WEST AFRICA TRADE AND INVESTMENT HUB

OPPORTUNITIES FOR TRADE HUB INTERVENTIONS IN CÔTE D'IVOIRE'S MANGO VALUE CHAIN

MISSION REPORT 7

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CONTENTS

ACRONYMS

AFD	Agence Française De Développement
ANADER	Agence National de Appuis au Développent Rural
ARECA	Agence de regulation du Cotton et Anacard
AREXMA	Association Regional des Producteurs et Exportateurs de Mangues de RCI
BDS	Business development services
CASA	Cajou des Savane SN
CFA	Cooperative Fruitiere d'Agboville
CIR	Cadre Intégré renforcé
COLEACP	Europe-Arica-Caribbean-Pacific Liaison Commette (Comité de liaison Europe-Afrique-Caraïbes-Pacifique)
DPV	Département de Protection des Végétaux
ECOWAS	Economic Community of West African States
FAF	Financial Access Facilitateurs
FIRCA	Fonds Interprofessionnel pour la Recherche et Conseil Agricole
GIC	Groupement Industrielle Des Cajou en Côte D'ivoire
GIZ	Deutsche Gesellschaftfür Internationale Zusammenarbeit
GRASP	Global Gap Risk Assessment & Social Practices
GVCC	Global Value Chain Coordinator
Ha	Hectare
HACCP	Hazard Analysis and Critical Control Point
IPM	Integrated Pest Management
LOC	Letter of Collaboration
MENA	Middle East and North Africa
MOU	Memorandum of understanding
MT	Metric Tons
MVCA	Mango Value Chain Advisor
MCVS	Mango Value Chain Specialist
MVCS-G	Mango Value Chain Specialist - Ghana
MVCS-B	Mango Value Chain Specialist - Burkina Faso
MVCWG	Mango Value Chain Working Group
OBAMSI	Organisation des Producteurs et exportateurs de bananes, d'ananas, de mangues et autres fruits de Côte d'Ivoire
OCAB	Organisation Centrale des Producteurs - exportateurs d'Ananas et de bananes
SDP	Strategic Development Plan
RCI	Republic of Côte D'Ivoire
RONGEAD	Réseau d'ong Européennes sur le commerce, l'Agroalimentaire, l'environnement et le Développement ("Commerce International et Developpement Durable")
TOT	Training of trainers
VCDA	Value Chain Development Adviser
UEMOA	Union Economique et Monétaire Ouest Africaine
VC	Value Chain

1. EXECUTIVE SUMMARY

This report is based on a mission to Côte d'Ivoire from January 27-30, and February 8-25, 2016 for the West Africa Trade and Investment Hub (Trade Hub), carried out by Dr. Patrick Nugawela, the Mango Value Chain Advisor (MVCA), Abou Fall, the Global Value Chain Advisor (GVCA), and Coulibaly Moussa, a Mango Value Chain Specialist (MVCS) for Côte d'Ivoire. The mission identified opportunities for Trade Hub interventions in the mango value chain in the Republic of Côte d'Ivoire (RCI), established contacts with stakeholders there, and identified potential opportunities for Trade Hub interventions for the FY2016 work plan. This report discusses findings and possible interventions.

RCI produces between 150,000-200,000 MT of mangoes—the third highest production of the country's commercial crops—but the sector's potential is curtailed by 35–40% in post-harvest losses due to fruit flies and other phytosanitary issues. Estimated potential exportable quantity of mangoes is 50,000-100,000 MT; RCI exported only 22,000 MT in 2015. The sector enjoys direct support from the Government of the Republic of Côte d'Ivoire (GoRCI), including prioritizing phytosanitary improvements to promote mango exports and local trade.

The sector has a vibrant private sector that engages directly in production and export of fresh fruits with strong interest in local investment for value-added products. Major mango production areas are in northern RCI, particularly the Korhogo-Ferke region—home to many "lead enterprises," including the best-managed commercial mango farms in West Africa—with established road networks to the port of Abidjan. Exporters, represented by three dynamic main associations, express commitment to improving their export production and supply, and request assistance to establish various international standards and certifications requested by EU importers as well as improve overall quality.

Mangoes are grown on large commercial plantations of more than 50 Ha, mainly owned by exporters; medium-size plantations of 5-50 Ha; and smallholder farms of less than 5 Ha. Estimated average production is 5 MT/Ha. Local value addition in the mango value chain is limited, though several initiatives and investments to expand this are planned or underway.

The mission identified opportunities for Trade Hub interventions in RCI's mango value chain, including a short-term action plan for training of trainers (TOT) in three segments of the value chain *(please find more detail on pp. 12-13 and 15)*:

1. *For producers who will sell to exporter companies*, TOT in harvesting and post-harvest handling techniques, in collaboration with lead enterprises, small farmer producers and small farmer supplier networks. The Trade Hub should collaborate with Nembel Invest S.A., a lead enterprise in Ferke, for this TOT.
2. *For employees of the same exporter companies,* TOT in harvesting and post-harvest handling techniques.
3. *For managers of pack houses,* TOT in best practices packing and handling export-grade mangoes. The Trade Hub should work in partnership with Association Regional des Producteurs et Exportateurs de Mangues de RCI (AREXMA) in the Korhogo region (twelve pack houses have been identified for support this year).

In the longer-term, mango value chain stakeholders requested Trade Hub support in several other areas, including Global G.A.P. training for small farmers in the Korhogo region, certification in a new international standard called Global G.A.P. Risk Assessment on Social Practice (GRASP), training on best practices for mango farm management—including fruit fliy and phytosanitary controls—promotion of formal linkages among small farmers, processors and exporters to expand contract farming, and extension services training on phytosanitary controls for the staff of Direction National de Protection Végétaux (DPV).

