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SUPPORT TO PROMOTE TRADE AND
VALUE ADDITION OF THE MANGO VALUE
CHAIN IN BURKINA FASO, GHANA, AND
SENEGAL

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MANGO VALUE CHAIN IN WEST AFRICA

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VALUE ADDITION OF THE MANGO
VALUE CHAIN IN BURKINA FASO,
GHANA, AND SENEGAL

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ACRONYMS

AAFEX	Association Afrique Agro-Export
ASEPEX	Agence Sénégalaise de Promotion des Exportations
APEMAB	Associations Professionnels des Exportateurs des Mangues (Burkina Faso)
APROMA-B	Associations Professionnels des Producteurs des Mangues (Burkina Faso)
CIR	Cadre Intégré de renforcement (Burkina Faso & Sénégal)
CFAHS	Coopérative Fédérative des Acteurs de l'Horticulture au Sénégal
CIRAD	Centre de coopération internationale en recherche agronomique pour le développement
COLEACP	Europe-Africa-Caribbean-Pacific Liaison Committee (COLEACP) Comité de liaison Europe-Afrique-Caraïbes-Pacifique (COLEACP)
COOPAKE	Co-operative Agricole de Kenedougou (Oradara, Burkina Faso)
DPV	Département de Protection des Végétaux
ECOWAS	Economic Community of West African States
EIF-NIU	Enhanced Integrated Framework –National implementation Unit (Burkina Faso)
ETLS	ECOWAS Trade Liberalization Scheme
FAF	Financial Access Facilitators
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GVCC	Global Value Chain Coordinator
HACCP	Hazard Analysis and Critical Control Point
IPM	Integrated Pest Management
ISO	International Standard Organization
ITC	International Trade Centre
MCC	Millennium Challenge Corporation
MENA	Middle East and North Africa
MSMEs	Micro, Small and Medium Enterprises
MT	Metric Tons
MVCA	Mango Value Chain Advisor
MVCS	Mango Value Chain Specialist
MVCWG	Mango Value Chain Working Group
NMCFMU	National Mango Farmers Co-operative and Marketing Union (Ghana)

NMFUG	National Mango Farmers Union
PAFASP	Programme d'Appui aux Filières Agro Sylvopastorales (Burkina Faso)
PAMPEG	Papaya and Mangoes Producers and Exporters of Ghana
PTRAMAB	Professionnelles de transformation des mangues (Burkina Faso)
SDP	Strategic Development Plan
THN	Trade Hub Network
UTT	Unité de Transformation des fruits tropicaux (Burkina Faso)
UNPB	Union Nationale des Producteurs de Mangues (Burkina Faso)
VC	Value Chain
YKMFC	Yilo Krobo Mango Farmers Cooperative (Ghana)

EXECUTIVE SUMMARY

This report comprises the findings of a mission carried out from the end of February to early April 2015 in Ghana, Burkina Faso, and Senegal, with the objective of identifying specific opportunities where West Africa Trade Hub Network (THN) could intervene to promote international and regional trade of mangoes from Ghana, Burkina Faso and Senegal. The findings and recommendations of the report are based on a series of meetings held with selected players and stakeholders, including technical assistance projects and public sector institutions connected to the mango value chain in the respective countries.

PRESENT STATUS OF THE VALUE CHAIN

The mango value chain is a key export commodity of the 3 countries visited. Investments in the value chain by the private sector are increasing in both production and processing. Some examples of significant new investments in the 3 countries include pulp and juices production, value added products, and mango drying. In addition, the regional market for fresh mangoes is increasing and new varieties for exports such as “Thai Variety” are being introduced by Senegal.

Exports by road transport via Mauritania—Morocco to Spain and North Africa is a recent development and is increasingly used by Burkina Faso and Senegal exporters. The demand for mangoes in EU, Middle East and North African markets is increasing and it is anticipated that the export market for fresh mangoes in 2015 will continue to grow through 2016.

The mango sector in West Africa continues to suffer from fruit flies and phytosanitary issues. The farmers continue to use traditional traps, pheromones, agro-chemicals and other practices of maintaining phytosanitary controls to reduce the gravity of the situation. Recently, Senegal introduced natural enemies to fight against fruit flies such as a wasp imported from Hawaii. The quality mangoes for exports are highly controlled by importing countries and there is an increasing requirement for certifications by importers such as GlobalGap, ISO, Organic, Fair Trade, IFS, and HACCP. Some exporters go beyond these requirements, and to increase competitiveness, seek other certifications such as TESCO and “Rainforest” Certifications.

There are several Technical Assistance projects focused on the mango value chain in the three countries. These include PAFASP, JICA, CIR (EIF) in Burkina, CIR in Senegal, and GIZ in Ghana. They are very active in supporting the mango value chain and work closely with THN to support the growth of the mango sector in their respective countries.

While the mango value chain continues to be an important economic commodity, it is confronted with many challenges at the industry, country and regional levels. Some of these challenges can be addressed by THN by implementing replicable business models. Challenges include continued heavy harvest losses, poor management of plantations, increasing requirements of phytosanitary controls and certifications for exports, inadequate collection systems of production in producing areas that could reduce harvest losses and heavy costs of transport for small producers, poor harvesting techniques, and inadequate access to improved technologies and technical training for mango drying enterprises. With regard to regional supplies, there is increasing trade between a few countries. This happens at present using simple contracts or informal contacts between suppliers and buyers in Burkina Faso, Ghana, and Senegal. These

supplies are not always regular, and others occur based on informal contracts that result in uncertainty of supplies, high losses and informal trade. The ETLs system of regional transport generally operates in the region– but delays on road, and barriers are reported regularly.

The inadequate technical and financial capacity of national mango associations to provide services to members is also a notable challenge to the growth of the mango value chain where the various partners could find joint solutions.

The challenges faced by the value chain where THN can contribute are grouped into 4 key areas in the 3 countries: (1) facilitate producers to increase availability of quality mangoes for exports and processing, (2) facilitate processors to access improved mango drying technologies and on-site technical training, (3) facilitate exporter access to diversified markets for fresh and processed mangoes in the global and regional market and (4) support national mango organizations in strengthening their capacity and initiatives to promote consultative mechanisms to address regional trade issues.

SUGGESTED INTERVENTIONS FOR THN IDENTIFIED

The mission identified potential opportunities for interventions by THN that can lead to replicable business models contributing to increased trade of mango products at different levels. These include:

- **Facilitate producers to increase quality mangoes for export and regional trade through:** Training of farmer trainers on best practices of farm management in the 3 countries, through associations, exporters and processors. These interventions have to be implemented as business models linking associations, producers, and buyers with exporters and processors. Several demonstration pilot programs are recommended to implement with Yilo Krobo Farmers Association in Ghana, APPROMA B in Burkina and in Senegal with CFAHS and SEPAS.
- **Facilitating access to improved mango drying technologies and technical training for processors.** The mango processing–drying companies in Burkina Faso and Senegal need support to improve mango drying techniques. Many options of dryers are detailed in this report. Some companies seek access to these new technologies, and seek additional assistance from THN. In addition, the training of technical staff in processing technologies in selected processing enterprises in Burkina Faso Bobo Dioulasso Region is recommended, in collaboration with EIF, PAFASP TA projects. Study tours of technical staff to improved mango drying units are recommended to benefit enterprises in operation.
- **Market access for fresh and processed mangoes.** The challenge of accessing diversified markets for fresh and processed mangoes is vital for further development of the sector. Several initiatives to export to USA, EU, Middle East and North African markets and regional markets are ongoing. Support to these initiatives is considered important to achieve the growth of global and regional trade of mangoes from the three countries. Working in collaboration with lead enterprises in the three countries, along with technical assistance projects and promotional institutions, is considered important at this stage to promote access to markets. Promoting in-country market for large volumes for the processing industry is key to commercializing large quantities of mangoes that are non–exportable to global and regional markets. Large scale processors such as DAFANI in Burkina Faso, Blue Skies, HPW and BOMARTS Farms in Ghana, and the new processing factory Agro Fruits in Senegal are lead enterprises with this regard
- **National inter-professional organizations and addressing regional trade issues.** The

strength of sub-sector organizations, particularly inter-professional associations, is vital to support the growth of value chains at national levels. These associations need to be sustainably armed with their own strategic development plans and resources. Therefore, the main associations of the mango value chain in the three countries need to be supported while encouraging them to establish a consultative process and mechanism to address regional issues of the mango sector. Some of the organizations have taken initiatives in this direction in collaboration with TA projects, and the support of THN is solicited in all 3 countries in this regard.

- **Recommendations:** To implement the interventions based on opportunities to promote trade in the mango value chain, collaborating with lead enterprises, associations and TA projects is vital to achieve the objectives. Therefore, the THN should formalize such collaborations by signing letters of collaboration with several of these entities.

EXPECTED RESULTS OF THN INTERVENTIONS

THN's intervention to support selected business models with identified enterprises and associations is expected to produce pilot business models that could bring in a net increase of exports of fresh and processed mangoes to the EU, Middle East, North Africa; exports of processed mangoes to US market, a net increase in regional trade of mangoes, and an increase in investments in value addition in the 3 countries. In addition, associations will be strengthened to service their members of the sector and initiate the creation of a platform to address specific regional trade issues of the sector.

