duties</li> <li>• Cote d'Ivoire asks for certificate of origin for the bags in which cereals arrive</li> <li>• Non-respect of equivalence of phytosanitary certificate</li> </ul>
<b>Maize</b>	<ul style="list-style-type: none"> <li>• Seasonal export bans</li> <li>• Countries refuse to allow exports of maize produced with subsidized inputs</li> <li>• Need for certificate of origin to avoid paying the full range of customs duties</li> <li>• Cote d'Ivoire asks for certificate of origin for the bags in which cereals arrive</li> <li>• VAT of 18 percent charged when maize is VAT-exempt</li> <li>• Non-respect of equivalence of phytosanitary certificate</li> </ul>
<b>Livestock/ Meats</b>	<ul style="list-style-type: none"> <li>• Regional governor's export authorization requirement in Mali</li> <li>• VAT and other fees charged on Malian exports by Senegal</li> <li>• Basket of fees for transit operations</li> <li>• Burkina Faso's Livestock Development Fund (<i>Fonds de développement de l'élevage</i>, or FODEL) export tax</li> <li>• Non-respect of equivalence of veterinary certificate across borders</li> <li>• Difficulties in exporting to Cote d'Ivoire</li> <li>• "Parking tax" imposed by local authorities in Bitou, Burkina Faso</li> </ul>

Source: Extracted from Plunkett, Daniel and Frank Ofei. "Barriers to Staple Food Trade among ECOWAS Countries." Prepared by Abt Associates Inc. in association with CARANA Corporation, Bethesda, MD, November 2011, p. x.

### 3. DATA COLLECTION AND METHODS

Data was collected using key informant interviews conducted over a two-month period (November–December 2012). In all, 15 days of interviews were conducted. The first trip covered Mali and Burkina Faso and the second trip included Senegal, Cote d'Ivoire and Ghana<sup>1</sup>. Given the objectives of the study (including its limited scope) and scheduling and mobility constraints, "opportunity sampling" was used to identify potential respondents to the interviews. In this vein, the study's results are intended to be illustrative and exploratory, rather than exhaustive, complete, or fully representative of the broad diversity of experiences and actors throughout the ECOWAS region.

<sup>1</sup> Mali was an unanticipated addition to the slate of interviews that was permitted as the consultant was able to take advantage of unrelated business travel there to schedule interviews. In contrast, Nigeria, which was included in the original SOW, was excluded from the countries visited. The decision to exclude Nigeria was made on the basis of the mobility limitations that are currently prevalent in Nigeria, and considering that it would require an additional focus and level of effort beyond that available for the study.

A semi-structured interview questionnaire (see Annex B) guided the discussion between the interviewer and respondent to explore the specific topics in an open, conversational manner. The questions concerned the perceived constraints to growth, businesses' responses to those constraints and the extent to which the fragmented markets within the ECOWAS common market are an impediment to economic growth in maize, millet–sorghum, rice, and livestock–meat value chains.

Although the scope of work and underlying thesis generated specific lines of inquiry to be followed, the questionnaire itself was designed to support the collection of high quality, unbiased data through the avoidance of leading questions. Furthermore, while specific results reported in this document are drawn directly from interview results, the general observations offered in the synthesis and discussion rest on the triangulation of individual results permitted by interactions with numerous actors at multiple levels of the value chains examined.

Interviewees were identified on the basis of “opportunity sampling” drawing on professional contacts of the consultant and project staff. Interviews were conducted in person with representatives of a total of 40 key companies and entities in the major cities (specifically Bamako, Ouagadougou, Bobo-Dioulasso, Dakar, Abidjan, Accra, and Kumasi) of the countries visited. Interviewees spanned the full spectrum of the concerned value chains including suppliers, buyers, wholesalers, transporters, processors and associations. Sensitivity around the fact that our interviews included potentially often delicate and detailed questions pertaining to proprietary information led us to exclusively rely on personal interviews.

It must be stressed that our conclusions are drawn from a limited, although diverse, selection of key informant interviews (summarized in Table 3), and should be considered as illustrative and exploratory rather than exhaustive or complete. While 40 separate individual interviews were conducted (significantly surpassing the 20 interviews specified in the SOW), the scope covered by those interviews far exceeded that number due to companies having either multiple facets and/or operating in multiple of the value chains we investigated. Annex C provides a list of experts interviewed.

Table 3: Scope of interviews across value chains, countries and industry actor

	<b>Mali</b>	<b>Burkina Faso</b>	<b>Senegal</b>	<b>Cote d'Ivoire</b>	<b>Ghana</b>
Total interview days	3	3	2	3	4
<b>Maize</b>					
Farmers	-	-	-	-	3
Processors	2	4	4	1	1
Traders/distributors	1	2	2	1	2
Input suppliers	1	1	-	-	2
Transporters	-	-	-	1	-
Associations	-	-	-	-	1
<b>Rice</b>					
Farmers	-	1	3	3	3
Processors	2	3	2	3	4
Traders/distributors	2	2	1	2	5
Input suppliers	-	-	-	-	2
Transporters	2	-	-	1	2



Associations	-	1	-	1	1
<b>Sorghum/millet</b>					
Farmers	-	-	-	-	-
Processors	2	2	1	-	-
Traders/distributors	2	1	-	-	-
Input suppliers	-	-	-	-	-
Transporters	-	-	-	-	-
Associations	-	-	-	-	-
<b>Livestock-meat</b>					
Farmers	-	-	-	-	-
Processors	1	-	1	2	-
Traders/distributors	-	-	-	1	-
Input suppliers	1	-	1		
Transporters	1	-	-	2	-
Associations	-	-	1	1	-
<b>TOTALS</b>	<b>17</b>	<b>17</b>	<b>16</b>	<b>19</b>	<b>26</b>

# 4. RESULTS

## 4.1 MAIZE VALUE CHAIN

### 4.1.1 INTRODUCTION TO INTERVIEWED FIRMS AND THEIR BUSINESS MODELS

We interviewed 19 companies that produce and/or process maize and maize products, and/or trade maize often in conjunction with other commodities. We also interviewed several maize farmers in Ghana. Interview respondents represented a huge diversity of business models and operating sizes. Among the mills interviewed, small maize mills reported grossing under \$500,000 annual sales while the larger ones surpassed annual sales of \$1 million and had the potential to expand to multi-millions of dollars in annual sales. Smaller commercial farmers interviewed had sales of up to \$100,000, while input suppliers and off-takers of maize had sales in excess of \$10 million. The packagers and processors of processed maize food products for babies and adults ranged from small ones with several hundred thousand in annual sales to larger ones whose sales reached more than a million dollars per year.

Distinct business models were represented among the interviewees. Maize traders are not specialized, and sell some maize across borders in conjunction with other food commodities. According to FAO official statistics, the total volume of maize traded regionally across borders tends to be low and variable, as there is usually a limited maize surplus in any one of the producing countries in a given year. (Annex D provides data on production and trade for maize, as well as the other commodities studied.) Estimates of the “unofficial” trade crossing borders, however, show far more widespread and significant trade in maize, particularly where production is located close to borders, and neighboring countries find themselves in shortages (Josserand, Henri P. (2012) Assessment of Trade Flow Data Collected under the ATP/E-ATP Project).

The maize mills we interviewed were all near large urban centers, and their activity with maize is typically a “spill over” activity from milling wheat flour. Larger maize mills near Dakar and Abidjan relied primarily on imported maize to supplement local sourcing. Mills in the interior of the countries, such as the ones in Bamako, Ouagadougou and Kumasi, were of smaller capacity and relied primarily on maize grown in the local vicinity. As demand for processed maize has increased throughout the region, and especially as demand for poultry feed has grown, these maize mills began to increase capacity, only to run into the challenge of acquiring sufficient quality maize to keep their mills operating efficiently.

The standard sourcing approach for the millers and traders is to purchase maize from smallholders, many of whom are supported by the donor agencies and related projects, farmers associations and NGOs, all of which help them to improve yields and market access. Millers are also working with a variety of different contract outgrower models, as described further below.

### 4.1.2 RESPONDENTS’ PERSPECTIVES ON VALUE CHAIN ORGANIZATION, CONSTRAINTS, AND OPPORTUNITIES

Interviewees emphasized the positive prospects of the market in the context of growing demand for maize. The maize value chain is characterized by a number of different markets and submarkets, including maize flour (whole or blended with millet) for human consumption in various forms and preparations, baby food (also blended with soy and millet), animal feed (blended primarily with bran and soy), and the grits byproduct used in brewing beer. With increasing urbanization and growing middle-class purchasing power, there has also been a growing demand for maize flour (as a whole flour or

blended with millet), for maize as an ingredient in baby food (mixed with soy, millet or other cereals) and for couscous made from maize. Finally, urbanization and increasing incomes have also driven rapid increases in demand for poultry, and demand for maize to be used in poultry feed is growing particularly rapidly and is likely to catalyze the emergence of an industrial maize processing industry and stimulate a more commercial orientation to the value chain in general.

At the same time, a shortage of maize in the market was consistently reported by our interviewees to be a critical constraint. Insufficient volumes of maize available in-country for the processors leads to processing inefficiencies, raises costs and impedes the millers' ability to meet growing market demand. Maize production is dominated by smallholder production, where traditional, rain-fed systems predominate. There is a need for improvements to domestic producers' productivity if trade in maize in the ECOWAS region is to increase. This will require strengthened services on the part of government extension, NGOs, donors, farmers associations, and the like, so that they can increase their yields and quality of output.

Most maize is produced at the village level, processed in small mills and consumed in local traditional formulations, either as flour or couscous. With the exception of some recent commercial initiatives, production tends to rely on traditional rain-fed smallholder farming systems. The resultant low yields and inconsistent quality are not adequate to support the rising demand of commercial milling operations. The greatest constraint reported by the maize farmers we interviewed, both smallholders and budding commercial farmers, was getting good quality seed. Smallholders were also concerned with being able to get fertilizer at the right time and on affordable conditions, while the commercial farmers establishing larger operations were primarily concerned with the red tape of legally getting their paperwork in order for their long term leases (a common problem throughout Africa).

Millers and traders have instituted outgrower production schemes in order to help increase their supply of maize from domestic sources. One model links the smallholder to those who advance inputs to the farmer on the basis of a contracted future maize crop. Results of such contract schemes have varied in terms of contract fulfillment with "side-selling" by farmers being a frequent problem. There are also problems with product quality, including the presence of stones and impurities, and interviewees reported at times having product losses of up to 25% due to quality issues. Another model being developed is a more formally integrated commercial maize farm and milling operation with a nucleus estate and surrounding independent smallholders. This model involves much closer interaction between the contractor and farmers, helping to reduce the incidence of side-selling and contract default.