2. INTRODUCTION

2.1 BACKGROUND

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

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

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

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

The project builds the capacity of several key groups of African partners from regional private sector associations and alliances. Stakeholders include the Economic Community of West African States (ECOWAS), the Economic and Monetary Union of West Africa (UEMOA); and global development alliances with private sector companies. As Trade Hub works with associations and regional alliances, it will help them serve as leaders in promoting reforms, attracting buyers and investors, and adopting improved practices. Eventually, Trade Hub's partners are expected to act independently and take on even greater leadership roles.

Trade Hub comprises several components. These include:

- Regional staple foods development (livestock and grains)
- Global value chain development (targeted agro-processing and manufactured consumer goods, such as mangoes, cashews, and apparel)
- Finance and investment
- Transport and the trade enabling environment
- Capacity building
- Communications

2.2 CONTEXT FOR THIS REPORT

This report describes preliminary opportunities for Trade Hub interventions in RCI's mango value chain based on a mission carried out in January, February and March 2016 by a team of Trade Hub experts. The assignment also aimed to extend ongoing Trade Hub activities in the mango value chains in Ghana, Senegal and Burkina Faso; activities in these countries follow in the Mango Value Chain Advisor's (MVCA) Mission Report 8.

The Trade Hub's interventions in these countries focus on increasing production of quality fresh mangoes for global, regional and local trade. This includes fresh mangoes for export and for local processing targeting export and local markets. Dr. Patrick Nugawela, (MVCA), visited RCI from January

27 to 30, 2016 and from February 8 to 25, 2016. The Global Value Chain Adviser (GVCA), Mr. Abou Fall, and a Mango Value Chain Specialist (MVCS), Mr. Coulibaly Moussa, also participated in this mission in February. The mission established contacts with the mango value chain stakeholders in RCI, including public and private sector representatives, development facilitators and partners, and direct value chain actors. *Please find a complete list of these people and institutions in Annex A.*

2.3 METHODOLOGY AND PRELIMINARY REMARKS

The MVCA held initial discussions in Accra with the MVCSs from Senegal, Burkina Faso, and Ghana, and the GVCA. These meetings took place from January 19-26, 2016. Following these meetings, the MVCA visited RCI from January 27-30 and returned for February 8- 25 *(Annex B provides a detailed itinerary)*. The MVCA met with representatives of mango value chain professional associations, individual value chain players, technical assistance projects, and partner institutions such as the USAID Private Sector Development Office in RCI. Specific meetings included with officials of the Ministry of Agriculture in the Abidjan and Korhogo regions, Département de Protection des Végétaux (DPV), Fonds Interprofessionnel pour la Recherche et Conseil Agricole (FIRCA), exporter associations in Abidjan and in Korhogo, service providers, private exporting and processing enterprises such as Nembel Invest Ranche de Koba Company, cooperatives, and producers *(see Annex A for additional details)*.

Country briefings were given to USAID in RCI on February 23, and in Ghana on March 3, 2016.

3. MANGO VALUE CHAIN IN RCI

3.1 GENERAL OBSERVATIONS OF MANGO VALUE CHAINS IN WEST AFRICA

Many countries throughout West Africa, including Senegal, Mali, and Côte d'Ivoire, previously produced quality fresh mangoes for export directly to global markets (mainly Europe), while Burkina Faso gradually expanded local value addition through processing (mango drying and pulp production), and Ghana focused on high value-added mango products (fresh cut, mango-based snacks, and fruit drinks). However, West African countries are now expanding fresh fruit exports to new markets, including the Middle East and North Africa, and within West Africa. In addition, these countries are seeking investment in local value addition through drying, pulp and juice production, and other high-value mango products for export.

Stakeholders in Senegal, Ghana, and Burkina Faso historically focused on training on best agriculture practices and fruit fly and phytosanitary controls to improve production quality and reduce post-harvest losses. Value chain players now also increasingly request assistance to access a variety of international standards and certifications, markets, and finance. Certifications requested include GRASP (an add-on to Global G.A.P.), Rainforest Alliance, organic, HACCP, and Tesco.

Key players in mango value chains across West Africa increasingly seek assistance finding new production business models for sustainable approaches to mango value chain development. Models drawing the most interest include:

- promotion of exporter-producer linkages
- out-grower systems
- supplier-exporter agreement systems
- continuous training and organization of harvesters
- development of bulking and cold storage facilities,
- management of production and harvesting (flower induction)
- organic production
- reduction of post-harvest losses through training and strict phytosanitary controls

3.2 OBSERVATIONS ON RCI'S MANGO VALUE CHAIN

- **High potential for significant agro-based production**: Mangoes represent the third most important commercial crop in RCI by contribution to GDP, and the fourth most exported crop among fresh fruits. Its full potential for local value addition and reduction of post-harvest losses has yet to be assessed and harnessed.

- **Government of the Republic of Côte d'Ivoire (GoRCI) is committed to improving the industry's phytosanitary conditions**: The GoRCI and the private sector have given high priority to fighting fruit flies and establishing systematic phytosanitary controls for mango exports. For example, the GoRCI provides a direct subsidy for agro chemicals to control fruit flies and has allocated 1.7 billion CFA (US$2.9 million) in 2016 for mango farmer training, including on phytosanitary controls by DPV and regional departments of the Ministry of Agriculture.

- **Vibrant private sector in the mango value chain**: RCI has more than 50 registered mango exporters, several of whom have invested in commercial plantations and are linked with small-scale suppliers. Several large-scale mango exporters/planters are planning investments in local mango processing.