To facilitate speedy implementation of the mango value chain support programmes, it is recommended to appoint mango value chain specialists in both Senegal and Burkina Faso as point-persons who will be responsible for identifying, packaging, implementing and following up the interventions for THN, while the MVCS in Ghana follows-up with Ghana interventions and coordinates activities in the 3 countries with the appointed experts.

Finally, the next steps for effective implementation includes: prioritizing the proposed interventions by country for 2015/16, preparing precise concept papers and Terms of References where required for each intervention, assessing the resources needed for each case and sources identified, defining the role of each stakeholder in implementing the interventions, defining a follow-up mechanism in each country, and establishing a mechanism to capture the results achieved.

I. INTRODUCTION

I.1 BACKGROUND

This report is a follow-up to the recommendations suggested in the analysis of the mango value chain and its way forward for THN (Trade Hub Network) interventions in Burkina Faso, Ghana and Senegal, especially deriving from the mission. During the previous mission, the MVCA identified the different players and stakeholders of the value chain in the three countries for future collaboration, major challenges to be addressed in the value chain and defined key opportunities for specific interventions to promote export, regional trade and growth of the mango value chain. The present report specifies a further step forward to develop and agree upon specific priority opportunities for interventions immediately to support the increase of mango sector exports and local and regional trade with selected collaborative private sector enterprises and organizations.

The previous mission recommended the following major areas of interventions.

- I) Establish point contacts and a network of stakeholders in each country to facilitate dialogue and information exchange, and the introduction of follow up activities.
- II) Facilitate the updating of knowledge of farmers on best agriculture practices, phytosanitary controls and certifications to promote trade.
- III) Promote access to markets for fresh and value added mango products.
- IV) Support to strengthen the organizations of the value chain at the national level and in the long term set up regional consultative platform to address common issues of the region.

The MVCS has since continued to follow up with stakeholders. The follow up had included visits to Burkina Faso and Senegal to meet with mango sector stakeholders; visits to ECOWAS in Abuja to discuss possible collaboration on fruit flies control at a regional level, facilitation of Blue Skies Company accessing the Nigerian market, and participation at meetings with GIZ, which sponsors the formation of a national organization for the mango value chain in Ghana.

The present mission in Feb-March 2015 was another step forward in discussions with the stakeholders of the mango value chain in each of the three countries and the design and finalization of specific opportunities for THN interventions to promote international, regional and local trade of mangoes.

In addition, the mission identified key institutions and lead enterprises with which the program should sign the letters of Collaborations (LOCs) or Memorandums of Understanding (MOUs) for collaboration.

I.2 CONTEXT OF THE MISSION

This mission was carried out by Dr. Patrick Nugawela and Ms. Pamela Okyere, of J.E. Austin Associates Inc. and THN. Ms. Okyere is THN's MVCS. The mission worked very closely with the GVCC of THN who visited all the contacts with the mission in Senegal. The mission took place from the end of February to early April 2015, and fieldwork was carried out in Ghana, Burkina Faso and Senegal. The main findings and recommendations of the mission were presented at a meeting with USAID and Trade Hub officials on 2nd April, 2015. In addition, a list of final main opportunities for THN interventions was

discussed and a draft of the list of opportunities was submitted to the GVCC and MVCS prior to departure on the 4th of April 2015. The list of persons and institutions met are listed in the Annex I.

I.3 KEY MISSION OBJECTIVES AND ACTIVITIES

I.3.1 KEY OBJECTIVES

The key objective of the mission was to advise and assist the MVCS to follow-up practical implementation of selected activities detailed during the mission in August-September 2014 in Accra and Burkina Faso and to extend THN activities to Senegal. In addition it assisted with the forward planning of activities related to the mango value chain. Within the scope of this objective, the MVCA's key tasks expected are summarized below:

- Continue to work with the MVCS to promote trade facilitation both at the regional and global level for the growth of the mango industry
- Work with the Trade and Transport Enabling Environment team to identify key transportation constraints for mango exports
- Advise and work with exporting and production entities promoting markets and market access for fresh fruit exports and processed products exports.
- Create market linkages through promotion of regional suppliers of off-season mango to processors in Ghana, Burkina Faso and Nigeria
- Assist MVCS in the facilitation of access to new markets (particularly U.S. and Nigeria) for fresh and processed products and new product developments by processing companies
- Assess the implementation of planned activities with ECOWAS on the Regional Fruit Fly control program and develop a proposal for the organization of evaluation workshops of the mango seasons in the region
- Continue to identify and leverage possible interventions and collaborations with other development partners such as COLEACP, donors, technical assistance projects, service providers and resources required to launch pilot replicable best practices programs
- Assist the MVCS and the Capacity Building team in the consultative process for the formation of a regional platform to promote the development of the mango sector
- Visit and hold initial discussions with the inter-professional associations in Ghana, Senegal and Burkina Faso and participate in the organization of an initial consultative meeting with key stakeholders from the three countries to brainstorm on the Mango Regional alliance or platform.
- Facilitate contacts with THN's FAFs working on access to finance for main players to identify possible avenues of access to finance increase trade (e.g. establishment of Bulking centers with farmer clusters, operationalize the Akorley pack-house in Ghana).
- Identify possibilities of promoting marketing of high-quality seedlings for local and regional markets.

I.3.2 ACTIVITIES COMPLETED

Nine of the eleven tasks above were carried out and recommendations made for follow-up. Tasks VI and VII, which cover ECOWAS and COLEACP, were not completed. The MVCA visited ECOWAS in Abuja in October 2014, and met with the staff working on fruit flies issues and followed up with several email correspondences. However, there has been no specific collaborative program so far established with this organization. With regard to COLEACP, the mission was unable to meet any of its representatives in the countries visited to propose a positive collaboration. However, under point VII, contacts were established and Letters of Collaboration LOCs are recommended with other donor supported technical assistance projects in Burkina Faso, Ghana and Senegal.

The following main tasks were carried out and specific activities for THN interventions are recommended for implementation.

- Advised and facilitated the MVCS to identify and promote specific activities of trade facilitation both at the regional and global level in the 3 countries with specific enterprises, associations and facilitators for the growth of the mango industry.
- Observations made with regard to issues of Trade and Transport of mangoes for exports, particularly at regional level and were discussed with the staff member of Trade and Transport Enabling Environment team of THN.
- Renewed contacts with exporting, processing and production entities of mangoes. The main lead enterprises met were (a) in Ghana: Blue Skies, BOMARTS, HPW, Evelyn Enterprises, Web Link operating Akorley Pack-house and SriGhan farms; (b) in Senegal: SAFINA, CADA, MASTER, Agro-fruits, Laure Agro, BuurSine, Distribution Plus; and (c) in Burkina Faso: DAFANI, SGTF and Ranch de Koba, Rose Eclat, and Tensya Guampri.
- Introduced several suppliers at the regional level from Senegal to Ghana linking suppliers from Senegal with BOMARTS and HPW. In addition, several suppliers within Senegal were introduced to the new processing company Agro Fruits. One supplier from Burkina Faso was also connected with two processors in Ghana (HPW and BOMARTS Farms).
- Recommendations made in the report to assist HPW and BOMARTS to access US market for processed mangoes.
- Met with key technical assistance projects supporting the mango sector in Burkina Faso and Senegal. Recommendations are made to sign letters of collaboration (LOCs) with Enhanced Integrated Framework (EIF) known as Cadre Intégré de Renforce (CIR) funded by several donors in Senegal and Burkina Faso and EU funded PAFESPE in Burkina Faso. These LOCs will facilitate support to jointly selected initiatives of private enterprises promoting exports and production of mangos.
- The issue of consultative process for the formation of a regional platform to promote the development of the mango sector was discussed in all three countries. It is recommended to initiate initial consultative meeting starting with the main associations of the 3 countries.
- Spoke with several enterprises in Senegal and in Burkina about the THN supported FAFs and some links were established.
- The issue of production of high-quality seedlings for local and regional markets was discussed during the mission. It is recommended to promote this activity in all the three countries. There

investors in Senegal expressed the interest to venture in to this activity.

The mission also met with DPV in Senegal to facilitate administrative and phytosanitary procedures to export mangoes to Lebanon on the request of SAFINA, a private company exporting mangoes.

I.3.3 KEY OBSERVATIONS ON THE PRESENT STATUS OF THE MANGO VALUE CHAIN IN GHANA, BURKINA FASO AND SENEGAL

The main observations on the current status of the mango value chain in the three countries of the mission are as follows:

1.3.3.1 Importance of the value chain in the regional economy

The discussions held with key stakeholders, active players of the chain and information collected in all the three countries confirm the following observation with regard to vital importance of the value chain in the region.

