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VALUE CHAIN ASSESSMENT REPORTS: OVERVIEW AND RECOMMENDED ACTIONS

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DISCLAIMER

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

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ACRONYMS

ACA	African Cashew Alliance
AGOA	Africa Growth and Opportunity Act
BRIC	Brazil, Russia, India, and China
CCD	Colony Collapse Disorder
CILSS	Permanent Inter-state Committee for Drought Control in the Sahel
ECOWAS	Economic Community of West African States
FDA	Food and Drug Administration
FDI	Foreign direct investment
FOB	Free-on-board
FTF	Feed the Future
GDP	Gross domestic product
GSA	Global Shea Alliance
ha	Hectares
M&E	Monitoring and evaluation
MIS	Management information systems
MSME	Micro-, small, or medium enterprise
mt	Metric ton
RCN	Raw cashew nuts
SUG	Superior Uniform Group
USAID	United State International Agency for Development
USDA	United States Department of Agriculture
VC	Value chain
WAGN	West African Grain Network
WATH	West African Trade Hub

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I. INTRODUCTION AND BACKGROUND

I.1 VALUE CHAIN ASSESSMENTS

Following submission of the Value Chain Selection Report, these Value Chain Assessment Reports constitute the second step in planning activities for the Trade Hub and African Partners Network. The Value Chain Selection Report, submitted to USAID on May 16, 2014, provided brief overviews of each value chain. This report enabled the team to recommend value chains that offer opportunities to substantially improve their performance and competitiveness with the Trade Hub's assistance, and that would be able to achieve results that correspond to the Trade Hub's objectives to generate exports, jobs, and investment.

The assessment phase focuses on the following short list of value chains:

Feed the Future (FTF) Regional Value Chains

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

Value-added Global Value Chains

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

The Assessment Reports offer deeper perspectives about the current status, structure, performance, and challenges of each value chain. They update previously available information where possible. Based on this information and analysis, they recommend a vision and upgrading strategy for each value chain, and outline possible support roles for the Trade Hub in helping value chain stakeholders achieve their strategy.

I.2 CONTENT OF THE ASSESSMENT REPORTS

Table I presents a list of the topics included in each Assessment Report. The coverage of each topic varies by value chain, according to data availability. The Assessment Reports include more than just economic and business criteria. The authors made efforts to better understand how households are involved in the value chain and what impact improvements in the value chain would have on those households. Each report also discusses women's involvement and opportunities in the value chain and the impact that the value chain has on them. The assessments provide indications and guidance for upgrading strategies and recommendations for Trade Hub activities.

Table 1: Criteria and Sub-Criteria for Value Chain Assessment Reports

Criteria and Sub-criteria
Criterion 1: Contribution to Economic Growth
<ul style="list-style-type: none"> • Potential to increase trade • Potential to create jobs • Potential to attract investments • Potential to generate value addition • Potential to generate market-based improvements in production yields
Criterion 2: Impact on Food Security
<ul style="list-style-type: none"> • Number of households participating • Contribution to total of average participant household income • Impact on household nutrition • Extent of geographic dispersal in West Africa
Criterion 3: Social Impact (Women, Ultra-poor, Vulnerable)
<ul style="list-style-type: none"> • Female participation • Impact on the vulnerable • Potential to engage youth
Criterion 4: Competitiveness
<ul style="list-style-type: none"> • Revealed Comparative Advantage • Current market size • Ability of the upgraded value chain to respond reliably to market requirements with competitive quality and cost • Will the current competitive environment provide “space” for an upgraded value chain? • Main comparative strengths of the value chain; can the Trade Hub further strengthen these? • Main comparative weaknesses in the value chain; can the Trade Hub address these weaknesses? Can they be addressed by another source?
Criterion 5: Factors that Would Support Upgrading
<ul style="list-style-type: none"> • Existence of champions for change; evidence of lead firms • Ability to attract lending and other forms of finance • Availability of productive infrastructure • Potential synergies with existing programs • Favorable policy environment
Criterion 6: Climate Resilience and Environmental Sustainability
<ul style="list-style-type: none"> • Susceptibility to natural and socio-political calamities • Extent of negative environmental impact • Availability of climate smart technologies
Criterion 7: Other Hurdles to Success
<ul style="list-style-type: none"> • Regulatory and legal constraints that the value chain must overcome to achieve an improved level of competitiveness? What options are available to address these constraints? • What infrastructure or service constraints need to be overcome, and how vital are they?