- **Presence of lead enterprises:** The major mango-producing areas in the country's northern half, including the Korhogo-Ferkessdougou regions, have the best-managed commercial mango farms in West Africa. One of them operates with formal contracts for supplies from smallholder farmers. This lead enterprise, Nembel Invest S.A. in Ferke, supports maintenance of a small farm in Ferke and in return the small farms agree on supply contracts.
- **Increased demand by value chain players for international standards and certifications**: The mango value chain players in RCI are increasingly concerned about international trade requirements, particularly certifications. In addition to Global G.A.P. and HACCP, these include GRASP, Rainforest Alliance, Tesco, and organic certifications.
- **Fruit fly threat**: Many mango plantations in RCI's main mango-producing regions are surrounded by cashew trees or cashew plantations, which increases the threat from fruit flies. Cashew crops grow before the mango crop, which attracts fruit flies that infest the area. Several farms are currently cutting down cashew trees found near mango plantations.

3.3 OVERVIEW OF RCI'S MANGO SECTOR

3.3.1 PRODUCTION AND TRADE DATA

RCI has limited availability of officially confirmed data on production, extents under cultivation by region, yields, and the numbers of farmers involved. Therefore, the mission depended on observations and estimates from different sources for mango value chain data, indicating that total mango production is around 150,000–200,000 MT annually. Estimated post-harvest losses represent about 35-40% of production, mainly due to limited local market, fruit flies, and other phytosanitary problems.

Available data notes that mango production represents the third largest commercial crop in terms of contribution to GDP, accounting for 3–4% of GDP, and 8–10% of gross domestic agriculture production value. The quantity of potentially exportable mangoes is estimated at 100,000 MT. RCI is the largest fresh mango exporter to the EU in West Africa, with 22,000 MT of exports to the EU in 2015. Export data on fresh mango exports from RCI follows[1]:

Table 1: Mango Exports in RCI 2011 - 2015

Year	2011	2012	2013	2014	2015
Quantity (MT)	10,179	15,267	16,515	20,475	22,769

Unlike other countries, RCI has are only two dominant commercial varieties: Kent and Keit. A few local varieties without much commercial value are consumed locally or wasted. Local varieties may find a local market once planned mango processing and drying factories become operational.

RCI has a short mango season from March to June, with a peak season in April. RCI's mango exports enter the EU market before Senegal and after Peru, two other important fresh mango exporters to Europe. RCI produces mangoes the same time as Mali.

3.3.2 PRODUCTION ZONES

[1] Source DPV RCI, 2016

RCI's mango production is mainly in the northern part of the country in four zones: Korhogo, Ferke, Boundiali and Odiennee. These mango zones are circled in the map below, while the table shows major production areas within these zones:

Table 2: Major Mango Production Zones in RCI

Zones	KORHOGO	FERKE	BOUNDIALI	ODIENNE
Production Areas	Sirasso	Niellé	Kasséré	Minignan
	Korhogo	Diawala	Kouto	Samatiguila
	Dikodougou	Ouangolo	Tengrela	Madinani
	Sinématiali	Ferké	Boundiali	Odienné
	M'bengué	-	-	-

3.3.3 KEY CHARACTERISTICS OF PLANTATIONS

Ownership and size of mango plantations vary:

- A few large commercial plantations (50 or more Ha), owned mainly by exporters. One in the Ferke region is more than 340 Ha.
- Medium-sized plantations between 5 and 50 Ha.
- Smallholders with less than 5 Ha (perhaps closer to 2-3 ha). Some are grouped in cooperatives.

Some data suggests about 46,000 Ha is under mango cultivation. However, there is no confirmed data on cultivation extents for RCI agriculture crops. As data becomes available, the Trade Hub will incorporate it into planning with partners. Some mango exporters requested technical assistance to use geo-referencing to identify their own producer suppliers and to develop a traceability system.

For the few large-scale plantations, the private sector has made large investments in management. The 340-Ha plantation in the Ferke area employs more than 100 people in addition to the seasonal employment in the pack house. This plantation uses best agriculture practices and is one of the best-managed plantations in West Africa.

Figure 1: RCI's largest mango plantation (located in the Ferke region) applies best practices

Estimated average production per hectare in RCI is 5 MT/Ha. Some modern commercial plantations report producing more than 10 to 20 MT/Ha or more.

All data comes from different sources and are approximations. A scientific survey to obtain more accurate data would better help plan support activities for the sector.

3.3.4 LOCAL VALUE ADDITION

Local value addition in RCI's mango value chain is limited. However, several initiatives and investments are ongoing and planned—some quite large—to promote local mango processing. These include:

- Three mango-drying units already installed in Korhogo, Ferke and Boundiali, with assistance from the World Bank through FIRCA. The units use tunnel dryers from South Africa. Dried mangoes are transported to Bobo Dioulasso, Burkina Faso, where they are finished and packed before being exported to South Africa or the EU.
- Another three drying units are being installed in northern RCI, and three more are planned under the same technical assistance programs. These units will be operated by producer cooperatives.

- Additional large investments are underway in the Ferke region for mango drying (from an Italian company), pulp production, and fresh-cut production for exports. These state-of-the-art processing units will process several thousand MT of fresh mangoes.
- A mango juice production unit is planned in Abidjan.
- In addition, several other exporters confirmed intentions to enter into mango drying and value-added production units for local and export markets.

3.3.5 COST STRUCTURE FOR MANGO TRADE

The mission obtained the following data points from 2015 specific to Northern RCI.

- Farm gate prices:100-150 CFA/Kg (in Ferke region)
- Price when delivered to the pack house: 180 CFA/Kg
- FOB cost by sea freight: roughly 4 Euros/4 Kg box
- FOB cost for air freight: 4-5 Euros/Kg (packed in 6-Kg boxes)

These prices are about the same as Senegal's, and are much higher than prices in Mali and Burkina Faso.