- Mangos remain one of the top export commodities in the 3 countries and are increasing in terms of volume and value to EU, Middle East, North African countries.
- There are increasing investments in mango processing, mainly drying, in all three countries. In Senegal, new investments in pulp and juices production are in progress by KIRENE and Agro-Fruits, totaling US\$1.5M. In Senegal, the Blue Skies Company, involved in mango processing, has established a pack-house facilitating the export of mangoes to Ghana for processing and fresh mangoes to UK, while also investing in a drying facility for mangoes and other fruits. In Burkina Faso the main mango processor, DAFANI Enterprise, has expanded with a sorting and packing facility, while several other mango drying companies such as Rose Eclat, Guampri and others have expanded investments in drying technologies. In Ghana, the HPW Company plans to invest in value added dried fruit products such as fruit bars for export to the US.
- The regional market for fresh mangoes is increasing due to rapid expansion of mango processing facilities in the West African region. These exports are mainly lower grade mangoes non-exportable to EU and other export markets. The regional exports are mainly to and from Burkina Faso and Ghana from Cote d'Ivoire, Mali and Senegal.
- The market for new varieties from Senegal, other than Kent and Keitt, demonstrates high potential to the EU market. Senegal has introduced a "Thai Variety" for export and demand for the variety from UK and Spain is high.
- Use of new transport access by road for exports is increasing. It is mainly through Mali, Mauritania through Morocco to Spain and North Africa. It is reported that this transport route is cost competitive and quicker to EU and North African countries.
- Though mango production is facing many problems such as phytosanitary issues, there are increasing numbers of farmers going for new plantations and expanding existing plantations. This confirms an urgent need to promote hybrid plant nurseries in all 3 countries.
- The 2014 crops of mangoes were poor due to the rains. It is also reported that the South American mango producing countries experienced droughts, and the harvest in 2015 is also expected to be poor. The West African mango producing countries, however, are anticipating a high harvest to meet high demand from EU and other countries in 2015.

- The problem of harvest losses due to fruit flies is the main issue for mango production in all the producing countries. However, the producers are increasingly aware of controlling measures. In addition to traditional techniques such as traps, and pheromones, spraying of agro chemicals, “success apart”, a technique of introducing natural enemies, is being introduced in Senegal. This is a wasp known as “*Fopius Arizanus*,” a natural enemy known in Hawaii and released in the plantations that has an impact on controlling the fruit fly “*Bactrosara Invadens*.”
- The mango producers, exporters and processors are increasingly seeking various certifications that can increase their export share. These certifications include Global Gap, ISO, Organic, Fair Trade, IFS, HACCP, and TESCO. There are also new certifications introduced, such as “Rainforest” certification, which refers mainly to plantations that respect environmental protection. One producer/exporter in Senegal – Enterprise CADA stated that they have already obtained such a certification.
- The increase of production and investments noticed during the visit to Burkina Faso confirms the increasing demand for dried mangoes and value added products particularly in EU countries. Nearly all production of dried mangoes are exported. South African exporters order dried mangoes from Burkina Faso to supply directly to Europe. The regions of Bobo Dioulasso and Banfora in Burkina Faso are becoming hubs of production of dried mangoes with many mango drying facilities.
- Several options of mango drying technologies are now available in the region. A South African tunnel dryer is used by several processors in Burkina Faso, though considered costly at 34Million FCFA. There is also a new dryer developed in the Mali–Sikasso region, which reportedly costs around 17M FCFA, and a JICA-funded dryer that improves upon the traditional dryer. In Senegal, an investor is planning to import an electrically operated dryer from Sri Lanka.
- Several technical projects specifically supporting the mango value chain are now in place in the three countries in addition to the Trade Hub. The PAFASP (Burkina Faso), with EU funding focusing on production level. The Enhanced Integrated Framework (EIF) with multi donor funding focuses processing and marketing of mangoes in Burkina Faso and Senegal. There are also bilateral projects such as the JICA project in Burkina Faso, and GIZ in Senegal, which supports the growth of the mango value chain in Burkina Faso and Ghana.

1.3.3.2. Key challenges of the mango VC that THN can address

The growth of the mango value chain in the West African region is confronted with numerous problems, identified by the THN project in previous missions by the MVCA. These challenges are general in nature and span the value chain across countries, while some country-specific challenges also exist. Addressable challenges within the scope of THN are listed below:

- High harvest losses due to fruit flies and other phytosanitary issues, which has a negative impact on availability of quality mangoes for export and regional trade
- Inadequate capacity of players to meet with increasing enforcement of phytosanitary and certification requirements for exports and regional trade
- Inadequate facilities for collection systems of production from smallholder farmers
- Inadequate capacity to access improved technologies and technical training in the mango drying industry

- Inadequate access by the producers to diversified markets- exports and regional—for different grades and varieties of mangoes
- Informal supply contracts, uncertainties of supplies of regional trade of mangoes
- ETLS- ECOWAS Trade Liberalization Scheme generally operates in region– but delays on road barriers, etc., reported particularly within the region and the route via Mauritania and Morocco
- Inadequate capacity of national mango associations to deliver services to its members
- Mango is a regional value chain having several constraints from growth at different levels. The absence of a common mechanism to address regional issues that affect the mango trade is seriously felt by the players of the value chain

The challenges listed above can be grouped into 4 broad categories, where THN should focus its technical assistance immediately in the 3 countries. These are:

- Facilitate producers to update know how to increase the availability of quality mangoes for exports and processing in the region
- Facilitate access to improved mango processing, specifically drying technologies and to technical training in the mango processing enterprises
- Facilitate access to diversified markets for fresh and processed mangoes for global and regional markets
- Support national mango associations to strengthen their capacity to provide member services and to take initiatives to promote consultative mechanisms to address issues that requires a regional approach of interventions

The interventions through technical assistance based on above categories will requires the THN to work in close collaboration with different stakeholders, particularly technical assistance projects operating in the region to support different enterprises of the mango value chain. This will add to the activities by THN to implement the interventions recommended.

2. SPECIFIC OPPORTUNITIES FOR THN IDENTIFIED

Taking into consideration the 4 broad categories of challenges identified above, and based on meetings held in the field with different players, technical assistance projects and other partners visited, a select number of interventions are recommended for each country. The opportunities for interventions recommended aim at promoting increased trade as international exports or regional supplies of mangoes, and exports of processed mangoes through developing different replicable business models. A list of opportunities with details of interventions, partners and results expected for each activity and the business model promoted are given in Annex 2. The following tables provide a summary of the opportunities in each country with details of the partner organization's activities and business models to be introduced.

2.1 GHANA: POTENTIAL OPPORTUNITIES FOR THN INTERVENTIONS IN 2015/2016

Table 1 below gives a summary of the opportunities for THN interventions that could be followed up with different partners of the mango value chain in Ghana prioritized under broad categories of challenges that can be addressed. Contact details of each collaborating enterprise are in the Annex 2 of this report.

Table 1: Opportunities of interventions to promote trade in the mango VC in Ghana

I. GHANA			
I.1.	Increase supply of quality mangoes for exports and processing market in the region		
No	Collaborating enterprise/organization	Main activity/deal proposed	Business model
1.1.1.	Yilo Krobo Mango Farmers Association and Exporters-YKMFAE	Training of 50 Selected farmer trainers on best practices of mango production, and Global Gap to supply for exports and multiplication to 300 farmers	Association led business services to members to improve business
1.1.2.	Dangme Mango Farmers Association	Training of 50 Selected farmer trainers on best practices of mango production, and Global Gap to supply for exports and multiplication to 300 farmers.	Association led business services to members to improve business
1.1.3.	Evelyn Entreprises	Training of 15 Selected farmer trainers on best practices of mango production, and Global Gap to supply for exports.	Exporter –producer linked production for exports business
1.1.4.	BOMARTS Farms	Training support to use of new techniques of fruit flies control bait in selected farms in 5 areas in the country	Processor –Producer linked quality production through control of fruit flies and phytosanitary problems
1.1.5.	Cotton-Weblink Portfolio co LTD	Startup of Akorley Pack house for collection, washing, grading, calibrating, packing, pelting,	Pack house centered mango supply for exports ,

		and cooling. Storing for exports and local market linked with 200 farmers initially.	processing and local market
1.2.	New investments value addition and improvements in drying technologies of mangoes		
	Not identified for 2015		
1.3. Market access for exports of mangoes and mango products			
No	Collaborating enterprise /organization	Main activity proposed	Business model Benefits expected
1.3.1	HPW –Tropical Dry fruit Products	Export of value added processed mango products to USA market and EU markets	Access to USA Market
1.3.2.	BOMATS Farms Ltd	Facilitation of registration with FDA and USDA inspection for exports of dried Mangoes to USA	Markets for Mango products in USA
1.3.3.		Facilitation of training of Technical staff to access IFS –International food standards	Increase of exports of dry mangoes
1.3..5.	HPW –Tropical Dry fruit Products BOMATS Farms Ltd	Facilitation of access to Regional Mango Supply contacts between Ghana, Burkina and Senegal	3 suppliers introduced
1. Support to national inter-professional organizations and addressing regional trade issues			
No	Collaborating enterprise/organization	Main activity proposed	Business model
1.4.1	GIZ - Contact Kofi Biney	Follow up Ghana National Mango Organization with GIZ and support to Organize National Mango Products Association	Coordination of VC support programs Representation and information
1.4.2	Associations of Mango value chain in Ghana +GIZ	Organization of Ghana Mango day Associations etc in September 2015	M & E data for the season and challenges to be addressed for next season
1.5 Collaboration with partner organization and private sector to mobilize resources-LOC (MOUs) to sign			
No	Collaborating enterprise/organization	Main activity proposed	Business model
1.5.1	Yilo Krobo Mango farmers association and exporters	Implementation of the best agriculture practices training Reporting of performance and trade Program of strengthening the Association	Members have access to services through the association to improve business
1.5.2	Dangme mango Farmers Association	Implementation of the best agriculture practices program	Members have access to services through the association to improve business
1.5.3	Cotton-Weblink Portfolio co LTD Exporter and Producer	Implementation of Pack House in Akorley	Somanya area mango producers improve their market access to fresh mangoes
1.5.4	GIZ	Collaboration in implementing best practices programs and fruits flies control Support to Mango VC associations strengthened	Cost sharing in implementing support activities

1.5.5	Private sector collaborating enterprises -HPW , BOMATS , Evelyn Enterprises	Support to access USA market for Processed products	Technical support for private sector enterprises to increase trade and thereby increase market for products on farmers
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2.2 BURKINA FASO: POTENTIAL OPPORTUNITIES FOR THN INTERVENTIONS IN 2015

Table 2 below gives a summary of the opportunities for THN interventions that could be implemented with different partners of the mango value chain in Burkina Faso prioritized under broad categories of challenges that can be addressed.