An example of a successful program is in the Tamale northern region of Ghana, where a supplier of seed and fertilizer advanced inputs in a timely manner and bought back the surplus maize produced, retaining some of the proceeds to pay back the advance. In this case, the distributor of seed and fertilizer "implanted" its agents into the farming communities, gaining the necessary loyalty and mutual confidence that the seed, fertilizer and payment for maize would always be available in a timely manner, hence increasing adherence to contracts. With an assured and contracted market and the cultivation of trust and loyalty, smallholders have been motivated to expand their production beyond subsistence levels. Consequently, the company has surpassed 60,000 tons of production after only seven years of the program, and expects to surpass 200,000 tons per annum production by 2015. Successful replications of such a scheme would help meet local milling needs, and also offer potential for exports to other countries, for example from Ghana to Burkina Faso and Togo.

#### **4.1.3 TRADE-RELATED CONSTRAINTS TO VALUE CHAIN DEVELOPMENT AND INVESTMENT**

Interviewees mentioned a number of trade-related constraints limiting their operations. The primary constraint for processors was an inadequate supply of primary material for processing. This, at its root,

is due to both internal and trade barriers that limit access to farm inputs and improvements to their effective application which reduces production of maize. Other trade-related constraints mentioned included shortages of packing material and lack of a common market that permitted economies of scale in processing, distribution, and/or marketing to be achieved.

Interviewees did not consider trade impediments to be a primary constraint to trade in maize, regardless of whether that movement was formal or informal. Two factors are likely behind the apparent ease with which maize can be traded across borders compared to other key staples such as rice. The first is that maize is not perceived as a politically “sensitive” commodity by either the authorities or the consumers, so that there is less pressure for constraints on trade (in comparison to other critical staples, such as rice, whose trade we found to be much more restricted). The second, related, issue is that the volume of cross-border trade in maize is still relatively small (as production is usually consumed domestically which helps to keep it “under the radar”) when it comes to drawing attention, again particularly in comparison to other staples which are traded more consistently and in much larger volumes. In fact, interviewees reported that they relied on imports from outside the region to meet their processing requirements—this was due in large part due to the location of many of these millers in larger cities close to ports through which such imports could be acquired.

#### **4.1.3.1 LACK OF A “COMMON MARKET”**

As demand for maize continues to increase, and regional supply increases to meet it, then the shortcomings of the lack of a truly common market in the ECOWAS region will become more pronounced. A legitimate ECOWAS common market will offer a scale of operations to support investment in modern storage, processing, marketing and distribution. As the scale of operations increases, then the likelihood of maize attracting attention from border officials is also likely to increase. For example, Ghanaian processors expressed interest in buying maize from Burkina Faso, but were also concerned over the impact of border issues as they sought to purchase the maize. Their anticipated solution was to construct a warehouse on the Ghanaian side of the border and require that the suppliers arrange for transfer across the border. In the future as production increases in northern Ghana and Ghanaians seek markets to supply Burkina mills, the reverse problem will arise. These pragmatic solutions, however, would increase costs and reduce efficiency compared to how transactions would be conducted in the absence of such trade barriers. Other interviewees described a similar solution with the distributor from Accra; in each case, the border crossing impediments led to less efficient distribution networks.

#### **4.1.3.2 LACK OF UNIFORM SEED CERTIFICATION ACROSS ECOWAS**

As stated above, maize productivity is constrained by inadequate availability of good seed. A major factor underlying the availability of quality seed is the lack of uniform seed certification throughout the ECOWAS market, and consequently a very weak seed propagation and distribution capacity. Exceptions, as we found in Ghana and certainly exist in the other maize growing countries, are for the commercial farmers and properly structured outgrower schemes to rely on seed imported from outside the ECOWAS region. When that was done in a timely way and the correct practices were applied, the resulting yields were competitive, but an opportunity for a seed propagation and distribution business was lost.

#### **4.1.3.3 WEAK QUALITY STANDARDS ACROSS ECOWAS**

Weak quality standards raise the risk and cost of transacting maize across borders as the lack of objective and consistently applied standards creates incentives to profit by selling a poor quality product. Millers expressed interest in the possibility of establishing privately managed collateral management operations where maize, as well as other grains, can be graded and stored in central warehouses and/or silos, to be transferred to their milling operations between countries as needed to support processing requirements and to help smooth out price fluctuations. Over time, such a system could support the

development of a grain/cereals exchange (as is beginning to take root in Eastern Africa and is already further evolved in Southern Africa). For such a system to emerge, there needs to be a system of objective, verifiable and consistently applied quality grades and standards.

#### **4.1.3.4 INADEQUATE ACCESS TO PACKAGING MATERIAL**

Inadequate access to packaging material was cited as a constraint by both lower-end and high-end maize processors. For the lower end processors availability and affordability of packaging material are the key issues. On the higher-end of the scale, as the businesses grow and attempt to compete with well-known international brands, the quality of the packaging and branding become critical competitive issues. Inadequate access to quality packaging means that higher-end processors are impeded from meeting demand for specialty products such as vitamin-fortified flours or single-serve, pre-cooked meals, for which demand is also growing.

Access to quality packaging is a trade-related issue because industrial plants need a scale of operations to justify investment in its production and distribution. Thus, while firms can access good packaging material in Abidjan and Accra they cannot in the smaller markets of Bamako and Ouagadougou. The critical issue here is whether regional markets for packaging material are large enough to warrant setting up a packaging materials plant of sufficient quality and cost competitiveness with bringing it in from the international markets.

#### **4.1.4 OPPORTUNITIES SEIZED OR MISSED**

Productivity and production enhancements resulting from improved access to quality seed are being foregone. Access to quality seed is one of the critical impediments to improvements in farm level yields and to date, trade barriers are a primary factor limiting the availability of quality seed; these will reduce in future if ECOWAS efforts for uniform regulations will be implemented..

Mills are missing out on the opportunity to expand their production and markets due to a lack of primary material and the market size that would allow them to scale up if such primary material were available. The ability of mills to expand output in response to growing demand is constrained. The biggest opportunities in the maize farming, milling, trading and packaging will arise from the natural growth of domestic and regional markets for maize for both human consumption and animal feed. To date we have seen maize mills still running at below capacity and struggling to procure sufficient quality throughput. Resolving their supply problems will augur well both for the milling business as well as the maize farming business.

Investments in processing equipment and storage to expand milling opportunities once supply issues are resolved are also at risk. As demand grows and by virtue of the fact that rain-fed maize will be most successful only in certain areas, there will be an increasing need to set up both storage facilities and mills where the maize is grown (currently they are mostly located in urban areas where they emerged as an offshoot of wheat milling activities). To be truly efficient and competitive, maize mills will have to scale up as will the storage facilities (either silos or warehouses) to store the maize before milling and the flour after milling. These are all capital investments that can only be justified by larger markets and those larger markets again will require a more functional ECOWAS trade bloc with true harmonization of common external tariffs and removal of internal ones. The raw material will have to flow to other mills irrespective of which side of the border the mill is on and we see that this will happen a lot as the best maize growing areas tend to be in the border areas between the Sahelian and coastal countries.

Finally there are missed opportunities for import substitution surrounding the maize-based processed foods whose consumption is increasing, most of which is now supplied by finished imported products that are distributed on a country-by-country basis. These products could be produced from locally supplied maize at industrial processing and packaging facilities that can only be justified with larger

markets. We have seen the production of pasta and other wheat products grow because of the certainty of being able to procure the right quality imported wheat and expect the same phenomena to be able to occur with locally produced grains like maize and rice for example, particularly if the common market truly functioned and labeled branded product could flow freely and efficiently. An increase in packaged foods distributed locally would also stimulate the need for manufacturing quality packaging materials locally.

## **4.2 MILLET–SORGHUM VALUE CHAIN**

### **4.2.1 INTRODUCTION TO INTERVIEWED FIRMS AND THEIR BUSINESS MODELS**

Seven firms operating in the millet–sorghum value chain were interviewed. Not surprisingly given the concentration of production in the Sahel, those firms were all in the three Sahelian countries covered by our survey (Burkina Faso, Mali and Senegal) where millet and sorghum are the traditional staples. It also appeared that much more emphasis was placed by the firms on millet than sorghum, and many of them also incorporated fonio, which offers relatively higher margins, in their product lines.

The firms were all relatively small, ranging in size from annual turnover of under \$50,000 to nearly \$500,000 yearly sales. One firm traded millet as a grain, while all the other firms we interviewed were processors of millet-based products. The primary processed and packaged products included infant food (*bouillie*) cereal foods for adults, millet flour (often mixed with some maize) and pre-cooked couscous made of millet. The one firm that traded millet and very limited amounts of sorghum did so as part of a broad range of grains they were trading, with millet and sorghum being by far the smallest portion of their business. The Burkinabe and Malian firms that processed millet, often with added maize or other grains in their products, sourced the millet locally while the Senegalese firms needed to import some of their raw millet as not enough was produced in Senegal.

### **4.2.2 RESPONDENTS' PERSPECTIVES ON VALUE CHAIN ORGANIZATION AND OPPORTUNITIES**

Respondents focused their reflections on the overall market potential of millet and sorghum on the staple, subsistence nature of its production and markets. Millet and sorghum are key food staples, particularly for poorer and rural consumers throughout much of West Africa. Both millet and sorghum are produced on a subsistence basis with little marketed surplus and the general tone of the interviewees reflected a lack of enthusiasm regarding the market's potential. (Exclusion of interviews in Nigeria may have contributed to this outcome of the interviews.) Exceptions to this generalization included several processors that were attaining a size and sophistication in their own domestic markets that led them to consider investing in developing a product (with attendant packaging and branding) for sales to niche European markets. For these firms, expansion into the larger regional market was not attractive because of the limited market and low margins (See Annex D for official data on production versus trade for millet and sorghum).

Production generally takes place on poor soils in drought-prone areas with little or no fertilizer and no improved seeds or varieties. As witnessed during the 2011-2012 year which saw low rainfall in parts of Sahel, significant flows exist from Nigeria northwards to Niger, and some of it onwards to other Sahelian countries. Other millet flows, smaller in size, are multiple and crisscross the Sahel. Nonetheless, our interviews were conducted with few traders working with millet and none working with sorghum. Thus our results below focus on the market for millet.