3.4 VALUE CHAIN ACTORS

The various actors in RCI's mango value chain include:

- Small, medium, and large-scale producers.
- Intermediary suppliers, known locally as "*pisteurs*" Some exporters collect mangoes directly from producers.
- Exporters represented by three associations: Organisation Centrale des Producteurs (OCAB), Association Regional des Producteurs et Exportateurs de Mangues de RCI (AREXMA), and Organisation des Producteurs et exportateurs de bananes, d'ananas, de mangues et autres fruits de Côte d'Ivoire (OBAMSI). There are no inter-professional associations.
- A limited number of processors.
- Traders, mostly women, in local markets.

3.5 STRENGTHS OF RCI'S MANGO VALUE CHAIN

RCI is the largest mango producer in West Africa to be engaged in high-quality mango export. Main advantages are an abundant supply two high-value, exportable varieties, organized supply linkages between large and medium private farms with smallholder farmers, including exporters directly owning large plantations. RCI's production season comes before Senegal and after Peru, providing an opening to export mangoes to the EU market, and the country's exporters have well-established market contacts in EU countries. Below is a more detailed description of the mango value chain's key strengths:

Large potential exportable production. Estimated exportable quantity of mangoes is 100,000-150,000 MT, made up almost entirely of the high-quality exportable mango varieties of Kent and Keit. Initiatives are underway to establish new plantations.

Established export markets in EU and West Africa. More than 50 exporters working in RCI have experience exporting mangoes or other fruits such as bananas and pineapples *(please find a full list in Annex C),* and RCI mangoes are already known in the EU market. While historically the mango sector in RCI has been focused on the European market, Trade Hub efforts during the past two years have identified significant potential to increase regional trade to satisfy market niches for different quality mango varieties and local value added such as juice processing. This has involved increasing market linkages within different countries in the region.

Organized supply network between exporters and producers. RCI mango exporters are organized in three main trade associations—OCAB, OBAMCI, and AREXMA—and many exporters are also producers connected to small farmers to whom they provide services with buy-back arrangements for final products. This well-organized supply network ensures a guaranteed level of export supply during the season. All exporters are working to comply with all requirements, including seeking various certifications required by different countries and end-market clients.

Established market supply channels. These include:

- A road transport network from producing areas to the port of Abidjan.
- Exports through regular air freight from Abidjan.
- Regional trade by road to Ghana, Burkina Faso, Mali, and Senegal.
- Industrial-quality mangoes are also available for local processing and consumption in local retail markets.

A significant feature of RCI's supply channels is that many exporters have direct collection channels from producers and their own pack houses. However, as in other countries, traditional channels such as collection intermediaries ("pisteurs") are also used by exporters and other buyers such as processors and retailers.

Direct government support to the sector. The government of RCI is directly involved in supporting mango producers with subsidies and agriculture extension services through its ministry of Agriculture and Rural Development. This Ministry works through the Direction National de Protection Végétaux (DPV) and regional agriculture departments to supply fruit fly control agro chemicals to all producers. The Government allocated 1.7 billion CFA (US $2.9 million) for purchase and distribution of agro chemicals to control fruit flies. In addition, other public sector organizations such as FIRCA and ANADER provide support to the value chain directly or indirectly.

Established pack houses. RCI already has 10–20 pack houses operating for mango exports. Many of these operate in the mango-producing region, and all key exporters have invested in their own pack house facilities.

Potential cluster-type linkages with Burkina Faso and Mali. RCI's northern mango belt—including the Korhogo area—abuts Mali's main production region, the Sikasso basin, and Burkina Faso's Bobo-Dioulasso-Banfora mango belt. Bilateral cooperation could facilitate development of this mango belt across each country by promoting development of highways, cold-storage facilities, and air freight facilities in the Bobo-Dioulasso airport. These developments greatly improve logistics for RCI exports, as it currently takes 9–12 hours for mangoes to be driven from northern Côte d'Ivoire to Abidjan where they can be exported by air transport. If Bobo-Dioulasso developed as a hub for exporting agro products by air, mangoes from northern Côte d'Ivoire could reach Bobo-Dioulasso for export by air in 3–5 hours.

3.6 KEY CHALLENGES FOR RCI'S MANGO VALUE CHAIN

RCI's mango value chain faces similar challenges as do other mango-producing countries in the region. These include:

Fruit flies and other phytosanitary issues. RCI experiences serious phytosanitary problems, which among other issues harms the country's ability to export. There were 64 interceptions in the EU in 2014, and nine interceptions in 2015.

High level of post-harvest losses. Estimated post-harvest losses are 30–40%, mainly due to fruit flies and the limited local market for low-grade mangoes.

Inadequate access to finance at all levels of the value chain.

Inadequate technical assistance. Most needed is assistance to improve supply quality and workers' technical skills on international best practices, harvesting, pack house management.

High cost of transport from the producing region to Abidjan for export.

Organizational issues in the value chain. RCI lacks an inter-professional organizations and a single national voice for the mango value chain private sector.

3.6.1 DEVELOPMENT PARTNERS AND FACILITATORS

Public sector institutions involved in RCI's mango value chain include:

- Ministry of Agriculture Rural Development—overall policy support and extension
- Direction National de l'agriculture (DNA)—regional extension work
- Direction National de Protection Végétaux (DPV)—phytosanitary control and training for farmers on phytosanitary controls
- Fond Interprofessionnel pour la Recherche et les Conseils Agricole (FIRCA)—promotes mango processing
- Agence National d'Appui et Développent Rural (ANADER)—-agriculture extension services

Technical assistance projects

RCI's mango value chain has a limited number of interventions by international donors. With the improved operating environment during the past five years (linked to a stronger political system) there is increased donor support for this value chain. Part of the World Bank's program to RCI includes support for the provision of key inputs to mango producers. GIZ is another active partner in this value chain in several West African countries. The Trade Hub will pursue increased collaboration with these actors and other programs at the national or regional level that are identified.