Table 2: Opportunities of interventions to promote trade in the mango VC in Burkina Faso

2. BURKINA FASO			
Increase supply of quality mangoes for exports and processing market in the region			
No	Collaborating enterprise /organization	Main activity proposed	Business model
2.1.1	APROMA-B	Support to train farmer trainers on updated best practices of plantation maintenance, fight against fruit flies and harvesting techniques -30 farmers in 10 localities or 300 farmers	Association led business services to members to improve business
2.1.2.	Ranche de Koba	Training of 20 harvester trainers through suppliers of the Renche de Koba - Association of suppliers – Africa Bio	Enterprise , Business service providers and producer collaboration for supplies for exports
2.1.3.	Association Wouol (AW) CEPB SARL , Banfora	Support to establish a collecting and bulking centre with pack house facilities in the region of Banfora for member suppliers -600 to 650 members with 60 groups	Association common services to members to improve business
2.1.4.	DAFANI	Training on harvesting of 360 producers and suppliers on harvesting , grading and storing of mangoes	Processor -Supplier/Producer linkages for quality supplies
2.1.5.	DAFANI	Support to develop a Mango plantation based Demonstration training centre to train farmers, harvesters and other actors of the value chain	Enterprise linked services to producers
2.2. New investments in value addition and improvements in drying technologies			
No	Collaborating enterprise/organization	Main activity proposed	Business model
2.2.1.	Enterprise Rose éclat	Support to Improve of drying technology in mango drying with other TA projects (PAFESPE)	Lead enterprise demonstrate effectiveness of improved technologies
2.2.2.	Processors in Banfora region (Guampri, Sanle Sechage Exports mango enterprises and two others)	Support for upgrading the training on best practices for the producers supplying the enterprises	Demonstrative processing enterprises on using improved technology in Mango drying
		Support for training on Certification- Bio, Global Gap and HACCP certification	
		Support to improve drying techniques and training	

		– Introduction of improved dryers	
2.3.	Market access to for exports of mangoes and mango products		
No	Collaborating enterprise/organization	Main activity proposed	Business model
2.3.1.	Ste SGT Karim Guigma	Establish regional Market contacts for Supply of mangoes from Burkina	Networking of off season supply in the region
2.3.1.	APROMA B	Participation in trade fairs	Export market contacts to exporters
2.4.	Support to national inter professional organizations and addressing regional trade issues		
No	Collaborating enterprise/organization	Main activity proposed	Business model
2.4.1	APROMAB	Support to organize National Mango trade fair in Burkina Faso in May –June 2016	Business services by the Association to members
		Support to organize a mango day in September	Assessment of results of the season
		Participation of round table donor meeting to support the APROMA-B SDP	Institutional strengthening
		Support to carry out an assessment environmental issues and recommendations of solutions for Mango drying industry in Burkina Faso	Association support members to solve environmental issues
		Assistance to Access MIS system –ISSOCO-Initial costs 1.5Million FCFA	Facilitate access to information to members

2.5.	Collaboration with partner organization and private sector to mobilize resources-LOC (MOUS) to sign		
	Institutions	Areas of collaboration	Purpose
2.5.1.	Enhanced integrated Framework –EIF Cadre intégré de renforcement CIR	General MOU of collaboration. Support to Mango processing industry in Burkina - Faso- Processing Technology improvement ,training of workers , facilitate access to small processing materials, promotion of value added mango dried products , Access to certifications of processors , Promotion of access to markets – Participation at Trade fairs , Support to Organization of trade fairs, Market information , facilitation of market contacts for suppliers and buyers Separate MOUs for each collaboration programme Participation in organization of regional consultative forum to support the growth of mango VC at a regional level Study on Best Practices of drying of mangoes and assessment of needs to improve quality of dried mangoes in Burkina Faso.	Collaboration and joint implementation of interventions to support private sector processors and exporters to increase exports and local markets
2.5.2	PAFASP I.Cordinator Atamana Bernard Dabire	General MOU to be Signed Areas to cover –Interventions to support the production of quality mangoes for exports as fresh and processing for local and export market Training programmes for best practices in	Collaboration and joint implementation of interventions to support Private sector producers processors and exporters to

	production , harvesting and packaging for exports General certification programmes – Europe Gap, Organic , Fair trade Technology development in Processing Organization and participation in trade fairs Packing and bulking houses for fresh mangoes Market contacts for fresh and processed mangoes	increase exports and local markets
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2.3 SENEGAL: POTENTIAL OPPORTUNITIES FOR THN INTERVENTIONS IN 2015

Table 3 below gives a summary of the opportunities for THN interventions that could be implemented with different partners of the mango value chain in Senegal, prioritized under broad categories of challenges that can be addressed.

Table 3: Opportunities of interventions to promote trade in the mango VC in Senegal

3. SENEGAL			
1.1.	Increase supply of quality mangoes for exports and processing market in the region		
No	Collaborating enterprise/organization	Main activity proposed	Business Model
3.1.1.	CFAHS-National Association	Training on Best Practices of production of quality mangoes. 20 trainers in 2 zones – Plantation maintenance, fruit flies controls, harvesting techniques.	Association led business services to members to improve business
3.1.2.	Master SARL	Support to set up collecting centers for supply of mangoes to processors and exports 2 centers	Exporters producers linkages
3.1.3.	Hortica Senegal SARL	Support to Bio control of fruit flies – Access with DPV to Insect –“Fopius Arizanus “-imported from Hawaii that destroy flies – trials at the plantations at Sindia – after Damiago towards north of Dakar	Demonstration of new options for fruit flies control
		Facilitation of supply of mangos by Hortica Senegal to Kirene –Agro Fruits SA	
		Support for Organic –Bio certification	Access to specific markets
3.1.4.	Blue Skies Senegal Gloria Adidi Asare, Director General	Facilitating 3 farmers 250Ha of mango plantations to increase productivity through best practices of Mango production including farm management , fruit flies control and harvesting	200+ ha with 3 Farms supplying blue skies
3.2.	New investments value addition and improvements in drying technologies of mangoes		
No	Collaborating enterprise/organization	Main activity proposed	Business model
3.2.1.	Potential investors in processing-drying of mangoes (CADA, Masters SPRL,)	Feasibility analysis on drying and processing industry –small and medium scale Possible collaboration with EIF project	Investment promotion in Mango sector in Senegal
3.3.	Market access to for exports of mangoes and mango products		
No	Collaborating enterprise/organization	Main activity proposed	Business model
3.3.1.	CFAHS	Support to participate in international Trade fares – Collaboration with ASEPEX in 2016Fruit Logistica	Market contacts promotion for exporters

		Germany – February 2016 SIAM in Morocco -May 2016 Stands funded by ASEPEX , travel by promoters, other costs-accommodation and living expenses to be found	
3.3.2.	Agro Fruits SA	Facilitation of new supply contacts Collaboration with intermediary suppliers to set up collecting centers in Niayes, Fatik and Casamance	Market for local production in the country
3.3.3	CADA	Facilitation of supplies for processing to Agro fruits – and to processing industries in Ghana	Access to supplies
3.3.4.	BuurSine International	Facilitate supply contact of Organic mangoes to Agro Fruits –Kirene Support to access technical information and a feasibility of a processing unit for mango drying in Fatik	Increase market locally Increase investments
3.3.5.	Laure Agro enterprise Exporter	Establish contacts with Ghana –HPW and BOMARTS for Mango supplies from Senegal and Cote d'Ivoire Facilitation of trade delegation to Qatar with ASEPEX to negotiate market orders for Mangoes Establish contacts with Agro Fruits –Kirene for local supplies for processing	Increases regional Market Export contacts Local market increase for Mangoes in Senegal
3.3.6.	SAFINA enterprise	Facilitation of mango exports to Lebanon- coordination with DPV and facilitate invitation to DPV of Lebanon to inspect phytosanitary requirements of mango suppliers Off season Supplies of Mangoes to Ghana	Export Market for Mangos to Lebanon Increase of regional exports
3.3.7.	DPV –Département de Protection des Végétaux	Collaboration to facilitate updating of best practices of production of quality mangoes in selected areas with exporters Introduction of biological methods of fight against fruit flies – Facilitate to reproduce and introduction of natural enemies (Fopius Arizonus) during the season Specific interventions to ensure phytosanitary requirements of exports to Lebanon on the request of exporters.	Minimize risks of phytosanitary problems in mango production Minimize the fruit flies risks for production of mangoes Invitation for phytosanitary officials from Lebanon to inspect the phytosanitary controls of exporters supply bases
3.3.8.	Distribution Plus fruits & légumes du Sénégal	Introduction to Mango processors in Ghana –HPW and BOMATS for supply of mangoes for processing	New Market contacts
3.4	Collaboration with partner organization and private sector to mobilize resources-LOC (MOUS) to sign		
No	Collaborating enterprise/organization	Main activity proposed	Business Model
3.4.1.	AAFEX-Senegal	General MOU – collaboration in general promotion of mango exports , facilitate quality production , certifications and promotion and support for exports through trade fair participation , market prospects missions, diversifying markets , certifications	Facilitation of promoting markets contacts for exporters