Millet is a Sahelian staple and there is a limited market in the Sahel area as well as within the Sahelian diaspora market in the coastal countries of ECOWAS. There is also limited demand for pre-prepared and single-serve packaged products such as baby and adult cereal foods, flour and couscous products. Their markets are the urban national markets seeking easier and quicker cooking options and the niche higher-end Sahelian diaspora markets in Europe and North America that require better packaging and branding. Another notable example is the creation of new uses for the traditional products, where larger couscous-like millet “balls” are being introduced into salads by certain Spanish chefs. Other such culinary applications were mentioned as possible market niches.

The processed and packaged millet-based products, while a limited market, were viewed as presenting an opportunity for growth within the regional and extra-regional markets, including the growing urban market in Africa for both infant and adult food products and the niche Sahelian diaspora market in the coastal African countries and in Europe and North America. With increasing urbanization and working families in West Africa, growing consumer incomes, the ease of preparing healthy pre-packaged foods for both children and adults is becoming increasingly attractive. In the Sahelian countries, millet is key staple and families will consume millet-based products. The Sahelian diaspora outside the Sahel, however, offer a very interesting niche market for these packaged products, especially around holiday times, although the overall size of the potential market is still considered small.

Because the processors are small, they suffer the same financing gaps that are characteristically experienced by small and medium-scale enterprises (SMEs); namely banks tend to be averse to lending to them. The processors compensate for shortages of financing by funding investment through internal savings, which slows their growth. Not being able to borrow for working capital means slower growth trajectories, while not having access to longer-term capital goods and project financing make it more difficult to enter higher quality markets. We found this finance “gap” to be the main reason for the lackluster growth of even the “niche” sector that is available for this product line. Moreover, most of the smaller firms did not have enough sophistication and wherewithal to properly approach financing institutions and mostly relied on donor programs to obtain what financing they could. Easing access to finance could support the expansion of equipment, better packaging, more effective marketing of millet-based products to the domestic market, and a better and more formal organization of the distribution of the products to the diaspora market overseas (particularly in Europe).

Interviewees stated that there is little trade of processed millet (such as couscous) among the Sahelian countries. Interviewees reported that each country has small firms trading the same products, and that given little effective demand, there is no incentive to try and expand marketing to new areas. Small-scale traders also buy direct from the factories and ship to the diaspora, often on an informal basis. Overall, traders reported that there was little demand for traded millet and sorghum, primarily due to the subsistence nature of the crop meaning that the bulk of trade in these crops takes place at the village level. At the regional level, there is a small volume of trade relative to domestic production, and interviewees reported thin margins. Senegal tends to consistently import a small amount (usually from Mali) to supplement its own production, while self-sufficiency ratio in the region fluctuates greatly, due to the uncertainties in rainfall in the millet production areas. The one trader we did interview that does move limited amounts of millet and sorghum product across the Sahel reported facing numerous trade barriers and referred to the ECOWAS common market as a “myth”. Between the small market and border constraints, traders prefer to focus on higher-margin products like cowpea and rice in order to get returns that compensate for the hassles of cross border trading.

Obtaining good quality supply of millet was likewise not reported to be the problem that it was for the processors of other grains such as maize or rice. Possibly this was a result of the fact that the preparation of the millet on the front end is highly labor intensive which means that stones and impurities do not represent the threat to machinery that they do for mechanically processed grains. The

labor intensiveness of millet processing is also a factor because it means that scale economies (needing to have adequate throughput to operate at an efficient scale) is not an issue.

### **4.2.3 TRADE-RELATED CONSTRAINTS TO VALUE CHAIN DEVELOPMENT AND INVESTMENT**

In the case of millet and millet-based products, the critical limitation to growth was not reported to be the difficulty of trading across West African borders, but the limited potential for development of the market due primarily to the lack of demand at the regional level, and a lack of financial resources and business expertise to develop the domestic industries. Specifically, the real impediments to growth (however limited its potential might be) were reported to be lack of financing, the relative smallness and lack of sophistication of the processing firms; and the slim margins that millet traders reported which reduced the payoff in to investing in organizing formal distributions and markets.

#### **4.2.3.1 FRAGMENTED REGIONAL MARKETS**

Millet–sorghum markets are highly fragmented. According to our interviewees, this is because overall market demand for millet and sorghum is relatively small, margins are thin, and so there is little incentive to invest in development of the regional market. Thus, for most of our sample, free flowing borders were not an issue as the unprocessed millet and sorghum were sourced locally and the market was primarily local. An important exception to this was one firm that was trading in a multitude of grains, including millet. This trader reported the formal and informal obstacles to trading across borders to be excessively costly as the thin margins on its trade made left little room for cost recovery, while its demand among poorer consumers also limited the opportunity to pass on the costs through increased prices. Indeed, this is one way that poorer consumers who tend to consume more traditional products such as millet are disproportionately hurt by these constraints which discourage trade.

For the processed products, exports were made primarily via informal diaspora channels so the companies producing the product did not have to deal with any of the policy or practical export related issues in any case. The processors let the informal traders deal with any difficulties of moving product within the region. Some of those processors when shipping to Europe, however, did not find the same difficulties as perceived when shipping within the region, and preferred to be the exporters of record, including keeping those mark ups to themselves. The formalities and informal complications of trading within the region ironically made exporting to Europe simpler than formally exporting within the region (it should be noted that this result cannot be generalized to cereal staple value chains for which aflatoxin incidence and risk is higher, creating issues for exports to Europe which has strict standards relating to aflatoxin).

#### **4.2.3.2 ACCESS TO PACKAGING**

A major concern all the processing firms had was availing themselves of good quality packaging materials at affordable prices. The urban domestic markets, as well as the diaspora markets elsewhere in the region or overseas, increasingly demand higher quality and more attractive packaging. Being able to develop one's market thus becomes synonymous with accessing the quality packaging material, and that in turn often hinges on obtaining financing.

### **4.2.4 OPPORTUNITIES SEIZED OR MISSED?**

Millet and sorghum are essentially subsistence crops and our interviewees showed little inclination for commercial investment to expand their activities with them, particularly with ECOWAS markets in mind. Nonetheless, there are a few notable exceptions that we came across, some of which could be stimulated by freer flowing trade in the region.



The Sahelian diaspora market in the coastal countries of ECOWAS is essentially a forgone opportunity for many traders who do not pursue activities due to the trade barriers which exist or whose trade costs are increased as a result of those barriers. Traders of millet and producers of millet products in the Sahel countries could beef up production for exports to those niche markets but the volumes and margins, as well as constraints to trade, mean there is inadequate incentive to do so.

The overseas markets are obviously not hampered by the difficulties surrounding free trade movement in ECOWAS. Several of our respondents reported being interested in exporting processed products to Europe. Ironically, these respondents did not find the same difficulties as perceived when shipping within the region, and preferred to be the exporters of record, including keeping those mark ups to themselves.

Finally, scaling up the production of processed millet products for the coastal Sahelian diaspora, and even trying to introduce them to the non-Sahelian consumer in ECOWAS countries is a potential that could be stimulated by easier trade within the block, though the total volume of trade will remain limited. Likewise, alleviation of the constraints that limit the availability of packaging material would help ECOWAS producers to produce products with the sophistication that could help expand sales to diaspora markets in Europe.

## **4.3 RICE VALUE CHAIN**

### **4.3.1 INTRODUCTION TO INTERVIEWED FIRMS AND THEIR BUSINESS MODELS**

Our interviews in the rice sector generally focused on larger actors, such as traders like Olam whose annual sales are in the tens of millions of dollars, to large producers of rice with millions of dollars in sales. As an exception to this generalization, we did interview several small women's cooperatives producing parboiled rice in Burkina. We interviewed 14 firms involved with trading rice, farming and processing, or planning to enter production. The rice producers ranged from the small village producers supplying the small scale parboiling operations run by women in the Bama region of Burkina Faso to the larger commercial operations with associated milling capacity in the Accra Plains region of Ghana. All the existing or prospective millers we interviewed had their own nucleus estate farming operations in addition to contract schemes from the small farmers to assure themselves of sufficient throughput of raw paddy. The imported rice traders, who usually also marketed other commodities such as sugar and maize, distributed and sold branded rice in 50 kilogram sacks that were either imported from overseas through the major ports of Dakar, Abidjan or Tema or bought ex-mill gate for the local rice. We did observe some smaller units packaging local rice in 25 kilogram sacks but did not interview any operations that packed in smaller quantities.

In the following, we cover some issues relevant to rice imports from outside of the region, as some actors are involved in importing from outside and in domestic marketing, and presumably, were regional trading to increase, some of the present infrastructure could be transferred for use in trading and milling of West African rice.

### **4.3.2 PERSPECTIVES ON VALUE CHAIN ORGANIZATION, CONSTRAINTS, AND OPPORTUNITIES**

Statistics show that while the ECOWAS region produces approximately half of the rice it consumes, 90% of the marketed rice comes from imports from outside the region, particularly China, Thailand, India, and the U.S. (World Bank 2012) which compete on delivered cost. Imports of rice into the

ECOWAS market total over 3 million tons per year, half of which is destined for Nigeria alone. Meanwhile, as urbanization increases in the region, so does demand for rice, which is generally preferred to other cereals by city dwellers in large part due to its ease of preparation. There is also a small but growing niche market for specialty rice, for example fragrant varieties, among wealthier urban consumers.

Since the 2008 food crisis, a plethora of commercial rice milling operations have sprung up in the ECOWAS region in response to the higher prices<sup>2</sup>, though all face constraints of sufficient supply of paddy to process efficiently. Rice farmers are present, numerous, and diverse, in each of the countries we visited. They range from small growers, organized to varying degrees by farmers associations across the countries, to larger commercial farmers to increasingly integrated models, whereby smaller farmers are linked to nucleus modern commercial farmers. The need to increase production levels has led to a diverse set of responses, including strengthening farmers' organizations, improving government-funded research and extension services, donors and NGOs assigning more resources to improved production, and private developers promoting integrated public-private partnership (PPP) rice projects that combined small holder schemes with mechanized core farms and modern milling facilities.

