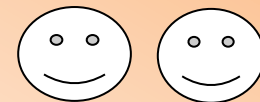


Sahelian Onion Productivity and Market Expansion Programme (SOPMEP)

UNDP/AFIM



SOPMEP BRIEF: Putting Smiles on the faces of Onion Farmers



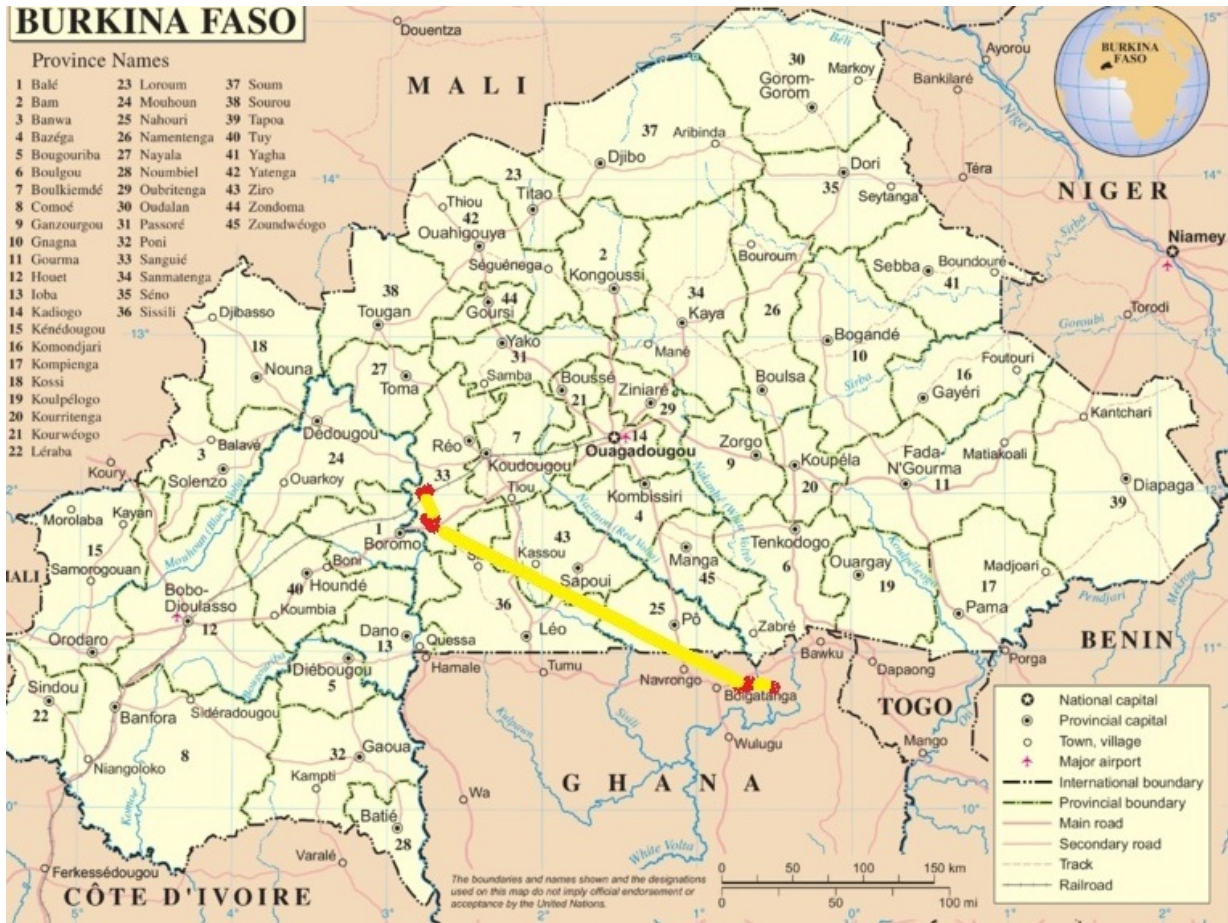
US\$150,000 UNDP Catalytic fund transforming lives of **Onion farmers** in the Rural North of **Ghana and Burkina Faso** in a cross border initiative led by ASNAPP in collaboration with FEPA/B and TRIAS. The project is providing respite to over **2,500 onion farmers** which hitherto had access to no or expensive storage facilities to store their onions, had low productivity and therefore were globally uncompetitive. The provision of simple and less expensive family level storage structures comes in handy at a time when onion production is becoming an important economic crop for over 20,000 onion producers in Ghana and Burkina Faso. The project, in less than a year, has seen phenomenal results with **bulb sizes doubling** with the adoption of Good Agricultural Practices and **increase in farmers' income by over 300%** with storage for 2-3 months into the lean season. About 80 demonstrations storage structures have been supplied to producers. With the potential increase in the adoption of these storage structures, over 10,000 onion farmers in these two countries, have the possibility of staggering sales to take advantage of future high prices and generate additional revenue of over **US\$7.5 million** to support their livelihood activities. Over **400** smallholders have been linked to Micro-finance institutions and a regional consultative workshop involving 8 major producing countries in the sub-region was held, in collaboration with ECOWAS, to galvanize action for an expanded regional competitiveness enhancing programme to position the region to realize the full benefits of the onion industry.