2. METHODOLOGY

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

1. Phase I: Select (recommend) value-added value chains
2. Phase II: Assess selected value chains
3. Phase III: discuss internally, prior to recommending value chains to be supported

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

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

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

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

2.1 VALUE CHAIN ASSESSMENT PROCESS AND SUBSEQUENT STEPS

Table 2: Steps in Value Chain Assessment and Final Selection

Task	Method
Assess short-listed value chains	Assess the five pre-selected value chains and the other short-listed value chains against a full set of criteria through desk studies, review of existing value chains studies, and key informant interviews with partner network
Obtain USAID/West Africa’s feedback on Value Chain Selection Report	Review Value Chain Selection Report; meet with Value Chain Development Specialist and value chain team
Submit Value Chain Assessment Reports	Assess all value chains, obtaining data and information through value chain studies, desk research, and key informant interviews; include discussion of potential value chain vision, upgrading strategy, and Trade Hub interventions

Prepare facilitation guide for value chain stakeholder vetting	Based on the assessments, prepare summary presentation and process for vetting value chains
Vet value chain selection and assessment with stakeholders	Hold session within Project Partners Kick-off Workshop with Trade Hub stakeholders
Refine value chain selection and assessment, based on stakeholder feedback and suggestions	Continue interacting with key stakeholders and USAID as required

This overview document includes recommendations for the value chains to be supported. The intent is to identify the areas where strategic opportunities exist and where the project can have the largest impact given available resources. Because the regional environment in many sectors and value chains is fluid, the project will have to be flexible in identifying ways to provide indirect support and contribute to trends that might have positive impacts within the project’s target sectors. This could include involvement in value chains not being recommended for direct support at this time. To develop a common vision of the value chain and how the project will work with it, the Trade Hub will engage individual stakeholder organizations to discuss the assessments and the recommendations for support. The final action plans for each value chain will be set after the engagement meetings, and will take into account the stakeholders’ feedback.

2.2 SOURCES OF INFORMATION

Data and information for the reports were obtained through:

- Desk research from value chain analyses, studies, reports, and web-based material.
- Meetings and interviews (both in person and via Skype/telephone/email) with stakeholders located in the region

2.3 DATA LIMITATIONS

Some of the sectors have been much studied, globally and in West Africa; others much less so. We have been careful not to draw too many conclusions when they cannot be justified by sufficiently recent data and information. Data gaps suggest information needs that the project may need to address for planning and decision-making.

3. SUMMARY OF MAIN FINDINGS

3.1 VALUE CHAINS RECOMMENDED TO RECEIVE TRADE HUB SUPPORT

Detailed summaries of the value chain assessment reports are presented below. This section presents a summary of the value chains that are recommended for Trade Hub support. These recommendations have been made after analysis of the individual assessment reports, the overall criteria, and each value chain’s potential to more effectively compete in either the global export market or intra-regional trade. Another consideration was strategic in nature. We considered the human, financial, and technical resources available to achieve measurable results for the Trade Hub, especially during the next three years.

Feed the Future Regional Value Chains

Recommended to Receive Support

- Maize
- Cattle
- Rice

Indirect Support

- Millet/Sorghum
- Small Ruminants

Value-added Global Value Chains

Recommended to Receive Support

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

Indirect Support

- Honey
- Sesame

Indirect support is defined as taking advantage of strategic opportunities that arise where the Trade Hub could provide periodic support with a minimal increase in resources. To seize these opportunities, the project will need to maintain and update regional information that might impact these value chains; this will be part of the monitoring and evaluation (M&E) and management information systems (MIS) functions. In addition, work to improve transport sector competitiveness and reduce legal and regulatory barriers to trade will benefit all the value chains.

The summaries below present more information on the recommendations for each value chain.

3.2 FEED THE FUTURE REGIONAL VALUE CHAINS

Each of the regional value chains—**cattle, small ruminants, maize, rice, and millet/sorghum**—is widespread throughout West Africa. Cattle, maize, and perhaps rice are very widely and substantially traded within the region, including along some primary corridors. The opportunities for growth and improved competitiveness in the sheep/goat, rice, and millet/sorghum value chains lie largely in improving productivity and expanding production. Opportunities within the cattle and maize value chains also include increased productivity at the primary production level, but they can also benefit from improved market-linked structuring of the value chain, specialization, quality-oriented improvements, and downstream value added. There are significant opportunities for value-added investment and for building micro-, small, and medium enterprises (MSMEs) and other business that serve the value chains. Another consideration is the sheer volume of cattle and maize traded, compared with millet/sorghum and small ruminants. This volume means that improvements in supporting infrastructure (transportation

and an improved enabling environment) would make significant marginal contributions to value added across the chains.

The case of rice deserves further consideration because it is generally consumed by wealthier segments of the region's population, giving it potential for substantial increases in trading values. As is the case with maize, increases in production of rice are feasible if there is increased investment in irrigation enterprises and improved storage facilities. The end-use for rice is primarily consumption. Governments in the region import rice to address food security concerns, especially in the urban markets. The degree to which locally produced rice can compete at the regional level with imports from outside the region will have a large impact on this value chain's ability to make a significant contribution to intra-regional trade. The Trade Hub will make a final decision later this year on inclusion of rice as a targeted value chain.