3.4.2.	ASEPEX	Possible MOU with ASEPEX for collaboration in the area of fruit exports – (Export Promotion- Training and Trade fair participation, Certification, Branding)	Exporters and processors to increase markets
		Collaboration in facilitating the exporters in Trade Fair Participation at Fruit Logistica- Germany, SIAM in Morocco and Middle east in 2016	Exporters to meet buyers and obtain supply contracts
		Collaboration in facilitating the exporters on certification on Global gap, Organic, Fair trade	Improved quality of supplies
		Support to facilitate a mango trade delegation visiting Qatar –Possible Order of 500MT of fresh mangoes per year	New markets prospects
3.4.3.	CIR –Project	General MOU for collaboration – in Best practices for mango production for exports, support to processing industry and support to promote markets –Trade fair, certifications et	General agreement to support the producers, processors and exporter

3. INTERVENTIONS IDENTIFIED BASED ON OPPORTUNITIES

3.1 APPROACH AND METHODOLOGY

Each opportunity targets the possibility of increasing and promoting the international and regional trade of mangoes. The implemented methodology will follow several stages:

- I. Discussion with partner institution and preparation of a detailed concept paper on each intervention and business model proposed
- II. Estimation of resources required and definition of sources of funding required
- III. Clarification of responsibility of THN participation
- IV. Definition of implementation mechanism and signing of LOC (MOUs) to implement the interventions
- V. Implementation of the intervention
- VI. Follow up mechanism and performance reporting
- VII. Possible replication of the business model

3.2 RECOMMENDED INTERVENTIONS

3.2.1 BEST AGRICULTURE PRACTICES ON MANGO FARMING - TRAINING OF FARMER TRAINERS PROGRAM IN GHANA

The program will be implemented in collaboration with Yilo Krobo Mango Farmers Cooperative (YMFC) with mango exporters and processors in the region of Somanya. It is recommended to discuss possible collaboration with fresh mango exporters like Web-Link and Evelyn Enterprises to implement the training. It is conceptualized as a producer association and buyers-linked training of 50 farmer trainers who will replicate the training to other farmers in the region. Aspects and results of the program are captured as follows:

- Training content farm management practices includes:
 - Maintenance of plantations and production
 - Soil testing and leaves tissue analysis to facilitate introduction of appropriate fertilizers and agro chemicals
 - Integrated Pest Management (IPM) including fruits flies control
 - Record keeping
 - Harvesting techniques
 - Grading, packaging for transport
 - Access price information and marketing contacts

- Duration of training: 8 days with follow-up 2 days/month for 3 months. Total 14 days
- Beneficiaries: 50 farmer trainers selected among the members of the cooperative
- Each farmer trainer expected to train 5 to 10 other farmers through the Association. Total of minimum of 300 farmers trained.
- Production of quality mangoes: 300 farmers @ 5Ha /farmer=1500Ha @10MT/Ha would give a production of 15,000 MT
- Market share of different segments:
 - Exporters 20% - 3000 MT @ \$ 500 = \$1.5Mn
 - Processors 40 % - 6000MT @\$ 350 = \$ 2.1 Million
 - Local Market 25 % - 3750 MT @ \$ 300 = \$ 0.9 Million
 - Harvest Losses 15% (reduced)
 - Total income generation estimates = \$ 4.5 Million
- Potential buyers/exporters/processors linked – Evelyn Enterprises, Akorley Pack-House, Blue Skies, HPW, and BOMARTS, etc.
- Costs of training program – Contracting of 2 professional trainers (identified), venue of training (use of facilities available with YMFC), logistics support and few tool kit which will include small equipment for testing of soil, leaves, and other tools for harvest testing, etc.
- The YMFC will organize the training, make available the venue, and the farmers are expected to meet transport costs. The assistance of THN is sought to meet the technical assistance trainers cost and share logistics cost. Total costs are being estimated by the MVCS of the THN in collaboration with YMFC, and the trainer.

3.2.2 SUPPORT TO START THE AKORLEY PACK-HOUSE GHANA

One of the key recommendations for THN interventions in supporting mango value chain to promote trade from Ghana is to start operations of a mango packing facility in the region of Somanya, at Akorley. This is a facility constructed with MCC funds (cost reported at US\$1.8M). Its ownership is based on 7 farmer-based mango cooperatives in Somanya and is subcontracted by a mango exporter: Cotton-Web Link Portfolio Co Ltd.

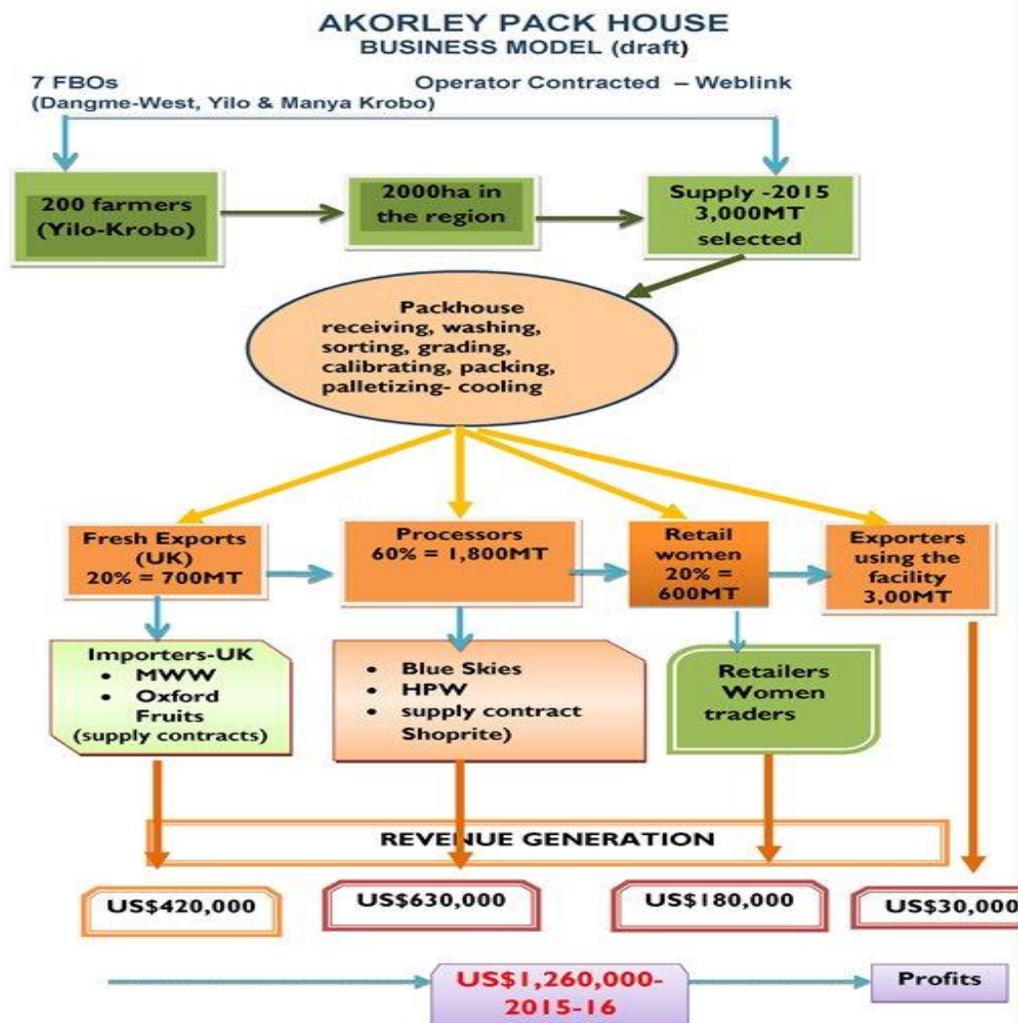
This is a region that has several hundred commercial mango farmers and has no other packing facility or any collecting service. The producers have difficulty selling the products, which depend on delivery to exporters to sell an exportable grade of mangoes. The non-exportable mangoes are transported to processors near Accra, the farmers taking risks of large quantities getting rejected. Therefore, if the Akorley packing facility can be operational, the local production can be graded, sorted and packed in the field and it can serve as a bulk selling sector for exporters, processors and local market buyers at competitive prices while providing a facility to farmers to get a better price to their products and reducing losses.