There has been an explosion of new rice initiatives and plans for increasing rice production throughout the ECOWAS region. They have been led by host governments, development agencies, NGOs, farmers associations, and the traders themselves deciding to get into local production to assure themselves of supply. These initiatives have included attempts to improve yields, reduce post-harvest losses, upgrade milling techniques and generally improve marketing and distribution of the product throughout the region. The focus has been on the smallholder and mechanized industrial farming, as well as increasingly on "blended PPP schemes" where small farmers are contracted to produce for larger nucleus farms and industrial milling operations. The advantages of the integrated models, when properly organized, is that the small farmers are assured of timely input of seed and fertilizer and a guaranteed market for their production, while the mills are assured of adequate supply of paddy to run at maximum efficiencies. It must be noted that the integrated model is still in its early implementation phases and the exception to the traditional small holder operations.

Rice traders and their distribution mechanisms tend to be organized on a country-by-country basis rather than taking advantage of what could be a larger unified market. This is also the case in the farming and milling operations where business plans are focused on domestic, rather than regional, markets. As an example, two trading houses that were interviewed, Olam and Novel, replicate their operations in each country in which they operate rather than attempting to scale up in certain geographic locations. While this makes sense in light of the fact that individual countries do not produce enough to meet their domestic demand, it is more clearly a reflection of trade barriers when traders who rely on imports report this approach, and it also reflects a lack of reliance on country-to-country trade within the ECOWAS region which would help smooth local surpluses and deficits. Moreover, it reflects the political sensitivity and "explosiveness" of exporting rice from any one country that is still not a surplus producer to another neighboring country that is deficient even if more profitable.

On the import side, the rice sector is dominated by a handful of large importers in each country, each with their own large storage facilities at or near the ports through which they import. The large importers focus on the larger ECOWAS countries with greater consumption of rice, and set up their major receiving and warehousing centers in those ports. Dakar, Abidjan, Accra, and Lagos are classic

---

<sup>2</sup> Examples of such schemes are seen in Senegal on the Senegal River, Yamoussoukro (YANOVEL) Ghana (GAPCO), Office du Niger in Mali, the Bagre irrigated area's agribusiness zone in Burkina, and a large national rice project in Nigeria.

cases where major import operations are organized by the large importers. The smaller coastal importing countries such as Liberia, Sierra Leone, Benin, and Togo, in contrast, are supplied by one-off domestic importers who receive goods in smaller lots into their own ports rather than through larger central import and distribution points. The large inland importing countries, including Mali, Burkina Faso and Niger, are serviced by their own nationally based traders who import through dedicated customs warehouses at their selected nearest maritime ports of entry. .

Having received the imported products, the importers sell rice to national distributors. The importers have their own branded labels which are then marketed further by the traders (at wholesale and retail levels) throughout each country. The traders/distributors are usually country specific, and deal across several commodities such as maize, millet, and sugar. It is uncommon for rice traders to work across multiple countries; instead they limit their activities to a national level of operations in each country. This is particularly the case with the landlocked countries, whereby each of the countries rice distribution is dominated by a few large traders importing through the large importers based in the coastal countries with the large ports of Dakar, Abidjan and Accra. In border areas where either the rice production or the natural markets for the mills lay across the borders, constraints to growth exist due to the perceived and actual trade barriers, particularly when concerning sensitive food commodities such as rice.

Importers reported that their financing is guaranteed by stock in the warehouse, and that financing was not a significant constraint. Importers worked on an international letter of credit basis and the distributors generally paid on 30-60 day terms. What was clearly expressed was a desire for having central warehouses in the landlocked countries with proper collateral managers which would stabilize speculative price fluctuations by having readily available supply and improve the incentives for local production.

### **4.3.3 TRADE-RELATED CONSTRAINTS TO VALUE CHAIN DEVELOPMENT AND INVESTMENT**

#### **4.3.3.1 IMPORT TARIFFS**

The biggest issues raised by the importers and traders are the widely divergent import tariffs placed on rice by the various countries in ECOWAS at the first point of entry into the zone. As an example, these can vary from 15 percent in Cote d'Ivoire to 35 percent in Ghana to up to 100 percent in Nigeria. That immediately creates all sorts of market dysfunctions that would not be found in a truly "common market" that purports to have a "common external tariff policy". Those external tariff discrepancies are exacerbated by the diverging internal cross-country duties and tariffs that again belie the common market concept.

#### **4.3.3.2 INCONSISTENT POLICIES**

A more dynamic issue mentioned by our interviewees was the unpredictability and consequent risk associated with governments changing their policies and/or not applying them consistently. Our interviewees universally expressed the importance of having established and well-known rules under which they can operate. As long as the generally unpredictable environment persists, traders will not be able to treat the ECOWAS market as a truly "common market".

Similar constraints were voiced by those in production and milling or otherwise planning on setting up such operations. These actors were concerned with the uncertainties of government policies concerning the exports of rice produced in any one country, again belying the notion of a common market. The constraint was most directly felt by producers in border areas where their closest and most lucrative

market was across the border. Governments would place the bans either because of concerns for food availability or rising prices in their own country. The difficulty for the producers came from the uncertainty around if and when the bans might come into play and if and when local border customs officers would apply them irrespective of the formal policy position.

Several examples of such issues were offered. For example, Cote d'Ivoire's rice producers in the Man region on the Guinea and Liberia borders were blocked from selling their product across the border. Likewise, rice paddy producers in Haute Guinea were prevented from exporting their paddy to the mill in Odiene on the Cote d'Ivoire side where they fetched a better price. Similar examples are rice produced in Bagre in Burkina Faso that would fetch a better price in Ghana or the parboiled rice produced by the coops in the Bama region of Burkina Faso that could receive a better and more guaranteed price from Malian or Ghanaian traders coming across the border, but are stopped from selling cross border due to "food security" restrictions imposed by Burkina. As production gears up on the Senegal river, a similar problem may occur if Mali blocks imports of Senegal-grown rice (to protect its own growers) or Senegal blocks exports for food security reasons, despite Mali's population centers such as Kaye being a lot closer to the production sites than is Dakar. These efforts to assure food security, support local production, or keep the cost of rice down in individual countries has the ultimate result of creating a disincentive to increase production in the region and ironically lead to the very long term shortages and price increases they purport to prevent.

We can point to an equally absurd situation in the reverse direction. In the 1990s, rice production and milling capacity was introduced in the Odiene region of Cote d'Ivoire. The milling capacity, however, was larger than the rice production in the area, so villagers from across the border in Guinea sold their rice paddy to the Ivoirians and presumably took back some of the milled rice. Politics and food security concerns in Guinea closed (or made more costly) that export of paddy which resulted in two things, the Ivoirian mills eventually closing and the small holder in Guinea becoming dis-incentivized to produce excess paddy since the market dried up. The net result was less production of rice! Ironically today there are plans for ramping up large-scale rice production and milling in those very same plains of Haute Guinea whose feasibility and financial justification very much reside on the neighboring Cote d'Ivoire and Mali markets. The biggest threat and show stopper for that potential project is the potential uncertainties of the Guinea government not allowing the rice exports to assure the availability of rice in their domestic markets and/or the Malian or Ivoirian governments blocking the imports to protect their producers from competition.

#### **4.3.3.3 UNOFFICIAL BARRIERS AND COSTS**

In addition to the formal constraints and complications, a litany of informal barriers and costs, applied at the ports, along the roads, and at borders, was articulated. While all parties interviewed acknowledged that the situation was improving, they also consistently reflected on all that remained to be done. Meanwhile, the losses that result from these trade barriers continue to accrue. As a very simple example, one company lamented that it was cheaper to have a multi-handling operation of a container to ship it to Lagos from Accra than it was to simply truck it over a relatively short distance of 400 kilometers. In another example, a major importer, wholesaler and distributor in a coastal country opened up operations, including warehouses and trucking fleets, in Ouagadougou and Niamey four years ago and closed them down two years later for the simple reason that hassling with cross-border shipments was too onerous and ultimately they found it simpler to have warehouses in their own country and have the buyers buy on a cash-and-carry basis and deal with the border issues themselves. In this case, dealing with the reality of the situation was not only a lost opportunity for investment but also in the end the final product delivered to the consumer was costlier. Several hundred thousand dollars in annual sales in Ouagadougou and Niamey are estimated to have been lost as a result of the cessation of these operations.

#### **4.3.3.4 LACK OF SCALE ECONOMIES**

The trade barriers force value chain actors to address their markets and opportunities on a country-by-country basis, which forces them to sacrifice gains that could be achieved through the pursuit of scale economies by undertaking activities with the regional market in mind. This is a critical constraint, as achievement of the economies possible through larger markets would help West African rice producers compete with the importation of cheaper Asian rice, as well as reduce the cost of rice to consumers in the ECOWAS region.

#### **4.3.4 OPPORTUNITIES SEIZED OR MISSED**

Of all the value chains investigated, rice farming, processing and trading present the greatest potential for scaling up and responding to the incentives of larger markets. This has not happened to the degree possible because of the above-mentioned trade constraints which were experienced consistently by all the parties we interviewed. These trade barriers have increased the costs and reduced the returns of investing in production, processing, and distribution of rice for ECOWAS countries. The lost opportunities resulting from these barriers point to millions of dollars of investments forgone. Several examples of such lost opportunities, as well as some opportunities seized, are detailed below.

An opportunity seized is the widespread investment in rice production throughout the ECOWAS region. A large scale revamping of rice production and milling in Yamoussoukro for supplying the nearby Abidjan market is an example. In Ghana, a major importer and distributor of rice is coming together with a startup rice producer/miller to assure itself of supply of local perfumed rice, the largest growing segment of the rice market that is much more competitive when produced locally and competitively. Once Mali comes out of its political turmoil, the ramped up production capacity in the Office du Niger is another example of economies of scale that could be garnered even within national borders.

Even in the context of the “seized” opportunity to expand production, there is an element of “missed” opportunity too in that the expansion in production is often aimed for domestic markets rather than for the regional market on account of the existing trade barriers. Taking Burkina Faso as an example, there are two good rice production areas, Bagre and Bama, which are on the borders of Ghana and Mali, and which risk losing investment in production given the uncertainty of access to markets in neighboring countries. Likewise, larger markets are required for those firms interested in producing specialty rice, like the perfumed varieties preferred by a growing number of urban dwellers.