3.2.1 CATTLE

West Africa has more than 60 million head of cattle. Cattle in West Africa play an important role in reducing poverty and improving food security. Cattle trading is often the only source of income and subsistence for pastoralists and represents the household's savings. The cattle value chain contributes 10 to 25 percent of gross domestic product (GDP) in the Sahel countries. The sector contributes nearly 50 percent of agricultural GDP, and case studies show that, in addition to livestock farmers and herders, thousands of secondary jobs are generated by traditional marketing channels dealing in animal products.

A 2008 study estimated the value of livestock traded at \$293 million. From May 2013 to April 2014, the Permanent Inter-state Committee for Drought Control in the Sahel (CILSS) estimates exports from Burkina Faso and Mali to coastal countries at 402,932 cattle, for a total value of \$261 million. In the Sahel countries, the most important producers of cattle are Niger, Mali, and Burkina Faso (8,736,000 head).

The coastal countries also import significant amounts of meat from outside the region. Ghana imported close to \$100 million in chicken meat and boneless beef. The region imported 56,000 metric tons (mt) in 2005; the major exporter was Argentina. Côte d'Ivoire imported 15,300 mt of offal in 2005, mainly from the U.S., Canada, and France. In 2009, Côte d'Ivoire imported 46,000 mt of offal with a value of \$43 million.

Traders in coastal countries will pay premiums for quality meat animals, but there is a shortage of such animals being marketed from the Sahel countries. Livestock arrives at sub-optimal weights and the costs of transporting them to these markets are higher due to road delays and other regulatory obstacles. Business entrepreneurs are needed to invest along the livestock value chain. Suppliers of feed, veterinary drugs, and other health services will need to invest in businesses to serve livestock pastoralists, agro-pastoralists, and peri-urban operators to produce improved-quality livestock for export markets. Examples of needed investments include vaccination sites, better-equipped markets, and abattoirs and more trucks for animal transportation.

Investment opportunities include the removal of barriers to both increase production of quality cattle and shorten the supply chain from production to end markets (i.e., reduce the off-take rate). New business investment models in contracting for feeder calves, and in fattening and then marketing finished cattle would benefit a number of participants in the value chain. We recommend that the cattle value chain be supported by the Trade Hub.

3.2.2 MAIZE

Maize production is dominated by small-scale producers with farm sizes less than 3 ha. Maize farmers typically follow low-input, low-output maize production systems, characterized by limited access to agricultural credit; limited and/or inefficient use of fertilizers, high-yielding maize varieties, or improved seed; and sub-optimal pest and disease control measures. Farm yields are typically in the range of 1 to 2 mt per hectare. Better performing countries and higher performing producers in Africa have yields of 2.5 to 4.5 mt/ha (Southern Africa) and 4 to 6 mt/ha for Northern Africa. Top global producers can achieve yields of 12 mt/ha.

Most farmers plant maize as part of a mixed farming system, intercropping and rotating maize with other crops such as cotton. The majority of farmers sell soon after the harvest, when maize prices are the lowest. Maize storage systems are often traditional, with limited aeration; they often do not follow technical recommendations for fumigation. Norms and standards for maize production and storage vary throughout the region, which is a constraint to increased intra-regional marketing efforts.

Maize contributes about 24 percent of agricultural GDP and 12 percent of total regional GDP. Maize makes a strategic contribution to the development of value chains such as poultry and other livestock fattening, constituting 60 percent of the content of poultry feed. Indeed the development of the poultry industry relies on the availability of maize at affordable prices.

Lead processing companies such as IPRAVI/IVOGRAIN and SIPRA of Côte d'Ivoire, AFEEX of Senegal, and Nestle buy maize from outside the region. Breweries also purchase quantities from outside the region. They import maize from Argentina, Brazil, and elsewhere. The large players buy maize from outside because they need large quantities of good-quality product that respects some grades, norms, and standards. Such quantities are not readily available from within the region at comparable cost, of proper quality, with regular and predictable supply.

The potential to attract investments is related to the following: (i) the enabling environment for the maize value chain; (ii) productive facilities such as irrigated areas and small dams for water control management; (iii) upgrades to each link of the value chain, especially at the production and processing levels; (iv) warehouse receipt systems that will resolve several problem at once (respect of norms and standards, access to good/certified seeds and other inputs, and access to finance and structured markets); (v) structured markets with the possibility of establishing contract farming and out-grower channels, and of accessing pre-financing for inputs by traders or processors.

Women participate fully in maize value chain operations at every level: production, processing, and trading. They are likely more present in processing and trading than men.

The West Africa Grain Network (WAGN) is expected to become a key player in the maize value chain. WAGN is a newly established regional umbrella organization for the cereals sector. It encompasses national associations of cereals, including maize. WAGN's mission is "To facilitate the creation of a favorable environment for free trade of cereals in West Africa and promote structured trade of cereals for optimum benefits for the actors of the sector." WAGN's mandate is to support the growth of the grains value chains, starting initially with rice, maize, millet, and sorghum. It aims to serve as the representative of the grains value chains network in West African and to play a major role in supporting the growth of intra-regional trade and ensuring good governance and management of the grains sector.