3.7 OPPORTUNITIES FOR TRADE HUB INTERVENTIONS IN 2016 AND BEYOND

3.7.1 INITIATIVES IDENTIFIED FOR 2016 WORK PLAN IN RCI

Given the limited amount of time available before the 2016 mango season, the mission identified three priority interventions to launch April 2016. The Trade Hub will recruit a short-term mango specialist to work with partners and other technical experts in and around Korhogo during the current mango harvest season. The mission also identified quick entry points to support value chain development through lead enterprises or associations to have a larger impact on many players and produce rapid results. Please find recommended interventions below in order of priority, which can start as soon as all approvals and logistics are in place:

1. **Training Model 1: Training of trainer mango harvesters in harvesting and post-harvest handling techniques, in collaboration with lead enterprises, small farmer producers and small farmer supplier networks in the Ferke region.** Training would focus on harvesting mangoes of appropriate quality, and post-harvest mango handling techniques for export and supply to local markets. The Trade Hub would work with a lead enterprise in Ferke and train 75 harvester trainers, comprised of 25 "master trainers" from the lead enterprise and 50 "associate trainers" from small farmer suppliers. The 50 associate trainers will then train at least another 100 harvesters under the supervision of the 25 master trainers from the lead enterprise. In addition, the 25 master trainers should train a multidisciplinary team of 75

workers (working on farm maintenance, fruit fly control, harvesting, packing etc.) on harvesting techniques. In total, this model will train 200 harvesters in the Ferke region.

2. **Training Model 2: Training of trainer mango harvesters in harvesting and post-harvest handling techniques, in collaboration with exporter associations.** This second model would involve training 50 independent trainer harvesters from the Sinématiali region to support members of the AREXMA exporter association. The program would be coordinated by lead exporting enterprises. This model would train 50 trainer harvesters who will work with exporters to train other harvesters to increase the quantity and quality of exportable products.
3. **Training of lead trainers in mango pack houses in the Korhogo region.** Trade Hub would work with the AREXMA exporter association to train 50-60 members of a lead technical staff in 10-12 pack houses. These trainers will return to pack houses and train the rest of the workers. This activity should increase productivity of export.

3.7.2 OTHER OPPORTUNITIES FOR INTERVENTIONS DURING FISCAL YEAR 2016-2017

The mission identified other opportunities to be considered for 2017 to support growth of the mango value chain in northern RCI. These include:

Support to a Global G.A.P. training pilot program for small farmers in northern RCI. This intervention would work similarly to Training Model 1, using linkages between small farmers and exporters. Training would focus on ensuring that the supply of mangoes conforms to international standards. At a later stage, this training could also support new certifications increasingly required by importers such as GRASP, Rainforest Alliance, and organic.

Training on best practices in mango farm management, including fruit fly and other phytosanitary controls. This training would work to increase mango quality and reduce post-harvest losses, increasing supply for export and local markets.

Support and promote formal linkages between small farmers and exporters and processors to create contract farming. This has already been done successfully by a lead enterprise in the region, and can be replicated.

Support DPV to enhance extension services skills for phytosanitary controls. This intervention would focus on minimizing export interceptions.

Promote a connected mango cluster in northern RCI, Mali, and Burkina Faso. Bilateral cooperation could facilitate development of the mango belt across each country with important impacts on long-term promotion of mango trade in the region.

3.8 THE WAY FORWARD FOR RCI: TRADE HUB'S MANGO VALUE CHAIN PROGRAM FOR 2016-2017

3.8.1 RECOMMENDATIONS FOR NEXT STEPS

First interventions should be are implemented as pilots in the northern region around Korhogo with key players, preferably lead enterprises or associations, to demonstrate the program's ability to quickly reach large numbers of value chain players. Recommended next steps:

1. The Trade Hub should recruit a Mango Value Chain Specialist to be located in the Korhogo Region to finalize intervention plans with value chain players.

2. In parallel, Trade Hub should establish office space and working procedures in RCI. The main exporter association AREXMA has offered to lease adequate office space for Trade Hub's specialist in Korhogo.
3. Finalize a detailed implementation plan based on the opportunities identified for the 2016 mango season with the key players, and obtain required approvals.
4. Implement interventions based on opportunities identified for 2016 and plan for monitoring and evaluation of results.

3.8.2 ADDITIONAL SUPPORT TO IMPLEMENT TRADE HUB INTERVENTIONS IN THE KORHOGO REGION

The new Mango Value Chain Specialist will require initial support and orientation. The Trade Hub could ask the Mango Value Chain Specialist in Bobo-Dioulasso to visit the Korhogo region for this purpose. The project office that has been established in Abidjan (with a full time Value Chain Specialist to be recruited by June) will also support this field work.

3.8.3 PLANNING THE IMPLEMENTATION OF INTERVENTIONS PROPOSED FOR 2016

The Mango Value Chain Team should discuss and plan three opportunities identified for Trade Hub interventions in RCI in 2016. Once approved, the MVCS–Korhogo, in collaboration with the GVCC and VCDA, should be able to:

1. Finalize intervention ToRs for each intervention and work with partners to establish intervention plans.
2. Define budget requirements, and finalize commitments required by partners.
3. Sign LOCs with partners.
4. Identify consultants to fill the necessary positions and request the appropriate approval requests.
5. Implement the work plan.