The details of possible operation of Akorley Pack House and its potential impact are captured as follows:

- Potential supply in the area: over 2000Ha of plantations. The immediate potential by member farmer cooperatives is estimated at 3,000 MT during the next season.
- Of this supply the distribution of different market segments possible:
 - 20% -600MT@ \$700 for exports by the sub contractor: USD 420,000
 - 60% 1800 Mt l@ \$350 local processors: USD 630,000
 - 20% local market 600Mt @ \$300: USD 180,000
 - Use of facility by others 300MT(estimate): USD 30,000
 - Total Value of mangoes sold: USD 1,260,000
- Potential direct employment creation during the season over 100 jobs
- Supply contracts–UK importers - MMW and Oxford Fruits, Local – Blue Skies, Shoprite, other processors and local market (women retailers groups).
- Startup cost estimate - \$354,000 plus Web Link 90% - and support sought from THN equals 10% including TA for training and installations.

Figure I below visualizes the proposed Akorley Pack House business model described above and how it will operate after start up.

Figure 1



3.2.3 SUPPORT TO ACCESS NEW TECHNOLOGY FOR DRYING OF MANGOES IN BURKINA FASO

Investments in mango drying for exports are rapidly expanding in the region of Bobo Dioulasso in Burkina Faso. The drying method is a critical aspect of producing a high quality product for exports. The traditional sun drying method uses wooden trays packed in gas operated dryers and has often raised issues of quality. Therefore, some companies adopted tunnel dryer technologies imported from South Africa, but it is considered a costly option. Mango drying enterprises are working to adopt other options such as Mali made tunnel dryers, JICA project improved dryers, etc. The PAFASP project plans to support the lead mango drying enterprise in Burkina Faso –located in Ouagadougou- to install a Mali fabricated tunnel dryer, detailed below:

- Lead enterprise - Rose d' Éclat – Burkina Faso: producer and exporter of dried mangoes and buyer of mangoes from local farmers. Has its own plantation

- Present Production – 20 MT of dried = 200 MT of Fresh mangoes.
- Constraints: low efficiency of traditional dryers and high cost of S. African tunnel dryer
- Option: introduction of modified tunnel dryer from Mali –Sikasso
- Costs of dryer estimated at 17M FCFA, or US \$ 34,000
- Matching grant approved by the PAFESP project - 65% from PAFASP - \$22,100. The Enterprise will participate in 25%=\$8,500 and 10% remains for funding = \$3,400 (requests from THN)
- Estimated increase of production of dried mangoes 10MT – Value @US\$ 4,000MT = US\$ 40,000 - Total Exports 30MT = \$ 120,000
- Leverage :
 - Purchase of 300 MT from producers.
 - A possible training site for technicians from other enterprises to use as costly regionally fabricated technology

3.2.4 SUPPORT TO ACCESS NEW MARKETS FOR PROCESSED AND FRESH MANGOES IN BURKINA FASO

THN project interventions are solicited by several enterprises in the 3 countries to access markets for mango products. These include access to several markets:

3.2.3.1 USA Market for Processed Mangoes –High Value Products

The HPW Tropical Products company plans to participate at Chicago Sweets and Fancy Foods Fair in May 2015 to introduce mango and mixed fruits bars. The company estimates potential exports of 160 MT of a value more than \$1 million per year. This company has significant leverage through increased regional market for non-exportable fresh mangoes from Ghana, Mali, Burkina Faso, and Cote d'Ivoire. THN support is requested to facilitate and install an attractive mango products stall at this fair while the company will meet travel, product transport, and other costs.

BOMARTS Farms Ltd. produces dried mangoes along with other fruits in Ghana and is planning to access USA markets for its dried mango products. They request THN assistance to generate market contacts and facilitate FDA registration in the US.

3.2.3.2 Access to EU Markets for Mango Exporters

The main market for fresh mangoes and dried and value added mangoes from West Africa is EU countries. Exporters in all three countries seek assistance to expand their markets there. Participations in EU country trade fairs has always been an entry to new markets for exporters, and are facilitated through ASEPEX, AAFEX, EIF in Senegal, PAFASP and EIF in Burkina, and GIZ in Ghana, for selected export ready enterprises. The most popular trade fair was the Fruit Logistica trade fair in Germany, and some participated in trade fairs held in France and Italy. The exporters seek assistance from THN, together with other institutions, to support a larger number of exporters participating in these trade fairs.

The EU market is at present increasingly accessed through roads via Mali, Mauritania and Morocco to Spain and other EU countries from Burkina Faso and Senegal. Transporters from Morocco and Spain transport fresh mangoes in refrigerated vehicles. They often import potatoes, mandarins and oranges and transport mangoes back. However, there are problems experienced by some transporters en route, including multiple non-tariff barriers and other risks reported by drivers. This is also area where THN can follow up with ECOWAS to facilitate transport of mangoes by road.

3.2.3.3 Access to Middle East Market and North African markets

The North African and Middle East market including Lebanon are increasingly targeted by several exporters from West Africa. Exporters consider participation in the SIAM fair in Morocco important to access this market. Several exporters seek THN assistance to participate.

In addition, two exporters from Ghana and Senegal seek THN support in facilitating collaboration between plant protection departments in Senegal and Ghana with that of Lebanon. Potential exporters to Lebanon are willing to meet costs of travel for plant protection staff visiting the countries. These enterprises include al – SAFINA Enterprise in Senegal and Evelyn Enterprises in Ghana.

3.2.3.4 Access to West African Regional and In-country Markets

The West Africa regional market mainly exports to processors during off season. Generally, the lower graded mangoes are exported to processing factories and the first grade mangoes are exported internationally. During the mission to the three countries, several exporters in Senegal were identified and introduced to supply mangoes to processors such as HPW Tropical Fruits and BOMARTS farms.

A country level mango trade fair is planned by APPROMA-B in Burkina Faso in 2016. This trade fair would provide opportunities for regional and import buyers from other countries. THN's assistance is sought for this purpose as well.

In Senegal several suppliers were introduced to Agro-Fruits, a new mango processing company expected to start operations by June 2015. Its requirements are estimated at 1,000MT 2015, and 3,000 MT from 2016.

3.2.4 SUPPORT TO NATIONAL INTER-PROFESSIONAL ORGANIZATIONS AND ADDRESSING REGIONAL TRADE ISSUES

Implementation of specific trade promotion opportunities cannot be carried out in isolation, without working with and strengthening the associations of different players in each country. In the immediate future, the THN could participate in the following initiatives to support the subsector organizations:

- Organize stakeholder roundtables to support and source funding to implement SDPs of Associations. APPROMA-B in Burkina Faso has planned such a meeting in 2015 with the support of PAFASP.
- In Ghana, there is an urgent need to assist some of the key associations to prepare their own SDPs and subsequently mobilize roundtables of donors to support them.
- Assist in the formation of a National Mango Stakeholders Board proposed with GIZ. Assist the new organization to elaborate terms of reference and technical assistance to establish their own SDP.

- Work with AAFEX in Senegal and national associations of the three countries to initiate a process of consultation at regional level to address regional issues.

3.2.5 FORMALIZING COLLABORATION WITH PARTNER ORGANIZATIONS

THN's interventions in each country will require collaboration with partner organizations, enterprises, technical assistance projects and other public and private sector institutions. Some of the organizations can even partner with THN directly. Therefore, it is desirable to formalize with letters of collaboration (LOC) with the following entities:

- Multi-donor projects: EIF projects in Burkina Faso and Senegal, PAFASP in Burkina Faso and GIZ in Ghana supporting mango value chain development interventions.
- Lead pack houses: Akorley Pack House in Ghana, RANCHE DE Koba in Burkina Faso and Hortica in Senegal
- Lead exporters: Evelyn Enterprises in Ghana, Dafani, Ranch Du Koba, and Rose d' Eclat in Burkina Faso, and Masters SARL, Agro Fruits, BuurSine and Laure Agro enterprises in Senegal.
- Yilo Krobo and PPRDS in Ghana, APROMA-B in Burkina Faso, and CFHS and AAFEX in Senegal.
- Public sector institutions: ASEPEX in Senegal.

4. THE WAY FORWARD – INCREASING MANGO TRADE IN GHANA, SENEGAL AND BURKINA FASO

4.1 RECOMMENDATIONS – NEXT STEPS

The main recommendations from the mission are as follows:

4.1.1 APPOINT SHORT TERM EXPERTS IN SENEGAL AND BURKINA FASO AS POINT-PEOPLE TO FOLLOW UP ON MANGO SECTOR INTERVENTIONS AND REPORTING

While the MVCS of the Trade Hub based in Ghana follows interventions recommended in Ghana, the THN should consider appointing mango value chain specialists on a short term basis in Burkina Faso and Senegal in order to reach agreement, facilitate, and follow up on the key interventions recommended in each country. Draft terms of reference were submitted for review and updated for this assignment in each country. The MVCS would coordinate their work.