We recommend that the maize value chain be supported by the Trade Hub, primarily in recognition of its linkages to input supply for livestock, derived from increased processing within the region.

3.3 GLOBAL EXPORT VALUE CHAINS

Six value chain assessment reports were prepared for global export value chains. All of them have potential for increased investment that could lead to more trade and exports outside West Africa. There is variation, however, in the amount of their contributions to investment and trade, linked in part to the overall size of economic activity (e.g., honey is a smaller value chain) or to larger enabling environment constraints that limit this potential (e.g., shea and its acceptability in U.S. markets as an alternative key ingredient). Our analysis has determined which value chains would provide a marginally higher return with support from the Trade Hub.

3.3.1 APPAREL

The apparel sector is a key beneficiary of the Africa Growth and Opportunity Act (AGOA). Linked in some ways to West Africa's textile manufacturing, the Trade Hub is proposing to work in a targeted manner with apparel assembly and accessories, which has potential for rapid investment and new job creation. Côte d'Ivoire, Benin, and especially Ghana are the main production centers. Ghanaian garment assembly and export peaked prior to the global financial crisis in 2007, before falling to less than \$3 million. In the last two years, Ghanaian factories have received new orders and developed relationships with suppliers of major brands, and there has been new investment in factories. Global trends favor movement of assembly operations to West Africa. Investments are sizeable and rapid, with individual factories able to employ 250 to 500 or more people.

Ghana has the potential to become the apparel export powerhouse of West Africa. The country boasts 10 major operational apparel factories in early 2014, with 4,100 available machines.

In 2013, employment was only between 1,100 and 1,200 people, of which 500 were engaged in manufacture for export. Although other companies made some attempts to export, their test volumes remained just that, as access to finance (working capital and fabric/trims purchases) proved elusive. In 2014, the number of people employed is anticipated to increase to 1,650, as two companies that are now geared exclusively to exporting will expand production volumes. They will then employ close to 55 percent of the total number of employees engaged in the sector. AGOA exports reached \$2.7 million in 2013. This could reach \$5.5 million by the end of 2014, with the two companies employing 900 people.

The U.S. is the key target market for the apparel value chain in sub-Saharan Africa. However, in the years that AGOA has been in existence, sub-Saharan Africa has never captured much more than 0.01 percent of the U.S. apparel market (approximately \$1 billion of the \$770 billion market). West Africa's share of this is miniscule. Yet industry dynamics are beginning to favor West African locations.

Access to the U.S. market is not an issue, since buyers have shown keen interest in recent years. For these buyers, the stumbling block has in many instances proven to be manufacturing, due to African firms' lack of access to finance and lack of skills in factory management and leadership. Because of these weaknesses, the manufacturers are often unable to take large test orders for export. Key buyers from sub-Saharan African manufacturers include Walmart, the Jones Apparel Group (\$4 billion), SanMar Group, Cintas, Miller, Superior Uniform Group (SUG), American Eagle Outfitters (\$3.5 billion), PVH (\$6 billion), the Gap (\$15.5 billion), and H&M (\$19 billion).

The opportunities are abundant. Based on existing developments and future plans for 2014–2015, Ghana alone could reach exports of some \$7.5 to \$10 million by end of 2015. Ghana has factories with existing machinery parks set up for mass apparel production for exports, but access to finance and to management and factory skills are still lacking. In Ghana, the government should target foreign direct investment (FDI) to attract companies that might relocate their existing factories from Asia (where wage

costs are rising) and even elsewhere in Africa, where wages are also rising sharply in some countries. Such relocating companies would bring with them access to markets and manufacturing know-how.

Should the semi-vertical companies in Côte d'Ivoire prove to be of export caliber (with machinery in good condition and adequate management and factory skills and mindsets) the value of exports from that country could expand by a further \$2.5 million.

The potential for the apparel industry in Ghana and a few other select countries (Benin and Côte d'Ivoire, in particular) is considerable. The U.S. apparel market is worth \$770 billion. As pointed out above, West Africa has not yet managed to even scratch the surface. Recent political uncertainties in Asia (Vietnam, China, and Thailand) may motivate manufacturers to relocate; this is an opportunity for West Africa. In addition, with wages in Asia rising rapidly and U.S. buyers perceiving Africa as the next sourcing frontier, the time is ripe to explore with buyers efforts to persuade some vendors to relocate. This will require the Trade Hub to have a key linkages person with access to brands, retailers, and sourcing houses at the highest level.

Women (mostly sewing machine operators) represent approximately 80 percent of employees in the commercial apparel manufacturing industry in West Africa. This ranges from 65 percent in some countries up to 95 percent in others.

The three- to five-year vision is for a vibrant apparel manufacturing sector, consisting of at least 10 commercial mass production garment exporters. The objective is to export one million garments per month to the U.S. within five years' time and to employ 4,000 people through direct jobs, with a further 1,500 indirect jobs in Ghana, Benin, and Côte d'Ivoire. We recommend that the apparel value chain be supported by the Trade Hub.