Final Onion Productivity and Market Expansion Programme Report

Ghana and Burkina Faso

Map of Showing the Project Sites



Key

✦ Project Sites in Ghana and Burkina Faso

Report Compiled by ASNAPP Ghana

List of Acronyms

ACDEP	Association of Church-Based Development NGOs
AFDI	Agriculteur Francais et Developpement International
AFIM	African Facility for Inclusive Markets
ASNAPP	Agribusiness in Sustainable Natural African Plant Products
BWFA	Bawku West Farmers Association
CIDA	Canadian International Development Agency
CPF	Confédération Paysanne du Faso
CSIR	Centre for Scientific and Industrial Research
EU	European Union
FAO	Food and Agriculture Organization
FEPA/B	Fédération des Professionnels Agricoles du Burkina
GOFA	Garu Onion Farmers Association
KNUST	Kwame Nkrumah University of Science and Technology
MFI	Micro Finance Institution
MLGRD	Ministry of Local Government and Rural Development
MOFA	Ministry of Food and Agriculture
PAS-Garu	Presbyterian Agricultural Station, Garu
RCB	Rural and Community Bank
SARI	Savanna Agricultural Research Institute
SOPMEP	Sahelian Onion Productivity and Market Expansion Programme
ToT	Trainer of Trainees
UNDP	United Nations Development Programme
WFP	World Food Programme
IDE	International Development Enterprise

Table of Contents

1.0	INTRODUCTION	1
2.0	KEY ACTIVITIES UNDERTAKEN AND OUTPUTS	2
2.1	INCEPTION WORKSHOP	2
2.1.1	<i>Objectives</i>	2
2.1.2	<i>Specific Objectives</i>	2
2.1.3	<i>Outcome of the Deliberations.....</i>	2
2.2	BASELINE AND PRE & POST TRAINING ASSESSMENT FOR TRAINING	4
2.2.1	<i>Approach</i>	4
2.2.2	<i>Output.....</i>	4
2.3	TO STRENGTHEN THE CAPACITY OF PRODUCERS ON GOOD AGRICULTURAL PRACTICES	8
2.3.1	<i>Approach</i>	8
2.3.2	<i>Outputs of Capacity Building</i>	10
	<i>Direct Outcome of the training</i>	10
2.4	TO REDUCE POSTHARVEST LOSSES, INCREASE MARKET ACCESS AND INCOMES OF ONION VALUE CHAIN ACTORS	11
2.4.1	<i>Approach</i>	11
2.4.2	<i>Output.....</i>	14
	<i>Direct Outcome of the training</i>	15
2.5	TO INCREASE ACCESS TO FINANCE BY ONION PRODUCERS AND OTHER CHAIN ACTORS	16
2.5.1	<i>Micro-finance Study.....</i>	16
2.5.2	<i>Training of Onion farmers on the ABC of Finance.....</i>	20
2.5.3	<i>MFI exchange and training</i>	21
2.6	TO FOSTER REGIONAL COLLABORATION AND MONITOR PROGRESS OF WORK.....	22
2.6.1	<i>Approach</i>	22
2.6.2	<i>Output.....</i>	23
2.7	MONITORING	25
2.7.1	<i>Approach</i>	25
2.7.2	<i>Output.....</i>	26
3.0	OBSERVATIONS AND COMPLEMENTING PROJECTS.....	29
4.0	LESSONS LEARNT	29
5.0	ISSUES REQUIRING URGENT ATTENTION	30
6.0	TECHNICAL RECONCILIATION OF ACTIVITIES	31
7.0	APPENDICES	36

1.0 Introduction

This is the consolidated and final report on activities undertaken under the **“Sahelian Onion Productivity and Market Expansion Programme (SOPMEP)”** funded by UNDP/AFIM for the period November 01 2012 to October 31, 2013.

In 2012 and 2013, UNDP AFIM planned to provide catalytic funding to selected value chain development initiatives in the agribusiness/ agro-industries sectors in Eastern, Western and Southern Africa. The catalytic funding of AFIM seeks to promote the acceleration of the MDGs by supporting agribusiness value chain projects that generate income, employment and reduce poverty through inclusive economic growth and sectorial development.