The potential for efficiency gains from larger scale operations are being missed in many cases. The ECOWAS market is not seen as a structured one with a common external tariff. On the trading side, importers and distributors lament not having the opportunity to establish larger warehousing and distribution centers around their port facilities and more rational storage and distribution centers inland reflecting the population centers and their locations rather than national borders. Such rationality would lead to more investments in the warehousing capacities and the trucking fleets in that savings thru economies of scale could go toward financing such facilities and rolling stock, both trucks and rail. More examples arise when considering the decision to invest into rice farming or milling, and this is particularly the case when the production sites are located near borders and often closer to consumption centers in the neighboring countries than their own. Drawing on examples listed earlier, it is apparent that there would be an increase in production and milling in the Man region of Cote d'Ivoire if the millers could have been assured of being able to sell their product at market prices in Liberia or Guinea. Ironically these cross-border markets were more available during the civil conflict period in Cote d'Ivoire when the national administration was weaker than now in calmer times when the borders can be properly policed.

## **4.4 LIVESTOCK VALUE CHAIN**

### **4.4.1 INTRODUCTION TO INTERVIEWED FIRMS AND THEIR BUSINESS MODELS**

We interviewed a number of actors in the livestock–meat sector, including two abattoirs in Dakar and Abidjan, a proposed abattoir in Kaye, Mali, several members of COFENABVI and the President of the Butchers Association of Cote d’Ivoire. We interviewed abattoir owners, managers and developers and met with officials of COFENABVI to better understand how regional trade barriers pose constraints to the growth of the livestock value chain.

The abattoirs all had service revenue of millions of dollars per year. The butchers association of Cote d’Ivoire was also a very large operation with millions of dollars of transactions per annum in terms of cattle purchases in Niger through to the sales of cut meat in Abidjan. All of the existing abattoirs in the ECOWAS region that we visited belong to the local Municipality Authority, and are operated under a variety of concessionary models by private operators. All the abattoirs visited were old and rely on antiquated equipment.

### **4.4.2 PERSPECTIVES ON VALUE CHAIN ORGANIZATION, CONSTRAINTS, AND OPPORTUNITIES**

Industry experts that we interviewed estimated that nearly half the cattle slaughtered in the three major consuming centers, Dakar, Abidjan, and Accra, are imported from the three landlocked Sahelian countries, Mali, Niger, and Burkina Faso. Smaller numbers are also reportedly produced in northern parts of coastal countries and Senegal.

The butchers we interviewed reported that consumer purchases in large cities like Abidjan and Dakar are shifting from open market purchases of fresh meat, estimated to be 75%, to purchases from modern butchers and supermarkets, estimated at 25%, where just a few years ago purchases at the modern butcheries and supermarkets were limited primarily to the expatriate residents. Currently, cut and packaged fresh and frozen meat are not supplied from the inland countries to the coastal centers. Cut packaged frozen meat is imported from Latin America, Europe, and South Africa and is sold in the traditional markets and supermarkets. As urban consumers’ preferences, especially among those with greater purchasing power, shift toward pre-cut labeled fresh meat cuts from modern butcher shops, interviewees stated that the establishment of modern abattoirs in the cattle raising areas would become increasingly feasible from an economic perspective. This will introduce challenges of developing cold chain distribution networks, among others.

Cattle rearing is dominated by traditional herding methods where the herds graze on wide expanses of land and follow the seasonal rain patterns moving north and south with greener pastures. Ineffective advocacy and regulation contribute to this situation. The traditional orientation and organization of livestock production and value chain is considered to be one of its biggest constraints to development. Most of the actors, particularly those upstream, in the value chain, are illiterate and barriers to entry are low (as they are facilitated by family networks). As one observer pointed out, “everyone can be a butcher!” As consumer demand shifts the traditionally structured sector increasingly fails to meet modern standards of efficiency and health and sanitation requirements. Interviewees reported that until the establishment of COFENABVI, the regional livestock value chain association, professional organizations were almost non-existent.

The export of livestock from exporting countries (Mali, Niger, Burkina) to importing/consumer countries (Côte d’Ivoire, Ghana, Senegal, Benin, etc.) primarily takes place by road when it comes to

animals destined for fattening or for sale. Most grazed cattle, some of which are sold illegally, travel on foot, sometimes over a period of weeks or months. Increasingly, authorities are restricting this practice in light of herder-farmer conflict. Not all of these animals are destined for slaughter; some are destined for breeding.

Livestock marketing routes are well-known to exporters, who follow these by road or by foot. But repeat droughts have led parts of certain routes to be taken over for farming purposes. At times, livestock have to cross fields leading to severe conflicts between herders and farmers. This is why authorities increasingly encourage transport by truck or rail.

There are several types of livestock markets : (i) assembly markets, where assembly agents travel from village to village to buy one to three heads of cattle, (ii) aggregator markets: animals from different villages are brought to markets where traders gather, and (iii) terminal markets, primarily near slaughterhouses, where animals are sold to wholesale butchers or to exporters for sale in consumer countries.

Once the animals arrive in importing countries (Côte d'Ivoire, Ghana, Benin, Togo, etc.), exporters deal with a slew of intermediaries, from brokers to *teffas*, etc. These intermediaries generally have family ties to the Sahelian exporters. Once sales are finalized in end markets (Abidjan, Accra...), wholesalers lead the cattle to slaughterhouses, which oftentimes are old and don't meet standards. Wholesalers then sell the meat to butchers who, in turn, sell to retail butchers who sell the meat to the public in market stalls. Wholesalers typically sell the back parts (thighs) to supermarkets and modern butcher shops. The back parts yield the best cuts of meat. This is why the back parts are generally more costly than the front parts.

The abattoirs interviewed expressed sometimes contradictory constraints ranging from not receiving a steady supply of quality cattle to not having adequate facilities for the number of head they slaughter daily. Constraints begin at the very top of the value chain with the primary raw material supply, namely the cattle and small ruminants. They are mostly traditionally herded and are often still viewed as capital savings to the herders and are thus not treated as investments whose value is to be maximized but rather as a savings account to be drawn on when necessary by selling off certain number of head. That said, numerous factors, such as resource constraints (shortage of grazing lands or water pressures) and buyer pressure (demanding more consistent supply of higher quality cattle) are beginning to exert pressure for the chain to develop.

There is widespread recognition that the abattoirs are antiquated and needing large investments to upgrade the health and sanitary conditions they operate in as well as to improve their throughput efficiencies. All the abattoir operators recognized the value of installing modern abattoir lines, developing proper receiving feed lots, and improving the cold chain facilities. The root cause of this "stagnation" scenario is that abattoirs, whether owned and operated by the municipalities (case of Abidjan) or run on a concessionary basis by private operators (Dakar and Bamako) are service providers who work on a fixed-fee per-head basis which is controlled at the municipal level, reducing incentives to modernize and upgrade. Thus, the abattoirs remain in their antiquated states. Until such time as municipalities/governments loosen controls on the abattoir fees, tighten sanitary and regulatory health standards, or totally privatize the abattoir industry, the existing operators of the abattoirs are acting rationally by minimizing investment that would increase their costs but not their revenue.

The case of Dakar is most similar to the other abattoirs we discussed in that the Municipality has given a concession to a private company to operate all the aspects of the abattoir and remit the "taxes" as well as cost recovery for the health services to the competent public authorities. The abattoir charges a per-head service fee for the slaughter, and that price is regulated by the authorities. In certain cases, the

public authorities have also guaranteed commercial capital improvement loans to the abattoirs. Risk to the operator with the concession is thus minimal but the incentive to improve operations is also limited by the ceiling on the fees they can charge.

There are several cases where the traditional concessionary model is being adapted to allow for some upgrading. In the case of Abidjan, the abattoir has remained fully in the hands of the municipality and in fact the Director is a veterinarian and a full-time employee of the Ministry of Livestock, responsible for the health and safety standards. Certain aspects have been put out on concession like the receiving lot that has been fully cemented and improved in exchange for certain rights and fees. Capital improvement financing in this case, with the exception of what was put out as a concession, is tied to municipal public funding.

Another model that has been proposed but has not yet been implemented is a fully private abattoir for Kayes that would seek to have ISO certification standards and a modern processing line that would produce cut fresh meat portions primarily for export to the Dakar market. In this case the capital for the erecting and operating the abattoir would be raised on a commercial project financing basis.

Another exception to the traditional model is a venture which, at the time of our interviews, was about to be launched by the Butchers Association (and/or its members which was not clear) of Cote d'Ivoire. This venture would integrate the value chain, sourcing the cattle from as far north as Niger (with financing from a commercial loan facility) and transport them by truck and rail to Abidjan where they would be finished in feed lots before fitting into a contracted schedule for slaughter and delivery to the modern butcher shops. From Niger the cattle now walk to Ouagadougou (plans are to procure double-decker cattle trucks specifically for this in the future) and then get on the SITARAIL. No problems were indicated in procuring the cattle from Niger because they are forward purchased on contract through the traditional family ties. Specific capacity at the abattoir is also pre-arranged so as to assure completion of the cattle to meat value chain and delivery to modern butchers in Abidjan. Streamlining the whole value chain as described above would make the whole chain much more efficient, and regular, institutional and large purchases and deliveries would have a modernizing effect for the sector, including reinforcing the cold chain. The main threat to the proposed business is of course ensuring free flowing and regularized movement of the cattle across the borders.

Finally, this same group is also contemplating reinstating and strengthening the whole cattle ranching business in northern Cote d'Ivoire, with supplies of feed for intensive fattening at the end of the drives and establishing an abattoir in that area for cut meats to be distributed down to Abidjan. Having the abattoir on the Ivoirian side of the border would eliminate the threat of having to import fresh cut meat and being possibly held up at the border. This approach would minimize the border control threats as the cattle would be reared in Cote d'Ivoire and only supplemented by the necessary import of livestock, but would still require that a proper cold chain and transport system is set up for the timely delivery of the cut meats. Just the manner in which the investments are being contemplated in fact highlights the critical role that perceived threats to cross-border trade play in investment decisions, particularly for perishable items.

#### **4.4.3 TRADE-RELATED CONSTRAINTS TO VALUE CHAIN DEVELOPMENT AND INVESTMENT**

The livestock and meat value chain has a significant potential for modernization and the growth and development of a number of its actors along the value chain. At the moment, however, it is still organized traditionally and is in need of upgrading and modernization.



Transporting cattle across borders is impeded by a lack of clarity regarding the papers required (which vary by country) and the duties to be paid, both of which allow informal *tracasseries* (illicit activities, bribes, hassles, shenanigans, etc.) to become a particular problem for this value chain. Cattle are transported live, hence they are very susceptible to delays at border posts and other check points; the personnel manning those posts take advantage of this fact to extract maximum bribes. Mortality rates for cattle transported by train and truck (neither of which has specialized pens) can also be high at times. Easing the movement of livestock across borders is necessary to improve the performance of the whole value chain, but is not by any means sufficient.