4.1.2 FOLLOW UP TO IMPLEMENT THE PRIORITY INTERVENTIONS IDENTIFIED

The MVCS, with guidance from the Global Value Chain Coordinator and Senior Value Chain Development Specialist should quickly finalize concept papers with all the partners concerned and proceed with obtaining the required approvals to implement the interventions:

- Review the proposed interventions by country for 2015 as per the list attached, prioritize, and add any new interventions
- Consult with the partners involved and prepare a precise concept paper and Terms of Reference, where required, for each approval of THN and the partner organizations or enterprises
- Define and assess resources needed for each case
- Define the roles of each stakeholder, partner and THN in implementing the interventions
- Sign LOCs with the partners responsible for implementing the interventions recommended
- Facilitate preparation of business/supply contracts – Provide model contracts on each intervention when required
- Implementation

- Define follow-up mechanisms for each deal
- Establish a mechanism to capture the results periodically

ANNEX I: PERSONS & INSTITUTIONS CONTACTED

No.	Institution	Person Contacted	Contact Details
Burkina Faso			
1	Sanle Exports (Production and processing	Kone Yaya	sanleexportburkina@yahoo.fr , +22620 911631
2	APROMA-B and Grace Mangoes	Jean Noel Lamoukry	lamoukry@yahoo.fr , +228 702526 41 /76111141
3	Ste SGT	Karim Guigma	Gtprestaion2013@gmail.com +226 76514625
4	Rose Eclat	Rosemonde Toure	Rose_eclart@yahoo.fr , +226 702 49410
5	Ste Rose Eclat	Antonio Toure	Antonio.toure@lapost.net
6	SN Ranch Du Koba	Bougoum Issaka	ranckoba@yahoo.fr, Tel. +226 76606270 /70102215
7	Houet Select Exporter APROMA –B V. president	Hayes Philippe Manager	houetselect@hotmail.fr tel.+226-76615507
8	COOPAKE	Konate Souleymane	Kon2soul@yahoo.fr , +225- 20995138/76515574
9	Ste Tensya Guampri	Christian Coulibaly	Tensya.mangue@yahoo.fr , +226 76644814/72509664
10	SINTIF Ste Industrielle de Transformation Des Fruit	George Ido Nebnoma	Nebnoma2001@yahoo.fr , Tel+ 226 698223
11	APROMA-B , Eben Fruits	Paul Oudrago President	ebenfruit@yahoo.fr , tel. +226 20995348
12	DAFANI	Boubakar Diakite	Dafani2008yahoo.fr , TEL +226 70008236
13	GTT Enterprise	Traore Abdoul Karim	Us-td@yahoo.fr Tel : +226 78 78 95 97 gtprestation2013@gmail.com
14	Project –PAFASP	Djeneba Tapsoba Bobo, Coordinator	djeneb@gmail.com , +226 70 62 15 00
15	Enhanced Intégrâtes Framework –National implémentation Unit – EIF-NIU (Unité National De Mise en Ouvre Du Cadre National Renforce –UNMO-CNR)	Seriba Ouattara Coordinator	cirbf@fasonet.bf Tel. +226- 70272187
16	- D0-	G. Paulin Zambelongo – Trade policy Expert	zabelno@yahoo.fr Tel. +226- 70118011
17	- Ingénierie Conseil Développement D’entreprise and (THN FAF Burkina Faso)	Félicité Traore - Wourougou	Felicite.icde@gmail.com +226-70291998

18	- Association Wouol- (AW) CEPB SARL , Banfora	Antoine Sombie President	Tel. +226 78818555 assowouol@yahoo.fr , assombwoul@yahoo.fr
19	- UMAO –Consultancy company on agro industries – Ouagadougou	Stephane Scougouma General Manager	Tel.+226 76457212 bgmstephane@umaobf.com
20	- SNV	Mansour boundaogo	mboundaogo@snvworld.org tel. +226 75228989
21	- SNV	Nicole OUedraogo ADVISER Technical and agriculture	nouedraogo@snvworld.org Tel. +226 66589794
22	- Scherpenhuizen –Mango Importing firm Holland	Andre Boon	E.a.boon@scherpenhuizen .nl Tel.+31 (0) 402584669
23	- Africa Bio –Association of mango suppliers	Mme Coulibaly Philomene	Tel +226 -70250511 Tel. 78 25 05 11
24	- -Do-	Boni Moutien	m.bombb@gmail.com Tel. +226 76 17 8181
25	- PAFASP	Djeneba Tapsoba Responsible Entenne de L'ouest	djeneb@gmail.com , pafasp.ao@fasonet.bf Tel. +226-7062150,
26	- Chamber of commerce and Industry of Burkina Faso	Mamadou Ouattara Trade adviser	Mamadou.ouattara @cci.bf Tel.+226-70398856
27	- Enterprise Mango So	Mr. Ritual – Enterprise of Mme Fatumata Riouall	Tel. 226-76525614 Email: aliceriouaall@yahoo.com
	- PAFASP	Atamana Bernard Dabire Coordinator	atamanabd@gmail.com Tel. +226- 70200608 Tel. +226 25 30 42 79
28	- FAN TIC – Transformation et Commercialisation des Fruits et Légumes Formation et Consultation	ETIENNE Christian Dioma	diomachrist@hotmail.com Tel. +226 61064646
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30	UTT –Unité de transformation des Fruits Tropical	Ouattara Mamadou	Tel. 76589415
Ghana			
1	IPM Consultant Fruit Flies Trainer	Victor Avah	Email : victoravah@yahoo.co.uk , Tel: 0244507530
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ANNEX 2: OPPORTUNITIES FOR INTERVENTIONS BY THN IN GHANA, BURKINA FASO AND SENEGAL

Annex 2: Opportunities for Interventions by THN in Ghana, Burkina Faso and Senegal (April - September 2015)

Objective/Activity	Beneficiary	Lead	Timeline									Outcome
			Beginning Date	End Date	# of Days	Apr	May	Jun	Jul	Aug	Sept	
A. GHANA												
I. Increase supply of quality mangoes for exports and processing market in the region												
I.0. Conduct updated knowledge based training on best practices (fruit flies control, harvesting techniques) through 3 business models												
- Association led pilot training program	Yilo Krobo & Dangme West Mango Farmers Association	MVCS, Mango Associations, Trainer	5-May-15	15-Aug-15	23							<ul style="list-style-type: none"> • 50 farmers trained as trainers • 200 additional farmers trained by the 50 farmer trainers. • Leverage through exporters and processors established (Eve_Lyn Farms, Web Link, Blue Skies, HPW, Bomarts Farms. • Tool kit supplied to the associations
- Training on Globalgap Option 2 (group certification)				18-May-15	15-Sep-15	22						<ul style="list-style-type: none"> • 100 farmers trained in Globalgap Option 2 • QMS developed/ revised with the associations and pre-audit inspection undertaken.
- Exporter led pilot training program	Eve_Lyn Farms	MVCS, Eve_Lyn Farms, Trainer	11-May-15	10-Jul-15							<ul style="list-style-type: none"> • 15 selected trained in fruit flies control and harvesting techniques. • 15 selected supplied 600MT of fruits to Eve_Lyn Farms • 180MT exported to Lebanon (Middle East) and 420MT sold to processors. • Supply contracts established between farmers and exporter. 	
- Processor led pilot training program	Bomarts Farms	MVCS, Bomarts Farms, Trainer	5-May-15	15-Aug-15							<ul style="list-style-type: none"> • 65 farmers trained on fruit flies control in 5 locations in 4 regions (VR, GAR, ER and BAR). • 4.000 MT supplied by 65 farmers trained. 	

L (APRIL – SEPTEMBER, 2015)

2 Market access for fresh and processed mangoes													
2.1	Links to USA and EU markets to expand exports of value added processed mango products	HPW Dry Ltd.	HPW Dry Ltd. & MVCS	5-May-15	15-Aug-15							• 160MT of processed mango bars worth US\$1 million exported to the US.	
2.2	Support consultant for new product development			15-May-15	28-May-15	10							• New softer mango rolls developed.
2.3	Support participation in trade fair in Chicago, US			19-May-15	21-May-15								• Participated in the fair
2.4	Follow up on exports to the Nigerian market	Blue Skies	Blue Skies, Global Products Services Ltd & MVCS	1-May-15	30-Sep-15							• 83,333 cartons valued at US\$1.0 million exported to Nigeria	
2.5	Link to the US market	Bomarts Farms	Bomarts Farms, Trainer, US FDA & MVCS	5-May-15	15-Sep-15							• Dried mango exports to the US.	
2.6	Facilitation of FDA registration and USDA inspection of factory site		Bomarts Farms, Trainer & MVCS			15						• Technicians trained in IFS.	
2.7	Facilitation of training in International Food Standards (IFS) for technical staff												
2.8	Broker and monitor regional supply deals between processors and producers in the 3 countries.		Processors (HPW & Bomarts Farms) in Ghana and exporters in Senegal (Laure Agro Co, BuurSine Co, SAEINA Distribution Blue)	1-May-15	15-Sep-15								• Increased trade between processors and exporters on the regional market.
3 Support to National Inter-professional organizations and addressing regional trade issues													
3.1	Collaboration with GIZ in the formation of a Ghana National Interprofessional Mango Association	GIZ, ADRA, Mango VC actors	MVCS & partners	1-May-15	30-Sep-15							• National Association formed	
3.2	Organization of Mango Day	Mango VC actors, MOTI (GEPA, GCCJ), MoFA, ECOWAS, Donors/TA projects, etc.	MVCS, Mango associations, GEPA, GCC, MoFA, ECOWAS, Donors/TA projects, etc.	1-Jul-15	15-Sep-15							• Mango Day organized.	
B. BURKINA FASO													
1. Increase supply of quality mangoes for exports and processing market in the region													
1. Conduct updated knowledge based training on best practices (fruit flies control, harvesting techniques) through 3 business models													
	-Collaboration with PAFASP on an Association led pilot training program	APROMA-B & PAFASP	MVCS, APROMA-B, PAFASP, Trainer	5-May-15	15-Aug-15	30						<ul style="list-style-type: none"> • 300 farmers trained as trainers in 10 locations • 15,000MT of mangs produced by farmers. • Leverage through exporters and processors established (Eve_Lyn Farms, Web Link, Blue Skies, HPW, Bomarts Farms. • Tool kit supplied to the associations 	