3.9 SHORT-TERM ACTION PLAN FOR RECOMMENDED INTERVENTIONS IN RCI

1. I. Preparatory activities: Coordination of Trade Hub mango value chain intervention activities in Korhogo Region						
No	**Activity Recommended**	**Location**	**Activity lead and support team**	**Partner institution/s**	**Time Frame**	**Status**
1.1	Recruitment of a Mango Value Chain Specialist to be located in Korhogo	Korhogo	Trade Hub through J.E. Austin	-	April 2016	A consultant has been identified and mobilized to RCI.
1.2	Negotiation of office space in Korhogo	Korhogo	J.E. Austin	AREXMA Exporter Association CDI	April 2016	AREXMA agreed to provide an office space immediately in the same office building
1.3	Finalizing detailed implementation plan for mango value chain interventions in RCI	Korhogo region	MVCS - Korhogo with SVCDA, GVCA + MVCC	Partner institutions in Korhogo	December 2015	Initial activities identified, TORs are being finalized with partners.
Expected Results • MVCS in place and operational in Korhogo region. • Activity implementation plan finalized and implementation to start from April 2016. • LOCs signed with AREXMA and other partners.						

2. Mango value chain interventions recommended for immediate implementation						
No	**Activities Recommended**	**Location**	**Activity lead support**	**Partner Institutions**	**Time frame**	**Status**
2.1.	Training of Mango Trainer Harvesters and post-harvest Handling. Training Model 1.	Ferke	MVCS –Korhogo with support from MVCS-Bobo	Nembel Invest as lead enterprise and uses its farmer network	April-May 2016	ToR being finalized, trainer being recruited from Bobo. Resources to be defined and agreed upon.

<table>
<tr><td colspan="7">Expected Results
200 harvesters trained. 2500 MT of mangoes harvested during the season
20% of mangoes for export →500 MT@$1200 FOB /Mt = US$ 600,000
70% for local and regional market → 1750Mt @300MT = US$525,00
10% Post-harvest losses
Total revenue generated = US$ 1,125,000</td></tr>
<tr><td>2.2.</td><td>Training 50 mango harvesters working for exporters (Training Model 2)</td><td>Sinématiali region</td><td>MVCS – Korhogo</td><td>SPEM Exporting co.
Members of AREXMA</td><td>April-May 2016</td><td>Trainer being recruited</td></tr>
<tr><td colspan="7">Expected Results
50 independent harvesters trained in harvesting and train another 100, for a total of 150 trained.
Total supply of mangoes 2250MT
Of which 20% for exports → 20%= 450 MT@ US$1200 MT= US$540,000
70% for local market → 70%=1575 MT@ US $300 = US$472,500
Post-harvest losses estimated to be 10%
Total revenue generated = US$ 1,012,500</td></tr>
<tr><td>2.3.</td><td>Training of lead trainers in mango pack houses</td><td>Korhogo Region</td><td>MVCS with AREXMA</td><td>AREXMA – Association</td><td>April-May</td><td>Consultants being recruited.</td></tr>
<tr><td colspan="7">Expected Results
50 pack house technical leaders from 10 pack houses trained.
About 40 workers per pack house trained by these technical leaders with a total of 400 workers – mainly women – trained.
An increase of 100 MT per pack house would in total lead to 1000 MT more mangoes packed, with a FOB value of US$1,200 per MT, total incremental value would be US $1,200,000.</td></tr>
<tr><td>2.4.</td><td>Support adoption of international standard GRASP, an add-on to Global G.A.P. certification</td><td>Ferke</td><td>MVCS with service provider</td><td>Lead enterprise Nembel Invest</td><td>April /May</td><td></td></tr>
<tr><td colspan="7">Expected Results
A new model demonstrated by a lead enterprise for how firms can achieve GRASP certification
Social working rights improved for 31 workers, impacting 155 producers, and a more favorable working environment created.
Increased exports and local sales for main lead enterprises that work with producers who receive GRASP certification.</td></tr>
</table>

ANNEX A: PEOPLE AND INSTITUTIONS CONTACTED

	Côte d'Ivoire		
No.	**Institution**	**Person Contacted**	**Contact Details**
	Public Sector		
	Abidjan		
1	Ministry Of Agriculture Direction General des Productions et de la Sécurité Alimentaire	SoumailaHoussiBredoumy DG	bredoumy@yahoo.com tel. +225 20215086
2	Ministry Of Agriculture Direction de la Protection des Végétaux	SilueGneneyyeri – Director	gnesilue@yahoo.fr. Tel. +225-01164848
3	Ministry Of Agriculture DPV	KoussiGuessian –Sous-directeur –Inspection	ngnissan@yahoo.frtel:+225 071221320
4	FIRCA –Fond Interprofessionnel pour la Recherche et le conseil Agricole	Ouya Adolph Charges de programs Fruits et Légumes	ouya@firca.ci tel. 225 -59097194
5	Le Conseille Du Cotton et de la Anacarde-	Karim Berthi-Coordinator General	Tel. :225 07093225kaberthe@yahoo.fr Tel
6	Conseil National Des Exportations CNE	Serge Martial Bombo SG	sbombo@cne-ci,org tel.+225 203296
7	FIRCA –Fonds Interprofessionnel Pour le recherche et Conseil Agricole	Mime Traore Assita Cashew and Sugar Project Manager	traorea@firca.ci Tel. +225 22528281
1	**USAID _Abidjan**	Rebeca Levy Economic Growth Officer	rlevy@usaid.gov Tel. +225 06326598/22494302
	Korhogo		
1	Secrétaire General – Préfecture	Mr	Tel.08250065
2	Ministry of Agriculture – Direction Korhogo	Mr.Powa Max G- Director	Max.powa@gmail.com tel. +225 06080293
3	-	NikerieKoffi Olivier – Statistics division	Nkof2004@yahoo.com tel. +225 41169395
	Ferkessedougou		
1	Ministry of Agriculture – Direction Ferkessedougou	Mr. Dembele Vamara – Director	dragriferkessedougou@gmail.com tel. +225 07731277
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	Banks ,NGOs Consultants		
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7	GIZ-German Co-oporation	Frank Von Glasenapp-Conseiler PPP	Franck.von-glasenapp@giz.de tel :+225 09762717
8		Alain Rousseau Agriculture value chaines	Alain.rousseau@gtz.de tel :+22557070357
9	Consultant /trainer	Mme Me Ferdinande	Stephaniejosee87@gmail.com tel. +225 48484755
10	IMO Control	Luisse Tope Inspectrice	Louise.tope@imo-control.org +225 08864597