#### **4.4.4 OPPORTUNITIES SEIZED OR MISSED?**

In the course of our interviews we came across a number of notable examples of potential investments that have not been able to come to fruition or are only just coming to fruition. These investments are possible in the cattle rearing and feeding, cattle transport, abattoirs and downstream pre-cut meat distribution.

Animal feed is produced industrially in Cote d'Ivoire and cattle/livestock formulations are being exported north to the cattle raising countries as advances in exchange for supplies of cattle head. More of this production and trade could be stimulated by easing moving product across the borders and freeing up certain distribution of feed monopolies. Another target market would be the fattening lots surrounding the abattoirs. Such lots outside the city limits, would in fact also act as buffer stocks for maintaining a steady supply of livestock and thus moderating the price hikes during holiday festivities. The provision of feed would also allow more intensive animal rearing as they are brought in closer to the market, which would allow also higher veterinary and health standards to be applied.

Modern and upgraded abattoirs are the potential target of a number of parties we spoke to but always the disincentive has been the unwillingness of the municipalities to allow private ownership conversion of existing ones or complicating the approval processes of newly proposed abattoirs. The most advanced we saw was the abattoir of Dakar which had been contracted on concession to private operators that was making strides to modernize but was still limited by the fees they could charge. Higher fees would allow them to fully modernize one line to ISO certification standards and export cut fresh and freshly frozen meat to Gambia, Cape Verde and Bissau. The competitiveness of that venture would of course depend on the common external tariff in the ECOWAS zone and would certainly call for scaling up the abattoir size.

Two potential abattoir projects have been identified for Mali. The more advanced example is a modern abattoir to be built in Kaye with ISO certification and targeting the pre-cut fresh meat market of Dakar, recognizing that Senegal imports nearly 50% of its cattle. When discussing the project with the Malian promoters, the big worry is market access since the Senegalese create border issues even with the live Malian cattle coming in, never mind cut meat. According to Senegalese side of the story, they find the justification of such a modern abattoir in Kaye a compelling story and would support it gladly, but apparently the Malian "authorities" are not allowing Senegalese into the capital investment. While it is beyond the scope of this study to inquire into the details of the deal, it seems that working towards an agreement would offer benefits to both Senegal and Mali.

Another potentially exciting investment would be a similar modern line for cut meat to be set up under ISO certification for export to Abidjan. Such an investment would take advantage of processing nearer to the location of the raw material and further big savings in transport as live cattle can take up to as much as 10 times more space than cut meat. Not having an assured access to the Cote d'Ivoire market threatens the opportunity to modernize the Malian abattoirs and expand both the meat cutting and animal feed business (fattening pens). Concerted action by both governments (Cote d'Ivoire and Mali)

could in fact make it easier for such investments if all the ECOWAS domestic markets were already encouraged to modernize for health and sanitation reasons.

The previously described investment in integrating the livestock supply chain is an example of an opportunity seized by the Butchers Association in Cote d'Ivoire. If successful, the initiative will increase efficiency and output of livestock. Financing to bring up to 800 cattle head per week from Niger and Burkina Faso with a 175,000,000 CFA or \$350,000 per week disbursement facility has been lined up with local banks and the promoters expect to bring in also 11,000 heads of sheep this year.

## 5. DISCUSSION AND CONCLUSIONS

Our research revealed a variety of implications for ECOWAS trade barriers on the value chains we studied. Both static and dynamic effects were observed; these differed across value chains on the basis of market size, the degree of development of the value chain, and the political sensitivity of the commodity being traded.

The “static” effects we refer to are those with direct and immediate implications for trade in each commodity, for example bans on exports or imports and surcharges on the commodity or its inputs. These barriers have been well documented in studies, and their manifestations were not surprising though the study does provide useful insight into their relative preponderance for different value chains.

The dynamic effects that were identified were relatively more unexpected. These “dynamic” effects had implications for the longer term strategies that value chain actors pursued in terms of whether or not to enter markets, where to site processing facilities, and the like. In most cases, however, these effects were difficult to elucidate, as they are implicit responses to the generalized trade environment which many actors take for granted, particularly those operating at a national level who do not have experience with other, vastly different, trade environments. For example, mills tend to set up close to supply sources (be they local production or imports), without the investors necessarily spending time on “if only” scenarios that they can't conceive of, such as a dynamic cross-border market.

Related to these dynamic effects is the way that trade barriers and the overall enabling environment shaped the value chain actors' vision or perception of the market and its limits and possibilities. This effect was most apparent when interviewees made statements that revealed that they conceptualize their market to be limited to the national borders, with no vision of the possibilities or potential of a truly “common market”. This perspective had direct implications for strategic investment decisions as national-level actors tended to be content to operate at the national level without envisioning the possibility of a larger, more dynamic market, whereas the international firms responded pragmatically, setting up national-level facilities in each market they entered despite the efficiencies that could be achieved by consolidating operations if the trade environment were more open.

We found that the direct trade barriers created the most consistent burden for trade in the politically sensitive commodities, rice being an example. Essentially, rice was on the radar for trade officials, and central to the operations of many cross-border traders. Furthermore, it was the subject of many international and regional export restrictions during the 2008 food price crises due to its central role in

the diets of ECOWAS-country consumers, particularly urban ones. Thus, rice was subjected to the most significant litany of “official” surcharges and regulations of any of the value chains we studied, and our interviewees anticipated these as they projected their trade activities and costs. In contrast, maize, faced less frequent, less significant, more ad hoc and informal trade barriers.

The threat of trade barriers and their effects had dynamic implications across all the value chains we investigated. For example, interviewees working with millet–sorghum reported that the trade barriers they faced, though less significant than those for rice, had the effect of dissuading them from trading millet at all. The low margins seen on millet meant that the proportional weight of additional costs resulting from trade barriers was greater, discouraging them from trading millet. As consumer preferences have changed for meat, and with competition from imports of frozen meat from outside the ECOWAS region, there are several firms looking at altering their business models significantly, though this might be a situation where the exception proves the general rule.

At the most dynamic level, the lack of vision of ECOWAS as a “common market” has the effect of sustaining a tendency for national-level business models, despite the economies of scale which could be achieved from taking a “common market” perspective. The lack of scale economies doesn’t only result in higher costs; it also impedes improvements in quality and the ability to compete with imports. For example, investing in updated processing facilities which will improve the quality of goods produced often entails increasing the scale of operations. If the input or market isn’t available to support a larger scale, then these investments will be forgone. In contrast, imports from outside the region are able to compete on both quality and cost (in part as a result of their scale of operations), hurting the competitiveness of regional commodities. The application of a common external tariff, accompanied by minimal or no internal tariffs, will be one critical step toward addressing this disparity.

When one looks at the production of these commodities, the disincentives of smaller segmented markets and the political sensitivities created around short-sighted notions of food security are even more detrimental to increasing domestic production. Efficiencies in production and milling are gained from economies of scale and the smallholder can be brought into this value chain. Obtaining sufficient amounts of raw material at the right levels of quality are also consistently large constraints that need to be dealt with by commercial milling operations.

What the above response from the private sector reflects is that the means and methods of procurement and distribution of staples, whether imported or locally produced, are less efficient and more costly than they would be in a truly unified common market. Ironically, the largest single market of Nigeria, which by both population and consumption of rice and many other major commodities represents more than half of all of ECOWAS, is treated as a totally separate market than the rest of ECOWAS for a very simple reason. The reason is that Nigeria acts in its own interests, as do the other members of ECOWAS in varying degrees (witness the higher import tariff on rice in Nigeria than all the other members of ECOWAS) and the importers, distributors, and producers/processors of rice behave rationally accordingly. Meanwhile, the lack of respect of the common external tariff, compounded by the divergent and uncertain cross border internal tariffs, only reinforces businesses to think in terms of national rather than regional markets.

It is critical to note that, while the trade barriers do create serious constraints to trade of the commodities we studied, in several cases, issues that are internal to the country were also critical. For example, maize processors reported that trade barriers are less significant than the lack of primary material for their processing operations. Reduced trade barriers would not immediately resolve that issue, as all the countries producing maize consume most of their own production leaving little surplus left over for export in any case. National-level programs to increase productivity will be critical complements to efforts to reduce trade barriers in these cases. In the dynamic sense, however, reducing

trade barriers can help to spur local innovation, as it will introduce competition and new market opportunities. At the same time, reduced trade barriers will not alone do the job—national-level investments to raise productivity (through private investments, improved inputs, better extension services and other initiatives) will be critical to ensure that the less-competitive sectors of the industry have an opportunity to improve rather than simply being pushed from the market.

In closing, it was clear from our interviews that businesses organize themselves to operate the most efficiently they can within the parameters and constraints of the realities and the perceived realities of the market. The ECOWAS market is not seen as a unified one with a common external tariff. Thus large importers replicate their import receiving and warehousing operation at each port of entry for each individual country, the traders and distribution networks are always country based and the small holder producers as well as larger farm developers all focus on the national market.

# REFERENCES

African Union. "Profile: Economic Community of West African States (ECOWAS)." from <http://www.africa-union.org/Recs/ECOWASProfile.pdf>.

Food and Agriculture Organization. (2013). FAOSTAT. Accessed January 16, 2013. <http://faostat3.fao.org/home/index.html#DOWNLOAD>

Haggblade, S., S. Longabaugh, et al. (2012). Staple Food Market Sheds in West Africa. East Lansing, Michigan State University.

Josserand, Henri P. (2012) Assessment of Trade Flow Data Collected under the ATP/E-ATP Project and Recommendations for Future Data Collection and Analysis. Prepared for the Joint CILSS/USAID technical meeting. Lomé. Dec. 13-15, 2012.

Plunkett, Daniel and Frank Ofei. "Barriers to Staple Food Trade among ECOWAS Countries." Prepared by Abt Associates Inc. in association with CARANA Corporation, Bethesda, MD, November 2011, p. x.

West African Trade Hub (2011). Regional Agricultural Transport and Trade Policy Study. West African Trade Hub Technical Report.

World Bank (2012a). Africa Can Help Feed Africa: Removing Barriers to Regional Trade in Food Staples.

World Bank (2012b). The State of Food Insecurity in the World.