ASNAPP, Ghana (Project Promoter) together with its partners TRIAS (Ghana), FEPA-B/CPF of Burkina Faso, NorthFin Foundation (Ghana), Ministry of Agriculture in Ghana, Progressive Onion Traders and Producers Association, Ghana developed a five year program proposing a comprehensive value chain approach to the development of onions in the West Africa sub-region that addresses social inclusiveness and integrates the opportunities of actors within the value chain such as smallholder farmers, agents/dealers, support service providers, development agencies, the private sector and the government. UNDP/AFIM approved one year of SOPMEP to cover Ghana and Burkina Faso as a pilot and to serve as a catalytic support to fuel further development and investment by UNDP country programs, other donors and the private sector. This project is to be extended to other countries (Niger, Mali and Benin) in subsequent phases subject to the availability of additional resources.

Prior to the submission of the proposal, ASNAPP together with TRIAS undertook an Onion Value Chain Study which identified lack of storage and inability to store onion for a long time as a key challenge to onion producers in the Upper East Region, Burkina Faso, Benin and most onion producing areas in Niger.

In relation to the SOPMEP project, ASNAPP/TRIAS were to focus on capacity building, development of suitable financial products and provision of quality level / Postharvest infrastructure for year 1. The table below presents the key activities and expected outputs.

Figure 1: Key Activities and the Expected Outputs

Key Activity	Outputs
To reduce postharvest losses, increase market access and incomes of onion value chain actors	<ul style="list-style-type: none">• 2,500 training materials printed• 10 improved family level storage facilities established and demonstrated to producers• 2,500 onion value chain actors capacity built on Post harvest and Storage practices
To increase access to finance by onion producers and other chain actors	<ul style="list-style-type: none">• 100 training materials printed• 2,500 onion value chain actors capacity built on financial and business management and sourcing micro credit• Identification and development of appropriate finance products for value chain actors
To strengthen the Capacity of producers on Good Agricultural Practices	<ul style="list-style-type: none">• 2,500 training materials printed• 2,500 onion value chain actors capacity built on GAP
To Foster regional collaboration and monitor progress of work	<ul style="list-style-type: none">• One consultative workshop for program expansion held

2.0 KEY ACTIVITIES UNDERTAKEN AND OUTPUTS

As per the work schedules developed and agreed by ASNAPP and UNDP and the receipt of funds, the reporting period for the project was from November 2012 to October 2013. This report summarises the key activities and outputs, challenges, recommendations and lessons learnt over the period. Key activities for the program were implemented by TRIAS, NORTHFIN, FEPA/B and CPF with ASNAPP performing the supervising and coordinating role.

2.1 Inception Workshop

As part of key programmes and activities to be implemented, ASNAPP (Project Promoter) in collaboration of with TRIAS (Project Supporter) organized an inception workshop in Bolgatanga in the Upper East Region of Ghana for project partners and the major onion stakeholders from Ghana and Burkina Faso. Among the institutions present were PAS-Garu, BWFA, MOFA (district and National Office), GOFA, CSIR-SARI, Northfin Foundation, Progressive Onion Traders and Producers Association from Ghana and FEPA-B and CPF of Burkina Faso.

2.1.1 Objectives

The underlying purpose of the inception workshop was to present and discuss the SOPMEP project in line with its objectives, proposed activities, roles and responsibilities of project stakeholders.

2.1.2 Specific Objectives

- Share project background with stakeholders
- Conduct needs assessment on production and post-harvest management guide
- Discuss proposed design on onion storage structures
- Develop the most efficient/effective techniques towards the implementation of the project

2.1.3 Outcome of the Deliberations

At the level of project implementation, partners decided the most effective approach, with the limited budgetary resources and time, was to use the Trainer of trainers approach to help reach the intended number of beneficiaries. In all, 25 ToTs in Ghana and Burkina were to be trained on GAP, good post-harvest practices and storage including establishment of a demonstration storage facility at the premise of each ToT. They were to be resourced to offer training to 100 farmers each and pay two follow up visits to monitor progress. A total of 1,200 and 1,300 farmers were to be selected from Ghana and Burkina Faso respectively for the project. Partners also agreed to hire a part-time coordinator in each country to support and monitor the activities of the ToTs. The team also agreed to work through a network of partners including Ministry of Agriculture, SARI and other support service providers in the development of training materials and conduction of the trainings. The design of appropriate and affordable storage structures had been commissioned and preliminary prototypes shared with participants for feedback. It was decided that the demonstration units be set up at the sites of the TOTs so they could be used during the training sessions. Additionally the micro-finance institutions were to be engaged and brought on board to facilitate the design and roll-out of appropriate credit products suitable to the needs of Onion producers and other chain actors.