	- Exporter led pilot training program	Ranch Du Koba	MVCS, Ranch Du Koba, Trainer	11-May-15	10-Jul-15	10							<ul style="list-style-type: none"> • 15 selected trained in fruit flies control and harvesting techniques. • 15 selected supplied 600MT of fruits to Eve_Lyn Farms • 180MT exported to Lebanon (Middle East) and 420MT sold to processors. • Supply contracts established between farmers and exporter.
	- Training on Globalgap Option 2 (group certification)	Association Wouol	MVCS, Association Wouol, Trainer	18-May-15	15-Sep-15	20							<ul style="list-style-type: none"> • 100 farmers trained in Globalgap Option 2 • QMS developed/revised with the associations and pre-audit inspection undertaken.
	- Processor led pilot training program	DAFANI	MVCS, DAFANI, Outgrowers, Trainer	11-May-15	10-Jul-15	25							<ul style="list-style-type: none"> • 360 farmers trained on harvesting techniques. • 360 selected farmers supplied 2,000MT of fresh fruits for processing. • Supply contracts established between DAFANI and outgrowers.
2.0 New investments in value addition and improvements in drying technologies for mangoes													
2.1	Collaborate with PAFASP on pilot testing new improved dryers for dried mango	Rose Eclat.	MVCS, PAFASP & Rose Eclat	18/5/2015	31-Aug-15								<ul style="list-style-type: none"> • 1 improved pilot tested with Rose Eclat
2.2	Training on best practices for mango drying techniques for the processing enterprises	Tensya Guampri, Sanle Sechage, Coopake & Rose Eclat.	MVCS, PAFASP & mango processing enterprises	18/5/2015	31-Aug-15								<ul style="list-style-type: none"> • Technicians of processing companies trained on best practices for mango drying
2.3	Collaborate with PAFASP on HACCP Certification for processors	Tensya Guampri, Sanle Sechage, Coopake & Rose Eclat.	MVCS, PAFASP & mango processing enterprises	18/5/2015	31-Aug-15								<ul style="list-style-type: none"> • Technicians of processing companies trained on HACCP
3.0 Market access for fresh and processed mangoes													
3.1	Broker and monitor regional supply contacts and deals between processors in Ghana and exporters and producers in Burkina Faso	Ste SGT Karim Guigma & APROMA-B.	MVCS, exporters & processing companies in Ghana	1-Apr-15	31-Aug-15								<ul style="list-style-type: none"> • Buyer-seller deals implemented for the season - HPW & Bomarts Farms in Ghana and exporters in Burkina Faso (Ste SGT & Sefa Sefa).

4.0 Support to National Inter-professional organizations and addressing regional trade issues											
4.1	Collaboration with national association and technical assistance projects/Donor Projects in the Mango Sector	APROMA-B, PAFASP, Cadre Intégré Renforce (CIR)/Enhanced Integrated Framework (EIF), AGO/AATRC (CIC), ECOWAS	APROMA-B, MVCS & partners	1-Apr-15	30-Sep-15						<ul style="list-style-type: none"> • Training proposals submitted to Trade Hub for approval. • Joint implementation of training programs for 300 farmers in 10 locations.
4.2	Pilot testing of a Mango MIS with APROMA-B	APROMA-B, service providers, MVCS, AGO/AATRC (CIC)	APROMA-B, MVCS & MIS specialist	11-May-15	15-Sep-15						<ul style="list-style-type: none"> • MIS set up and pilot tested with APROMA-B.
4.3	Study on the environment impact assessment of Mango drying industry in Burkina Faso.	APROMA-B, PTRAMA-B, STTA, MVCS, CIR/EIF, AGO/AATRC (CIC)	APROMA-B, PTRAMA-B, STTA, MVCS	18-May-15	15-Sep-15						<ul style="list-style-type: none"> • Study Report submitted to the Trade Hub for implementation of recommendations with PTRAMA-B & APROMA-B.
4.4	Organization of Mango Day	APROMA-B, PAFASP, Cadre Intégré Renforce (CIR)/Enhanced Integrated Framework (EIF), AGO/AATRC (CIC), Ministry of Agriculture, etc.	MVCS, mango associations & partners	1-Aug-15	10-Sep-15						<ul style="list-style-type: none"> • Mango Day organized.
C. SENEGAL											
1. Increase supply of quality mangoes for exports and processing market in the region											
1. Conduct updated knowledge based training on best practices (fruit flies control, harvesting techniques) through 3 business models											
	- Collaboration with DPV on an Association led pilot training program	DPV, CIR, CFAHS & SEPAS	MVCS, DPV	15-May-15	5-Jun-15	16					<ul style="list-style-type: none"> • 200 farmers trained as trainers in 3 locations (Niayes, Central zone & Casamance) • 15,000MT of mangoes produced by farmers.
	- Exporter led pilot training program	Hortica Senegal	MVCS & Trainer	11-May-15	10-Jul-15						<ul style="list-style-type: none"> • "Fopius Arizanus" insect, – biological control/natural enemy disseminated by DPV to famers. • Increased quality mangoes for exports and processing
	- Training on Organic certification & Globalgap Option 2 certification	Hortica Senegal & SEPAS	MVCS & Trainer	18-May-15	15-Sep-15	22					<ul style="list-style-type: none"> • ICS developed & pre-audit inspection for Organic certification undertaken.

	- Processor led pilot training program	Blue Skies & 3 exporters	MVCS & Trainer	25-May-15	31-Aug-15																<ul style="list-style-type: none"> • 3 exporters trained in best practices for mango production. • Fruits supplies of 500 - 800MT to Blue Skies. • Supply contracts established between Blue Skies and exporters.
	- Processor led pilot training program	Hortica Senegal & Kirene – Agro Fruits SA	MVCS & Trainer	25-May-15	31-Aug-15																<ul style="list-style-type: none"> • 4 main exporters linked to Kirene - Agro Fruits SA for fruits supplies. • Outgrowers of exporters trained in best practices for mango production. • Supply contracts established between Kirene - Agro Fruits SA and exporters & outgrowers.
2.0 New investments in value addition and improvements in drying technologies for mangoes																					
2.1	Conduct a Feasibility Study on the Mango Drying and Processing industry in Senegal	CADA Enterprise, BuurSine International & Master Sarl	MVCS & STTA	22/5/2015	15-Jul-15	20															Feasibility Report prepared and submitted.
3.0 Market access for fresh and processed mangoes																					
3.1	Broker and monitor regional supply contacts and deals between exporters in Senegal and processors in Ghana (HPW, Bomarts, Blue Skies)	Laure Agro, SAFINA, CADA Enterprise, BuurSine International & Master Sarl	MVCS	1-Apr-15	30-Sep-15																<ul style="list-style-type: none"> • 1,400MT of fresh mangoes exported to processors in Ghana
3.2	Facilitation of fruits supply contacts to new processing company	CADA Enterprise, BuurSine International & Master Sarl	MVCS	1-Jul-15	31-Aug-15																<ul style="list-style-type: none"> • 1,000MT of fresh mangoes exported to processors in Ghana
3.3	Facilitation off season fruits supplies to processors in Ghana	SARNA & CADA Enterprise	MVCS & DPV	1-Aug-15	30-Sep-15																<ul style="list-style-type: none"> • 500MT of fresh mangoes exported to processors in Ghana
3.4	Work with ASEPEX and DPV to facilitate trade delegations to access markets in the Middle-East (Lebanon & Qatar)	SARNA & Laure Agro, ASEPEX & DPV	MVCS & DPV	14-May-15	30-Sep-15																<ul style="list-style-type: none"> • Participations in Trade fairs planned.
3.3	Collaborate with ASEPEX in participation Trade Fairs (Fruit Logistica BIOFACH, SIAM)	ASEPEX, CIR, CFAHS, SEPAS,	MVCS & ASEPEX	14-May-15	31-Jul-15																<ul style="list-style-type: none"> • Two trade missions to DPV in Lebanon and Qatar undertaken. • 2,000 - 3,000MT exported to the Middle-East market.
4.0 Support to National Inter-professional																					

5.0 Collaborations with partner organizations and private sector in the Mango Value chain											
5.1	Collaboration with TA/Donor Projects in Mango Sector to support private sector to increase trade on the global and regional markets	UNMO-CIR (Cadre Intégré Renforce – CIR/Enhanced Integrated Framework (EIF)	MVCS & partners	14-May-15	30-Sep-15						• Joint implementation of interventions executed.
5.2	Collaboration with ASEPEX and DPV to support private sector to increase trade on the global and regional markets	ASEPEX (AGO/ATRC), CFAHS, SEPAS,	MVCS & partners	14-May-15	30-Sep-15						• Joint implementation of interventions executed.