3.3.2 CASHEW

Cashew is a particularly large, export-oriented value chain. The main products in this value chain are raw cashew nuts (RCN), also known as shelled cashew nuts, and processed cashew kernels. Other products, such as cashew apple, are mostly nascent.

The cashew value chain offers major potential to increase trade in both RCN and kernels. About 90 percent of West Africa's total production is exported as RCN. The sector has grown at 6 percent per year in terms of production. Even if the processing sector expands, RCN exports will continue to be a key commodity from West African countries in the coming years. The present value of the raw nut production is more than \$900 million. Increased trade in processed kernels is also very possible. West Africa currently has a processing capacity of around 120,000 mt of kernels. A new investment for a unit of 35,000 mt is being built in Ghana.

RCN are produced by subsistence or commercial farmers and are directly harvested, sorted, and dried initially at the farm or household level, and sometimes bagged. Then the nuts are supplied to different buying channels. Cashew kernels are locally produced at the household level using artisanal methods and by small-scale and industrial-scale processors. The value addition at primary processing is estimated to be around 20 to 30 percent above the value per ton of raw nuts.

Cashew is a growing value chain in 9 of the 15 member countries of the Economic Community of West African States (ECOWAS). The region represents 35 to 40 percent of world production of cashews, and Côte d'Ivoire is the second-largest RCN producer in the world (after India). The region includes the three largest RCN-exporting countries in the world: Côte d'Ivoire, Guinea Bissau, and Benin. Cashew production in West Africa is increasing; the product is good-quality and there is a sustainable supply. For

all these reasons, the sector offers several opportunities, including increased exports of raw nuts and increased unit value of exported nuts, and greater local processing.

The production of nuts in the region is almost one million mt; Côte d'Ivoire accounts for 45 percent of the total. The region's production covers a cultivated area of around two million hectares. Generally, these lands are not highly productive for other food crops; hence the income from cashews is a particularly important element of household income and livelihoods. Large numbers of people are employed in cashew cultivation, harvesting, and RCN marketing, as well as in related services such as retail buying and transport. More than 6.3 million household economies rely in whole or in part on cashew production; for every ton of cashews produced in West Africa, an average of six to seven households receive income.

West African countries' local value addition through processing of RCN is still low; less than 10 percent of the total RCN production of the region is locally processed.

A number of lead firms in the region are engaged in RCN purchases and processing. In all the cashew-processing countries in the region, there are companies that purchase RCN for exports and some that process nuts locally. Ghana alone has more than 41 companies licensed for the cashew trade. Based on the data from Ghana, there are probably several hundred cashew traders in the region. Local companies in every country are engaged in the commodity trade, and most of them are members of the African Cashew Alliance (ACA) or local associations of cashew actors. In addition, seasonal buyers come from India and elsewhere and engage in large-scale buying of RCN. They have their own or hired storage facilities.

The cashew sector revenues of \$900 million could be substantially increased by increasing primary processing, improving yields, and obtaining revenues from by-products that are not yet adequately commercialized.

The cashew value chain offers substantial opportunities for women and youth. Harvesting and processing activities are female-dominated. Collecting, drying, and bagging operations are generally performed by women. Collection, processing, and selling of cashew apples at the rural level are also done by women. Existing cashew processing establishments in the region employ about 14,700 persons, of whom 78 percent are women. Youth are employed or find remunerative work in several activities within the cashew value chain, including farming, transporting nuts, serving as local buying agents, and working in processing units.

Over the past few years, West African cashew value chain actors have become increasingly organized and aware of potential and opportunities in the sector. The ACA plays an important role in the sector. The Trade Hub team has identified many existing and potential champions of change. We recommend that the cashew value chain be supported by the Trade Hub.

3.3.3 MANGO

World mango production has doubled over the past 10 years. The major part of the world production of mangoes is from Asia (64 percent). The two major African producer countries (both in the world's overall top 10) are Kenya (7 percent) and Nigeria (2 percent). The largest exporters to Europe, such as Brazil and Peru, represent only 3 percent of world production.

In West Africa, 13 countries produced 1.5 million mt in 2012, about 3 to 4 percent of world production. Nigeria is the main producer with more than 860,000 mt, or 57 percent of total West African production. Niger, Guinea, Senegal, Ghana, Mali, Côte d'Ivoire, Burkina Faso, Benin, Guinea Bissau,

Gambia, and Sierra Leone each produce 8,000 to 22,000 mt of mangoes annually. Some of these countries are exporters of fresh and processed mangoes to European, North African, and Middle Eastern countries. Although mangoes are abundantly produced in West African countries, there is still untapped potential. Several of these countries are not yet prepared to realize the potential export markets, and do not achieve local value addition potential. Others, such as Ghana and Senegal, continue to expand their production and export aggressively. The mango sector records large post-harvest losses in all countries during the harvesting seasons; turning this around could generate wealth within the countries or through exports.