ASNAPP together with TRIAS were to monitor and ensure timely implementation and realisation of project goal and objectives. The key expected results and outcomes were shared for feedback and

roles and responsibilities outlined for the project promoter, supporter and major implementing partners¹.



Figure 2: Participants at the workshop listening attentively

The UNDP Ghana and Burkina offices could not participate in the inception workshop due to scheduling conflict but indicated their support to the project and promised to follow-up on upcoming activities. Both country programmes were kept abreast of project progress throughout the implementation period and the UNDP Burkina Faso provided invaluable support in helping organize the regional workshop held in Ouagadougou in October, 2013.

¹Implementing Partners includes MOFA, Farmers, NORTHFIN, FEPA/B and CPF, SARI, and Progressive Onion Traders and Producers Association

2.2 Baseline and Pre & Post Training Assessment for training

In order to ensure trainings organized were relevant to the needs of farmers and will achieve the needed impact, it was important to undertake a pre training assessment to understand the specific needs of participating beneficiaries. To this end, the Project team undertook a baseline assessment for selected farmers in Ghana and Burkina to gather some background information for analysis.

2.2.1 Approach

A baseline assessment questionnaire was administered in Ghana and Burkina Faso prior to the commencement of the trainings. This was gathered on 10% of the targeted beneficiaries. Among others, data on current production levels were collected and will be used to assess changes in production levels and increases in income at the end of the project. Data gathered was analysed using MSEXCEL where necessary.

2.2.2 Output

The analysis focused on educational background, gender, age distribution and training needs. The outcome of this report informed the mode of the training and the intensity of particular models to address existing gaps. Report on previous and current production levels will be completed after the project closure to assess the impact of the training on Good Agricultural practices. Below are some extracts.

Ghana

The analysis focused on educational background, gender, age distribution and current production levels

Age and Gender distribution of respondents

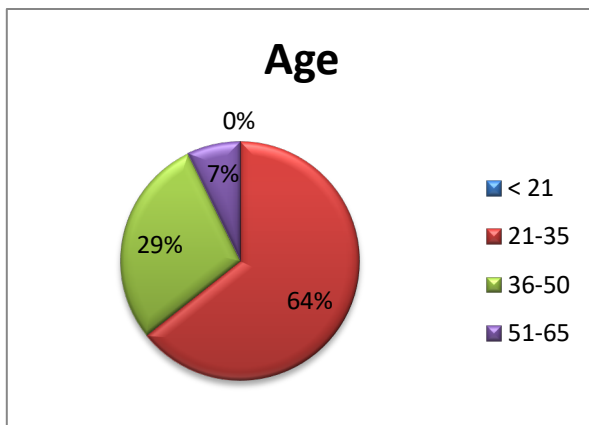


Figure 3: Age Distribution of respondents

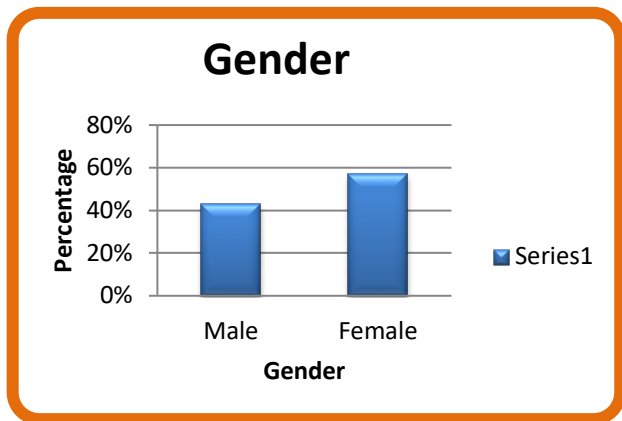
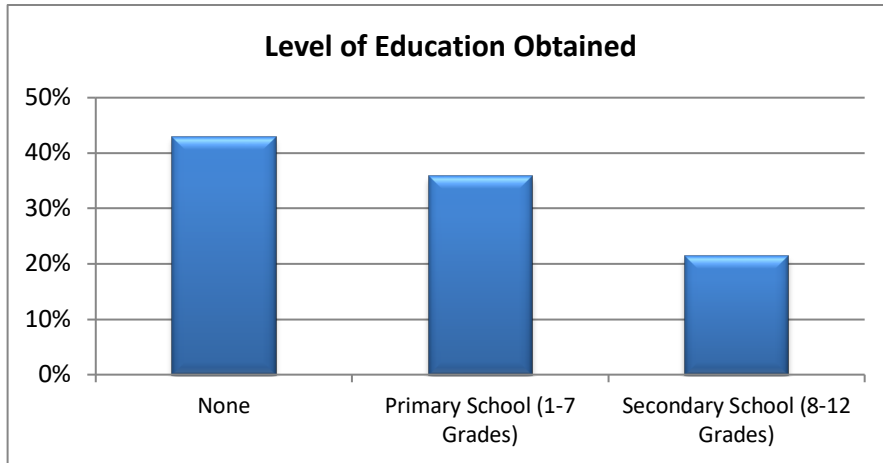