# APPENDIX A: SCOPE OF WORK

## USAID Agribusiness and Trade Promotion & Expanded Agribusiness and Trade Promotion programs

### Scope of Work

#### Private Sector Opportunities: Missed or Seized?

##### Introduction

The Agribusiness and Trade Promotion (ATP) project and the Expanded Agribusiness and Trade Promotion (E-ATP) project are companion initiatives of USAID/West Africa. The four-year (2008-2012) USAID ATP focuses on maize, livestock, and onion/shallots value chains; the three-year USAID E-ATP (2009-2012) focuses on rice, millet-sorghum, and poultry. Both projects aim to increase the value and volume of intra-regional trade in the specific commodities along the major commercial corridors linking Senegal, Mali, Burkina Faso, Niger, Benin, Togo, Ghana, Côte d'Ivoire, and Nigeria.

An important limitation in improving regional trade is the fact that the private sector does not always appear to fulfill its role in market intermediation. The project seeks to better understand the constraints faced by private sector actors involved in regional trade. The purpose of this study is to analyze current patterns of private sector investment in regional trade efforts and understand the perceived and real impediments that the private sector faces as it makes investment decisions on trade related activities and infrastructure.

##### Background

Major constraints to increased intra-regional agricultural trade in West Africa include the following:

- Trading continues to face substantial barriers in the enabling environment, including tariffs, customs checks, seasonal bans and other restrictions to trade, and other non-tariff obstacles.
- High incidence of road harassment and the region's weak road transport infrastructure continue to create a major regional constraint.
- Value chain actors and their organizations are commonly weak, and rely on largely traditional linkages to other actors in their value chains.
- Limited access to relevant market information.

In addition, constraints in both quantity and quality restrict supply and development of consistent trade flows as do the recurrent political crises in the region.

##### Structure and Objectives

This consultancy will involve a series of structured interviews with private sector actors involved in regional trade (traders, packers, wholesales, and transporters). Through an interview process, the consultant will seek to categorize the constraints that these market actors face and determine how these constraints impinge on the private sector's behavior. The consultant will also elaborate on the likely outcomes in terms of private sector behavior if the constraints were to be removed. In other words, the analysis will try to glean what are some missed opportunities under current trade policy regimes as well as real opportunities for investments that could be made if certain conditions are satisfied. Hence the title "Private sector opportunities: missed or seized?"

##### Scope

Actors across value chains have reasons for not revealing the true extent of their trade, including due to avoidance of taxes and various permits or certificates needed for exports, and circumvention of various government-imposed restrictions on trade, as well as payments or acceptance of bribes in lieu of certificates or taxes. For this study, the consultant will undertake interviews with individual companies and consolidate the answers in such a way as to protect any proprietary information.

The consultant will carry out structured key informant interviews and observations.

Focal commodities for analysis will include private sector actors involved in the value chains of maize, millet–sorghum, livestock, and rice. Recommendations can cover other crops that contribute to food security in Africa such as cowpeas or groundnuts and for which information is readily available from interviews.

The consultant will interview at least 20 private sector actors operating in West Africa, at least two of which will be located in Senegal, Cote d'Ivoire, Ghana, Burkina Faso, Mali and Nigeria. Interviews may be conducted in person, by email, by phone or skype.skypeskype. At no point will travel to Mali be required.

### **Analysis of constraints to private sector investment in regional trade in West Africa**

- Assess the private sector's overall business strategy and place it in the context of regional trade (supplier, buyer, wholesaler, transporter, processor, or other).
- Categorize the primary constraints to expanded regional trade faced by the private sector (precise type of barrier to trade, infrastructure, finance, other policy consideration)
- Based on the analysis above, produce a detailed report outlining the types of constraints faced by the private sector and qualify the business investments not made due to trade-related barriers
- Attempt to quantify the business investments not made and the lost trade resulting from that situation. Placing a monetary value on the missed opportunities could provide insights into the cost of barriers to trade.
- Based on the analysis above, assess the tendency to invest by the private sector and discuss where opportunities might exist
- Prepare a report detailing the findings
- Prepare a PowerPoint presentation for the Conference on Expanding Regional Trade to Improve Food Security. The presentation should provide concrete examples of the types of investments that the private sector would be willing to make in the absence of trade barriers

### **Qualifications of consultants**

It is anticipated that a team of one to two consultants will be required to undertake the study.

The consultant(s) should be (a) private sector investment specialist(s) who has/have extensive experience working with private sector actors involved in regional trade. He/she/they should have an extensive list of contacts of businesses involved in regional trade in West Africa. He/she/they should have familiarity with West Africa and English and French language skills. The consultants' assessment of the private sector will require a combination of travel to conduct face-to-face interviews and the use of ICT technology for virtual interviews.

### **Activities, products, and LOE**

The assignment should start around October 1. The following table describes expected activities and products, location, target dates, and indicative level of effort (LOE).

<b>Activities and Products</b> (from home base except as specified)	<b>LOE days</b>	<b>Expected date</b>
Review and analysis of project-related and regional trade literature	4	Early October
Development of questionnaire	4	Early October
Development of interviewee list	2	Early October
Conduct interviews through phone, email, Skype	9	Mid October
Compilation of results and report drafting	6	End October
Draft Report to ATP/E-ATP and USAID	1	October 29
Preparation of Power Point presentation showing key finding/conclusions	2	October 30
Presentation of key finding/conclusions at trade/food security conference (Accra)	4	January 22-24
Total LOE	32	

#### **Reporting, management and technical support**

The consultant(s) will report to Christine Ohresser-Joumard, the DCOP of the USAID ATP/E-ATP projects, and will work in close collaboration with USAID ATP and E-ATP management and staff.



# APPENDIX B: QUESTIONNAIRE

## QUESTIONNAIRE IN ENGLISH

### ATP Missed Opportunities study questionnaire

1. Summary identifying information
  - a. Name of interviewee
  - b. Position
  - c. Contact info
  - d. City
2. Brief background on firm and major milestones in its evolution
3. Summary of firm activities
  - a. Firm's scope of activities
  - b. Firm's agricultural activities
  - c. Activities w/staple food commodities of interest
    - Maize
    - Rice
    - Millet–sorghum
    - Livestock
    - Other key staples (such as cowpeas, groundnuts)
  - d. Domestic vs. W. Africa vs. Extra-regional (international) trade
4. Evolution of firm's agricultural activities—Major milestones, investments in production, marketing, etc.
5. Perspective on the general attractiveness of trade in specific commodities and constraints. For each staple of interest ask:
  - Maize
  - Rice
  - millet–sorghum
  - livestock
  - other key staples (such as cowpeas, groundnuts)
  - a. What are prospects for profitable trade in commodity in W. Africa.
  - b. Which areas (in the region or outside of it) would be most promising as suppliers?
  - c. ...as buyers?
  - d. What impediments exist to pursuit/realization of those opportunities?
  - e. What are the root causes of these impediments?
  - f. Have you ever avoided trading this product, or made an investment and had it fail, as a result of these impediments?
    1. What are the specifics of such forgone/failed investments in terms of the investment itself as well as the trajectory is averted (such as a new line of business, increasing scale of operations in a specific area, entry into new markets, etc.)
    2. Try to ascertain both descriptive details and monetary value.
  - g. What specific action(s) need to be taken to alleviate this constraint to the point where you would consider investing?
6. What about other types of constraints (list constraints which weren't mentioned already to see if they are relevant)

- a. Policy
    - i. Import/export licensing, permissions, etc.
    - ii. FOREX issues and risks
    - iii. Seasonal bans
    - iv. Customs checks
    - v. Non-tariff obstacles
  - b. Corruption
    - i. Licensing, permissions, etc.
    - ii. Road harassment
    - iii. Private sector based corruption (kickbacks, etc.)
    - iv. Corruption at ports, borders, checkpoints, etc.
  - c. Infrastructure
    - i. Physical
    - ii. Road quality
    - iii. Rail/ports/airports
  - d. Logistics
    - i. Transport
    - ii. Storage
    - iii. Electricity
    - iv. Water
    - v. Communications and information
  - e. Access to finance
    - i. Trade finance, short term
    - ii. Capital finance, medium and long term
  - f. Capital
    - i. Human capital
    - ii. Social capital, (ethnic networks, trust)
    - iii. Institutional capital (contract adherence and enforcement)
    - iv. Organizational capital
  - g. Availability and quality of inputs (primary and secondary)
7. Are there any areas that we haven't yet discussed where trade barriers have limited the productivity of your investments, or where anticipation of the barriers has dissuaded you from making investments in regional trade in agricultural commodities?
8. In closing, would you summarize in just a sentence or two...
- a. ...the impact that trade barriers have had on your investments in regional agricultural trade?
  - b. ...the single most important change that you think could be made to alleviate the problem and how it would affect your investment in regional agricultural trade?

## QUESTIONNAIRE IN FRENCH

### Questionnaire sur l'étude ATP sur les occasions ratées

9. Information d'identification
- a. Nom de la personne interviewée
  - b. Position
  - c. Information de contact
  - d. Ville
10. Grandes lignes sur la société et phases/ jalons de son évolution
11. Récapitulatif des activités de la société
- a. Ampleur des activités de la société

- b. Activités agricoles de la société
  - c. Activités concernant les produits de base intéressant l'étude
    - Maïs
    - Riz
    - Mil/sorgho
    - Bétail
    - Autres produits de base (comme le niébé ou les arachides)
  - d. Commerce national ou Afrique de l'Ouest versus commerce extra-régional (international)
12. Evolution/progression des activités agricoles de la société- les grands tournants de son évolution, investissements dans la production, le marketing, etc.
13. Perspectives sur les créneaux rentables (attraction du produit) et contraintes. Pour chaque produit de base, posez les questions ci-après :
- Maïs
  - Riz
  - Mil/sorgho
  - Bétail
  - Autres produits de base (comme le niébé ou les arachides)
- a. Existe-t-il de bonnes possibilités de commerce profitable pour ce produit en Afrique de l'Ouest ?
  - b. Quelles sont les zones (dans la région ou à l'extérieur) comme fournisseurs ?
  - c. ...acquéreurs ?
  - d. Quels sont les obstacles qui entravent l'exploitation de ces opportunités ?
  - e. Où résident les causes profondes de ces obstacles ?
  - f. Vous est-il déjà arrivé d'avoir évité le commerce d'un produit, ou d'avoir fait un investissement qui a échoué, à cause de ces contraintes ?
    - 3. Quels sont les aspects spécifiques d'un tel investissement perdu du point de vue de l'investissement lui-même et de la trajectoire loupée (nouvelle gamme de produit, expansion du commerce dans une zone particulière, exploitation de nouveaux créneaux, etc.)
    - 4. Pouvez-vous donner des détails décrivant cette situation et aussi estimer la valeur monétaire perdue.
  - g. Quelles sont les mesures spécifiques qu'il faudrait instituer pour alléger la contrainte au point où vous envisageriez de faire l'investissement ?
14. Et à propos d'autres types de contraintes ? (indiquez celles qui n'ont pas encore été mentionnées pour voir si elles sont pertinentes)
- a. Politiques
    - i. Licences et droits d'imports/exports, etc.
    - ii. Risques FOREX
    - iii. Interdictions saisonnières
    - iv. Contrôles douaniers
    - v. Obstacles non tarifaires
  - b. Corruption
    - i. Obtention de licence, autorisation etc.
    - ii. Tracasseries routières
    - iii. Corruption dans le secteur privé (dessous- de- table, etc.)
    - iv. Corruption dans les ports, les frontières, les postes douaniers, etc.
  - c. Infrastructure
    - i. Physique
    - ii. Qualité des routes