ANNEX B: MISSION ITINERARY IN RCI, GHANA, SENEGAL AND BURKINA FASO

Date		**Institution/Meeting**
Ghana		
18	Jan Sunday	Travel to Ghana
19th	January. Monday	Arrival Accra –report to WATHN
20-26	Jan. Mon Tues. Wed	Meetings with Mango Specialists team and work plans review of Ghana ,Burkina and Senegal
		Preparations for CDI mission
		Visit Somanya –Meet Mango farmers Associations
		Review of work plans –Ghana and arrangements for RCI Mission
RCI		
27		Travel to CDI
28	Jan. Wed	Meetings –Technoserve , Olam Group, Nemble Investments (victor)
29	To Fri	Meetings –OCAB ,Nembel invest, IFC, Rogeard, cashew association
Senegal		
30	Jan. Sat	Travel to Senegal
31	Jan .Sun.	Senegal
1-2	February .Mon.Tues	Meetings –Trade Hub –Senegal, Agro fruits , Senfresh , Enablis
3	Feb . Wed	Travel to Niayes –Visit Hortica , Meet with Bio Mango Association
4-5 6-7	Feb Thu. Through Sunday	Debriefing with USAID –Dakar, Meeting Financial Adviser , Agro fruits , Senfresh , Laure agro products .Way am Bi GIE .Sene commerce (Gambia)
		Senegal report details work , meeting Sene fruits
RCI		
8	Feb . Monday	Travel to CDI
9 - 13	Feb. Tues. Saturday	Abidjan Meetings with APREXMA (Pascal), Cotton and Cashew council, DG Ministry of Agriculture, DPV
		Meetings with Nemble Investments (Victor), Association Bonaci , FIRCA . RONGEAD (ONG) , Mr. Peter White Ex Trade Hub , GIZ , Nemble Investments, Olam
		-Work on the report – Nemble Invest ,OLAM
14	Feb Sunday	Departure to Korhogo
15-16-17	Feb –Monday to Wednesday	Meetings with Director agriculture –Korhogo, AREXMA, Cooperative of producers , Mango driers , Visit to Pack House of Verger de Sud, Visit to small holder farms . Collibaly Arrived in Korhogo on the 15th Feb
18	Feb. Thru	Travel To Ferke –Visit Direction Agriculture , Nemble Invest , Producers
19-20	Feb. Friday.Sat	Travel to Korhogo –Meeting with Exporters ARESMA
21	Feb. Sunday	Meeting with a Trainer –Packaging and travel to Abidjan
22-24	Feb. Mon – Wed	
Burkina Faso		
Feb. 25	Thur	Departure to Bobo-Visit Bureau Trade Hub
26-Feb to 1st March	Fri- to Monday	Travel to DAFANI Banfora –Oradara Senle Exports , ISRA –Bobo, Visit Gabena ,meetings with Associations –APROMA-B etc
1st March	Tuesday	Travel to Ouaga –Work on the report
2nd March	Wednesday	Travel to Accra –Work on the briefing Presentation

Ghana		
3rd March	Thursday	Visit Ghana HPW
4th to 9th March	Friday –to Wednesday	Discussions on Ghana Programs ,. TOR of CDI consultant and work on the report
10- 11 March	Thursday	Work on the draft 1 final report and Travel to Sri Lanka

ANNEX C: REGISTERED EXPORTERS IN RCI

REPERTOIRE DES SOCIETES EXPORTATRICES DE MANGUES EN CÔTE D'IVOIRE

N°	RAISON SOCIALE	REPRESANTANT /RESPONSABLE	CONTACTS	EMAIL
1	ADF-AGRO	MADIDGBE DIABY	07 01 35 70	adf-agro@aviso.ci/madydiaby@yahoo.fr
2	AGENCE MARITIME ET DE SERVICES	KOUAKOU KOFFI JACOB	21 34 20 20 / 09 71 78 78	jacob@ams-ci.com / edmond@ams-ci.com
3	AGRONORM	SORO SIKAMAN	08 78 80 32	agronorminter@gmail.com
4	AGRO-PRODIS SARL	KOUAME DJATE JULES	06 67 56 58/08 26 19 45	agroprodis@yahoo.fr
5	AGRO +	YEO NAMOUKATIENE SIAKA	45 88 13 73/08 70 14 79	Yeo28nasi@yahoo.fr
6	APEX-KO SARL	BANCE KARIM	36 86 15 57 / 08 34 87 42	apexko.sarl@gmail.com
7	BAKANE	KANE IBRAHIMA	09 87 99 40/49 71 21 52	Bakane.sory@hotmail.fr
8	CARTE D'OR CÔTE D'IVOIRE	WOGNE MINLIMIBE EDWIGE	59 00 19 76 / 07 80 43 19	cartedorci@yahoo.fr/ cartedorci4@gmail.com
9	C.F.A	ABBE PHILIPPE	20 25 18 83 / 09 45 10 42	philippe_abbe@yahoo.fr
10	CELEF IMPORT - EXPORT	KONE ABOUBACAR	07 35 68 19/02 77 69 90	celef_ci@yahoo.fr
11	COFRUIBO	ADJOKA JOEL	21 30 01 65 /08 66 15 37	cofruibo_samuel@yahoo.fr
12	COMAKO	SORO OUSMANE	36 86 19 58 /05 31 73 73	comako2009@yahoo.fr
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16	E.M.S SARL	SORO MOUSSA	07 88 85 09 / 57 81 89 60	emsoro.sarl@outlook.com
17	ETS SAFY	YACE SIMPLICE ALBERT F.	07 65 72 33/01 33 97 08	ysimplice@yahoo.fr
18	FRUINORD CÔTE D'IVOIRE	SERGES MAX KOMOU M'BIA	08 07 04 02/07 33 87 50	fruinord.ci@gmail.com
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20	GROUPE CAFIC & CO	DIABATE LAMINE	07 48 93 63/40 19 06 96	diabatevassiafa@yahoo.fr
21	HATTAB GUY	HATTAB GUY ELIE	21 35 73 50/09 07 21 08	consulathbenin@yahoo.com