Post-harvest losses are more than one-third of production, and in some countries even 50 percent, due to pests, fruit flies, and poor handling and transport of mangoes. In this context, the economically usable quantity of available mangoes is about one million metric tons. Of this, the regional market for local consumption is estimated to be around 600,000 mt, or 40 percent of total production. The remaining 60 percent (400,000 mt) goes for fresh fruit exports (30,000 mt) and to the growing processing industry (370,000 mt).

Processors in the region buy locally or from the region. During the off-season, fresh-cut exporters from Ghana import from Brazil to fill the gaps in local supplies. Within the region, Senegal, Burkina Faso, Togo, and Côte d'Ivoire supply mangoes to processing factories in Ghana. Niger imports mango from the region for local consumption. Nigeria consumes and processes large quantities of mangoes domestically, and the processing industries import from the region during the off-season. Producers of juices and other products buy from local markets or farmers and through suppliers, or import from within the region during off-season. The off-cuts from fresh-cut export factories are sold to juice manufacturers.

Yields in West Africa range from 1 to 9 mt/ha in nine countries (Côte d'Ivoire, Sierra Leone, Benin, Niger, Gambia, Senegal, and Burkina Faso). Yields in Mali, Ghana, and Guinea Bissau range from 10 to 19 mt/hectare. Yields are below accepted standards in many of West African countries. Some well-managed plantations with higher-yielding varieties, such as those in Senegal and Burkina Faso, have much higher yields, exceeding 20 to 30 mt/hectare.

The mango sector in most West African countries provides seasonal supplementary income to farmers. In addition, small and large traders are essential actors in the sector; they constitute thousands of micro- and small enterprises around the value chain. In Ghana and Senegal, women play a vital role in wholesale buying of the portion that goes to local markets, and they sell mangoes to retailers and street vendors.

There are also many other small businesses that earn income within the chain—transporters, suppliers of bags and other logistics, small and large processors, street vendors, and retail traders.

There is no reliable data on the value of mango sector production in West Africa. If one takes an average value of \$260/mt (the average in Ghana), the one million mt (after deducting one-third of production for post-harvest losses) would have a total farm gate value of about \$260,000,000. This is not counting the incremental value of exports, processing, and local value addition from farm gate to consumer.

At present, fresh fruit exports are in the range of 30,000 mt; the estimated value of mango exports to Europe is \$54 million/year. The sector is growing, and some countries have commercial plantations that are young and have just started producing fruit (e.g., in Ghana, Côte d'Ivoire, and Senegal). The processing of mangoes is expanding in almost all the countries of the region.

The mango value chain is a sector that involves large amounts of local labor working on plantations (an estimated 1.5 million people in West Africa). The types of employment include harvesting, marketing, and annexed services such as retail buying, transport, and processing. Local processing, especially fresh-cut and processing for juices and dried mangoes, is an emerging activity and is highly labor-intensive.

The investment potential in the mango value chain is in the following areas: (i) commercial farming for planting new varieties, particularly for processing; (ii) increased exports of fresh mangoes; (iii) local processing of mangoes; and (iv) establishment of plant nurseries for existing and new varieties. Regional collaboration to combat the fruit fly pest would be a high-impact initiative.

The assessment of the mango industry is perhaps a proxy for production, processing, and export of other horticultural products. Many West African countries are producing for export to the European Union. Examples include French beans; packaged vegetables; and table-ready fresh-cut, mixed fruit (e.g., Blue Skies). The potential for increased exports is clear for mango and related products. The lack of regional marketing structures is a challenge, but the volume of this value chain currently and its potential market are significant. We recommend that the mango value chain be supported by the Trade Hub.

3.3.4 SHEA

Shea is widespread in West Africa. Throughout much of Africa, shea butter is extracted and sold in bulk at low prices and without regard for quality. In Ghana, where product quality control and quality assurance is emphasized, a well-established production chain exists. Ghana has become a preeminent exporting nation for shea products over the past 15 years, and the country serves as a conduit for regional shea exports from neighboring countries (Mali and Burkina Faso, in particular).

In 2013, the Global Shea Alliance (GSA) estimated that 350,000 mt of shea kernel are exported from Africa annually, with a market value of approximately \$120 million (based on current prices of about \$450 mt free-on-board [FOB]). This amount of exports is used for the preparation of around 60,000 mt of stearin (the solid fat fraction). Major exporting countries include Ghana, Burkina Faso, Côte d'Ivoire, Mali, Benin, Togo, and Nigeria.

Shea is a “bifurcated commodity,” in that it is both a low-value industrial feedstock and a high-value cosmetic ingredient. The totality of shea products in global trade may be seen as a pyramid. A broad base of dried shea kernel of indifferent quality is collected from fresh shea fruit by rural women (about 620,000 mt per annum). More than half of this is consumed at the household and local levels as a food oil, while the surplus (about 40 percent of the harvest) is traded downstream.