- iii. Chemin de fer/ports/aéroports
  - d. Logistique
    - i. Transport
    - ii. Stockage
    - iii. Electricité
    - iv. Eau
    - v. Communications et information
  - e. Accès au financement
    - i. Financement commercial , court terme
    - ii. Financement d'investissement, moyen à long terme
  - f. Capitaux
    - i. Capital humain
    - ii. Capital social (réseaux ethniques, confiance)
    - iii. Capital institutionnel (application et respect du contrat)
    - iv. Capital organisationnel
  - g. Disponibilité et qualité des intrants (primaires et secondaires)
- 15. Existe-t-il des domaines dont nous n'avons pas encore discuté et où les barrières commerciales limitent la productivité de vos investissements ou la crainte de ces barrières vous a-t-elle dissuadé de faire des investissements dans le commerce régional des produits agricoles ?
- 16. En bref, pourriez-vous récapituler en une phrase ou deux ...
  - a. ...l'impact que les barrières commerciales ont sur votre investissement dans le commerce agricole régional ?
  - b. ...Le changement le plus important qui à lui seul, à votre avis, diminuerait le problème et comment cela changerait le profil de votre investissement dans le commerce agricole régional ?

# APPENDIX C: LIST OF PERSONS CONSULTED

Firm name	Contact	Position	Commodity	Role
<b>Mali</b>				
IICEM	Jean Francois Guay	Chief of Party		advisory
CATEK	Marc Ibrahim Traore	CEO/Dir. General	livestock	consultant/Developer
Moulin du Sahel	Christian Lods	CEO/Dir. General	maize	processor
DANAYA Céréales	Halatou Dem	CFO	millet	processor/trader/exporter
UCODAL	FadimaSiby Mariko	CEO	millet	processor/trader/exporter
Conseil Malien des Chargeurs	Ousmane Babalaye Daou	President	All	transporter/shipper
Groupe Keita/GDCM sa	Modibo Keita	Chairman	Rice	trader/processor
Groupe AMI	Cyril Achkar	CEO	Rice, maize	processor/importer
<b>Burkina Faso</b>				
ATP	KokouZotoglo / Mamadou Sanfo	Consultants		advisory
AMOKFAT	Radji Bintou	CEO	millet	processor
SOKINDUSTRIES	El Hadj Abdoulaye Koama	CEO	rice, maize	trader/processor
MELS	Hamidou Ouedraogo	CEO	maize	processor
Groupe VELEGDA	Adja Mamounata Velegda	CEO	millet, maize	processor/trader/exporter
SODEPAL	Simone Zoundi	President	millet, maize	processor/trader/exporter
SAFCOD- COMMODITIES	Mr Haïdara Sekou	Chairman	rice, maize	trader/processor
SUCOTROP	Suleyman Guira	CEO	rice, maize	trader/processor
UGER-B	Mamady Ouedraogo	Secretary General	rice	processor/importer
<b>Senegal</b>				
Abattoirs de Dakar (SOGAS)	Mamadou Fall Doudou	President/VP COFENABVI	livestock–meat	abattoir
La Vivriere	Bineta Coulibaly	Directeur General	millet/maize	trader/processor
Novel Senegal SA	Mouhamadou Lamine Kane	Directeur General	rice	trader/processor
Nouvelle MinoterieAfricaine	Khadijatou Mbaye	Director, provisioning & logistics	maize	trader/processor
Kumba	Aissatou Deme	Directeur General	maize, millet, sorgo	trader/processor

Grands Moulins de Dakar	Abdoulaye Diouf	Director, provisioning & logistics	wheat flour, animal feed	trader/processor
Vital Agro-Industries	Mafal Fall	Directeur Commercial	Rice	miller
<b>Cote d'Ivoire</b>				
Olam	Amit Kumar	Rice trader	rice	trader
FENARIZ-CI	Dotianga Konate	Executive Secretary	rice	production
SITA & Societe Ivoirienne Riz	Diabate Massogbe Toure	President & CEO	cashew, rice	trader/processor
PKL (Protein Kisse-La)	Marie Diongoye Konate	President & CEO	maize, soy, rice	processor
Office Ivoirien des Chargeurs	Amara Traore	Dept Chief, Transport facilitation	transport all goods	transport facilitation
COFENABVI	Salif Coulibaly	Pres C.I. & VP	livestock–meat	association
COFENABVI	Roger Boni	Secretary General	livestock–meat	association
Abatoird'Abidjan	Dr. Issa Ouattara	Director	livestock–meat	abattoir
SODIPA	Claude Gbonon	Manager	livestock–meat	butcher
Novel Cote D'Ivoire	Albert Diadhiou	Manager	rice	trader/processor
YAANOVEL	Denis Koko	Project Manager	rice	producer/processor
<b>Ghana</b>				
Olam	Amit Agrawal	Senior VP, West Africa	rice	trader/processor
Olam	Pankaj Goyal	Regional Product Head-Rice	rice	trader/processor
Ghana Agric Producers & Traders Org	Haruna Agesheka	Secretary General	all food crops	association
Prairie Volta Rice	Everett Anderson	CEO	rice	producers/millers
Africa Atlantic Farms	Kristopher Klokkenga	MD	maize	producers/millers
FINATRADE	Nabil Moukarzel	Executive Chairman	rice, sugar	trader
Premium Foods	Thomas Gambrah	CEO	maize, rice	processor/distributor
Novel Commodities	Dan Obimpeh	MD	rice import	trader/production
WIENCO	Mark Kok	MD	maize, cocoa	production/distribution
GADCO	Toks Abimbola	MD	rice	production/distribution

# APPENDIX D: COMMODITY PRODUCTION AND TRADE DATA

Source: FAOSTAT, 2013.

All data are from 2009.

<b>Maize</b>	<b>Production (tonnes)</b>	<b>Export Quantity (tonnes)</b>	<b>Import Quantity (tonnes)</b>
Benin	1,205,200	2,568	2,755
Burkina Faso	894,558	14,801	9,708
Cape Verde	7,380	0	14,064
Côte d'Ivoire	637,372	3,281	51,155
Gambia	54,625	90	7,421
Ghana	1,619,590	836	36,537
Guinea-Bissau	6,562	0	1,202
Guinea	565,660	0	4,782
Liberia			50,002
Mali	1,476,993	135	4,179
Mauritania	11,830		36,617
Niger	1,389	0	28,029
Nigeria	7,338,843	1,749	29,425
Senegal	328,644	195	120,706
Sierra Leone	29,641		5,050
Togo	651,739	29	2,222
<b>Millet</b>	<b>Production (tonnes)</b>	<b>Export Quantity (tonnes)</b>	<b>Import Quantity (tonnes)</b>
Benin	27,432	0	17
Burkina Faso	970,927	0	71
Cape Verde			
Côte d'Ivoire	45,567	108	0
Gambia	144,868	0	0
Ghana	245,550	4	3,344
Guinea-Bissau	12,281		0

Guinea	221,560		
Liberia			
Mali	1,390,410	71	0
Mauritania	8,081		0
Niger	2,677,855	0	145
Nigeria	4,884,891	127	4
Senegal	810,121	0	1,184
Sierra Leone	27,000		
Togo	49,145	0	0
<b>Sorghum</b>	<b>Production (tonnes)</b>	<b>Export Quantity (tonnes)</b>	<b>Import Quantity (tonnes)</b>
Benin	123,960	0	0
Burkina Faso	1,521,468	2,702	0
Cape Verde			
Côte d'Ivoire	41,260	41	11
Gambia	31,882		1
Ghana	350,550	1	0
Guinea-Bissau	18,959		0
Guinea	43,360		0
Liberia			
Mali	1,465,620	0	5
Mauritania	93,609		0
Niger	738,661	0	506
Nigeria	5,270,785	30	12,601
Senegal	224,956	12	16,301
Sierra Leone	26,000		
Togo	237,665	0	0
<b>Rice (millet equivalent)</b>	<b>Production (tonnes)</b>	<b>Export Quantity (tonnes)</b>	<b>Import Quantity (tonnes)</b>
Benin	100,453	195	201,184
Burkina Faso	142,461	526	280,398
Cape Verde		0	92,736
Côte d'Ivoire	425,127	59,355	1,246,296
Gambia	52,693	918	135,266
Ghana	261,090	142	388,925
Guinea-Bissau	121,323	0	83,791



Guinea	999,833	44	134,092
Liberia	195,431	0	244,100
Mali	1,301,187	0	120,336
Mauritania	35,731		131,494
Niger	13,418	26,701	103,968
Nigeria	2,269,527	46	219,027
Senegal	334,903	93,874	768,225
Sierra Leone	523,420		109,136
Togo	80,904	380	86,054
<b>Bovine Meat</b>		<b>Export Quantity (tonnes)</b>	<b>Import Quantity (tonnes)</b>
Benin		130	1,072
Burkina Faso		0	26
Cape Verde		0	588
Côte d'Ivoire		31	5,913
Gambia		1	50
Ghana		1	8,831
Guinea-Bissau			7
Guinea			224
Liberia		32	146
Mali		0	33
Mauritania		0	49
Niger		23	5
Nigeria		0	548
Senegal		553	9,116
Sierra Leone			40
Togo		180	933