N°	RAISON SOCIALE	REPRESANTANT /RESPONSABLE	CONTACTS	EMAIL
	ELIE (STC)			
22	IFRUITROP (CHAKER JOSEPH)	CHAKER JOSEPH	21 29 33 04 /07 51 89 74	jo_chaker@hotmail.com
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24	IVOIRE AGREAGE	HOUSSOU AMANI MICHEL	21 24 47 60 / 08 01 95 52	info@ivoireagreage.com
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27	LYMAC FRUIT	KONE FANTA	07 16 94 93/03 15 48 21	Konefanta42yahoo.fr
28	MAJOTA SCFEL	GNACADJA CASIMIR	36 86 60 51/ 07 38 78 37	majota_scfel@yahoo.fr
29	MAMO IMPORT EXPORT SARL	GBALE DEGRE MOISE	05 30 71 72 /07 04 18 51	gbale.mamoimpexport@yahoo.fr
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34	ORIANE FRUITS	KIYALI DESIRE IGNACE	08 34 46 90/01 95 35 45	orianefruits@yahoo.fr
35	OUATTARA TRADING	DAHOUIDO OUATTARA	22 50 15 10 / 48 23 33 64	dahouido@yahoo.fr
36	R.G.M	FAYAD SAMIR	21 26 65 11/ 07 83 16 86	samyfayad@hotmail.com
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40	SCOOP. CA CADERU	AHOULOU BOGNE CLAUDE	08 64 09 20	Info.caderu@gmail.com
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N°	RAISON SOCIALE	REPRESANTANT /RESPONSABLE	CONTACTS	EMAIL
43	SIMEXP SARL (Sté d'Import - Export et Prestation)	SABA JEAN JACQUES	04 47 11 33 / 48 17 89 11	simexp_ci@yahoo.fr
44	SIPEPT	TOURE GAOUSSOU	21 30 90 34 / 07 45 00 18	sipeptci@hotmail.fr
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47	SOFA	SORO YEYE ZOULOU	07 23 38 75	soroadamapile@yahoo.fr
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50	SPEM	VALLIER MARIE FRANCOISE	36 86 61 92 / 47 32 76 21	vayela2000@yahoo.fr
51	S.T.C.P.A (Sté de Transformation et de Conditionnement des Produits Agricoles)	TRAORE LASSINA	02 35 02 99	Traorelassina8787@yahoo.com
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56	YELA	SORO LASSINA	07 76 08 59	Sorodjackogmail.com

Source : MINISTERE DE L'AGRICULTURE ET DU DEVELOPPEMENT RURAL, DIRECTION GENERALE DES PRODUCTIONS ET DE LA SECURITE ALIMENTAIRE, DIRECTION DE LA PROTECTION DES VEGETAUX, DU CONTROLE ET DE LA QUALITE

ANNEX D: MEMBERS OF AREXMA, RCI 2016

No	Name of Enterprise /Contact	Tel. Email
1	SPEM / Mme Françoise Vallier (Présidente de AREXMA)	vayella2000@yahoo.fr tel 47 32 76 21 / 65 03 17 73
2	NEMBEL INVEST SA / M. Pascal Nembélesini-Silué (Secrétaire Général de AREXMA)	Pascal.ns@nenbel-invest.com Nbel71@yahoo.fr Tel. 28012016
3	SODIPEX / M. Olivier Bambara (Vice-président)	olivier@sodipex.net 07 48 23 87 / 03 33 33 70 / 05 40 19 01
4	IVOIRE AGREAGE / Michel Houssou (Vice-président)	mhoussou@ivoireagreage.com 08 01 95 52
5	SOFA / M. Soro Yézoulou	soroadamaplile@yahoo.fr 07 23 38 75
6	YELA / M. Soro Lassina	
7	OUATTARA TRADING / Dahouido Ouattara	dahouido@yahoo.fr 05 70 53 79
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9	TROPIC MANGO / M. Ouattara Seydou	ouattarase18@yahoo.fr 07 91 19 11
10	E2S / M. Silué Seydou	silue_m@yahoo.fr
11	VERGER DU NORD / M. Charles Vallier	charlesvallier2005@yahoo.fr 08 71 13 19
12	VERGER DU NORD / M. Charles Vallier	charlesvallier2005@yahoo.fr 08 71 13 19
13	. VERGER DU NORD / M. Charles Vallier	charlesvallier2005@yahoo.fr 08 71 13 19
14	MAJOTA / M. Casimir Nakadja	majota_scfel@yahoo.fr

Source : ARESMA –February 2016