About 80 percent of the traded shea is exported to Europe and Asia, as well as to Brazil, Russia, India and China (collectively known as the BRIC countries) as a raw commodity. There, it is subsequently processed into shea stearin and its by-products. Only about 20 percent of the harvest is processed in Africa and exported as shea butter.

Although Nigeria’s shea parkland is vast, its shea is less globally desirable. An adequate stearin content is found only in shea kernel from the western side of the Niger Valley; shea east of the Niger River has a much lower stearin content and is not sought by international buyers.

In recent years, unrefined shea butter has developed a distinct and growing market niche on the global cosmetics market. According to estimates from the West Africa Trade Hub (WATH) project, the natural cosmetics segment comprises about 5 percent of the \$200 billion global cosmetics sector, but growth of this segment has been fairly consistent at 15 to 25 percent per annum in recent years; from an estimated \$3.9 billion in 2006 to an amount expected to exceed \$10 billion in 2013/14.

Shea is a domain of rural women, including poor and vulnerable rural households and those headed by women, providing a valuable source of nutritious fruit and food oil. As of 2009, it was estimated that three million West African women are involved in shea export, with a host of mostly male intermediaries serving as aggregators of shea kernel for industrial procurement, regional trade, and export. Employment is likely to be generated by investment in rural collection and processing enterprises, which rely on hundreds or thousands of collectors (nearly all women) and dozens or hundreds of artisanal processors, depending on the processing technology used to obtain the end product.

There are many hundreds, if not thousands, of micro-enterprises based on shea across Africa, from women's groups which collect and process shea to formulators of skin-care products.

The scope for large-scale investments in the shea value chain is closely linked to potential for increased demand for shea kernel as a United States Department of Agriculture (USDA)-approved ingredient in U.S. chocolates. Tangible progress on this may not be forthcoming in the short term, since the United States Food and Drug Administration (FDA) approval process takes from three to five years, and the application for consideration was submitted in December 2013.

In addition to shea consumption within the household, economic returns from the production and marketing of shea products also greatly enhance household food security, multiplying nutritional options for the rural poor through increased market access to cereals, pulses, and livestock. There is scope for involvement of youth (young women, in particular) in collection, processing, and marketing of shea products.

The level of participation in shea production is significant throughout the region but has not included measurable amounts of value added at the regional level. The opportunities to increase exports of shea kernels and to increase local value added have been identified and should be further supported. This is a value chain that is well-organized at the regional level and provides a strong platform for interaction and strategic planning. We recommend that the shea value chain be supported by the Trade Hub.

3.3.5 HONEY

Honey production is widespread, largely gathered from the wild or produced by smallholders. The global demand for honey is valued at approximately \$1.4 billion per annum. Between 2005 and 2010, global production of honey grew by over 10 percent, to 1.54 million metric tons. This growth took place despite concurrent declines in production in many regions due to colony collapse disorder (CCD). With periodic bans on tainted Chinese honey exports to the U.S. and Europe, there should be market opportunity for a new exporter such as West Africa. Global demand is increasing and importing firms are seeking new sources of supply. In addition to producing large quantities of honey, West Africa could offer unique monofloral honeys for the niche buyer. Niche markets for specialized honeys offer more distinctly high-value opportunities, particularly for honeys certified according to organic and fair trade criteria.

Although the region produces lots of honey, market and value chains are not structured. Medium-term opportunities will likely center on individual investors establishing individualistic businesses. Because apiculture is complementary to smallholder agriculture, production and marketing of honey is well-suited to generating social benefits by including women, youth, and other underserved populations.

There are few major lead firms or champion organizations in the honey and beeswax value chain in West Africa. Neither does there appear to be any regional initiative or product-based trade association. The potential for honey is clear in certain parts of the region, but the lack of a regional and coordinated

initiative—as reflected by the dispersed nature of the few lead firms—represents a significant challenge to increased exports and investment levels. We recommend that the Trade Hub provide indirect support to the honey value chain to provide assistance to targets of opportunity that might be identified.

3.3.6 SESAME

Sesame is widely grown in West Africa, and enjoys a growing demand worldwide, especially in Asian countries. West African productivity is low by international standards. Opportunities to generate value addition in the sesame value chain include processing, such as cleaning, sorting, and hulling. Hulled sesame seed carries a significantly higher unit value. If an export market can be established for sesame oil, then the remaining meal might provide a nutritious admixture for animal feeds, while the meal from hulled sesame will be suited to human nutrition as an element of value-added foodstuffs.

Global sesame exports grew by 28 percent between 2006 and 2010, reaching 1.9 million mt in 2011, valued at \$1.7 billion—of which West Africa supplied more than 230,000 mt valued at \$250 million. Sesame was West Africa’s seventh most significant export. The top eight purchasing countries include China, Japan, Turkey, Vietnam, Korea, the U.S., Israel, and Germany. They account for over 70 percent of global demand by volume and nearly 80 percent of global value at \$1.3 billion. For sesame importers, particularly in Asia, product image (perception of product quality) is paramount. Importers who supply sesame seed to ingredient distributors and oil processors seek to purchase properly cleaned and washed, dried, size-graded, color-sorted seed free of impurities and of a given minimum oil content (40 percent or greater), which is packaged according to international standards.

Nigeria (\$149 million), Burkina Faso (\$57 million) and Mali (\$32 million) are among the world’s top 10 exporters of sesame. Although Africa holds about 30 percent of the total land devoted to sesame production, it accounts for only about 20 percent of world production, due to the limited productivity of its smallholder production systems.

It is estimated that a minimum of three million West African households are currently engaged in commercial production of sesame, usually in poly-culture with other crops. Sesame constitutes about 30 percent of household income for these farmers. Sesame is easily integrated into West African farming systems and it performs well with limited or erratic rainfall. Unlike cotton, sesame requires no fertilizer, pesticides, or other inputs. For these reasons, it may be taken up by women farmers, resource-poor and vulnerable households, and youth for ready access to remunerative markets.

Sesame is among the most drought-tolerant of crops in the world, performing well with as little as 400 millimeters of rain. It does not require irrigation and is resilient in the face of increasing climatic uncertainty resulting from global climate change, including erratic or reduced rainfall.

The sesame value chain and its internal relationships are not well-structured. However, there are several large lead firms and possibly champions within West Africa. Lead firms in the West African sesame value chain include Olam International and the 3F Group, both originally Indian companies that have become multinational in scope, exporting large volumes of sesame from Nigeria and Côte d’Ivoire in particular. In Burkina Faso, firms include Groupe Velegda, which exports significant volumes of sesame from Burkina Faso and neighboring countries, Ets. Zoungrana et Frère, which performs a similar role, and Pickou Export Ltd., which invests in production of sesame in Burkina Faso for the export market.

Sesame is produced by a large number of farmers as one of several crops at the household level. The value chain is not well-organized and opportunities to add value would require investment by the few lead firms currently in the region. It is unclear if these types of improvements would have impact throughout the region or not. As West Africa does export sesame currently, the Trade Hub should

monitor this value chain to see if targets of opportunity could be identified. As of this writing, only indirect support from the Trade Hub is being recommended.

3.4 OTHER TARGETS OF OPPORTUNITY

Three other value chains were initially reviewed during the selection report phase, but not recommended for assessment: home fashion and décor, specialty foods, and seafood. The Trade Hub staff will not be structured to work directly with these value chains but could provide support to discrete targets of opportunity that might arise.

3.5 IMPACTS AND OPPORTUNITIES FOR WOMEN

In recommending value chains to be targeted by the Trade Hub, we have taken into account the gender impact of the value chains and opportunities to incorporate strategies to advance the level and nature of female participation in the value chain themselves. (Other vulnerable population groups, such as youth, and the value chains' impact on households also formed important categories that were discussed in the assessments and considered in the final selection.) The value chain assessments included discussions of gender roles and impacts in each value chain (in the "Social Impact" section of each report).

Strategies to promote improved market-oriented structuring of the value chains, value-added processing and other operations, new business formation and value-added investment all offer opportunities to facilitate new roles for women. This includes formal employment; positions of greater responsibility within businesses and organizations; and leadership within MSMEs, larger businesses, and associations.

Currently, women involved in the regional value chains—particularly **small ruminants, maize, rice, and millet/sorghum**—play largely traditional roles in farming and husbandry production, processing, and marketing systems. Despite this, in every value chain there are numerous examples of women in leadership and professional roles. Women's roles are often limited by traditional constraints on land ownership and access to finance. At present, women have an especially limited role in the **cattle** value chain (excluding dairy).

Several of the global export value chains are based on household-level farming and/or gathering production systems, often complementary to other smallholder agriculture. **Shea** nut collection is largely the domain of rural women, including poor and vulnerable rural households and those headed by women. **Sesame** is easily integrated into West African farming systems, and is therefore readily taken up by women farmers, resource-poor and vulnerable households, and youth seeking ready access to remunerative markets. Opportunities for women and youth in the **mango** value chain are substantial in all the producing and processing countries. Job potential is also mainly for youth and women; many of the traders and retailers are young men and women. The **cashew** value chain offers substantial opportunities for women and youth. Harvesting and processing activities are female-dominated. Collecting, drying, and bagging operations are also generally performed by women.

In downstream processing, especially in urban centers, most of the jobs are held by women. This is the case for **cashew** and **mango** (and other horticultural processing), for example. It is also the case in the **apparel** sector, where the large majority of employees are women.

In addition to consumption within the household, the production and marketing of consumable products—such as **cashew, honey, mangoes, sesame, and shea**—provide economic returns and additional household income. These activities also enhance household food security and multiply nutritional options for the rural poor.