Figure 4: Gender distribution of respondents

Over 80% of the respondents are between the ages of 21 to 50 years indicating a youthful and active group showing interest in the onion production (figure 1). Figure 2 presents the Gender distribution for the beneficiaries with females recording 57%. The introduction of new technologies is likely to be adopted quickly and also passed on to generations unborn with the gender ratio and age group involved in the production.

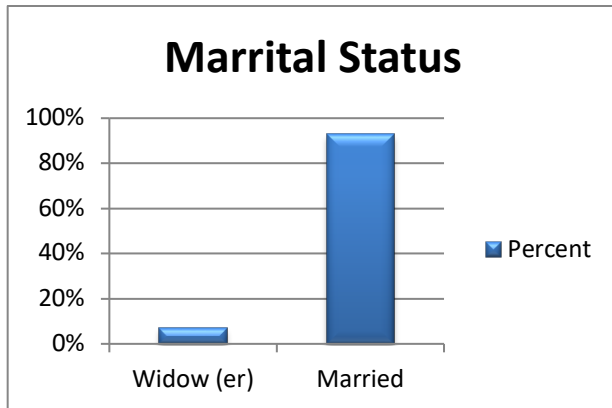
Education



Over 40% of the respondents have had no formal education with 36% and 21% having primary and secondary education respectively as indicated in figure 3. With this knowledge it is imperative to train in the local dialect using basic tools to illustrate or transfer knowledge.

Figure 5: Educational background of respondents

Marital Status



93% of the respondents are married as presented in figure 6 with only 7% widows. Onion production and marketing serves as a source of reliable and significant income for many families in the project area and contributes towards food security.

Figure 6: Marital Status

Number of people per household

From the data gathered, household size ranges from 5 to 31 with a mean of 17. From the analysis, over 50% of the respondents indicated average household sizes of 15 and above.

Onion Production

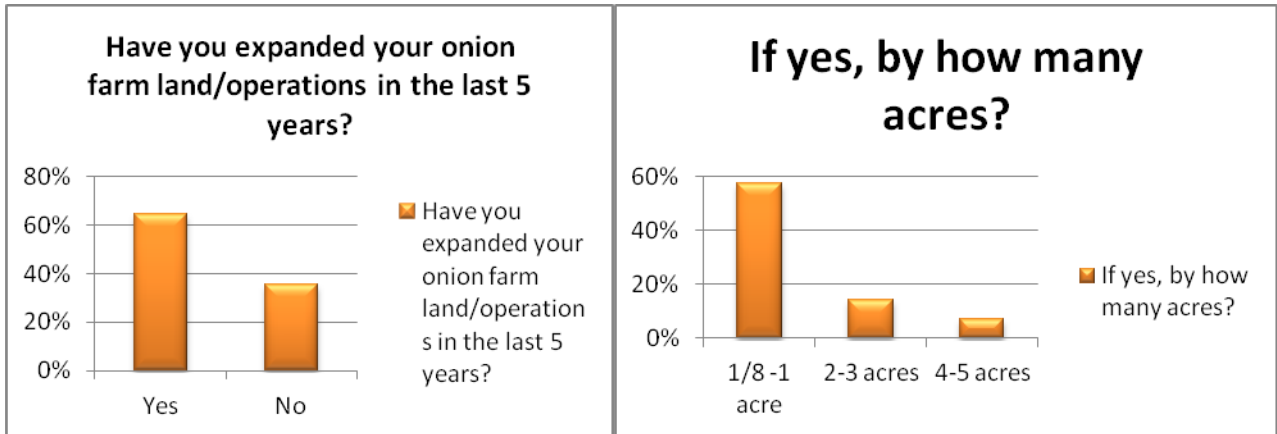


Figure 7: Onion Production Expansion

Figure 7 indicates that over 60% of farmers have increased the production of onion over the past five years. This is an indication that farmers deem it a profitable venture. Additionally, onion production tends to provide a form of security for farmers in the dry season, a difficult period for many farmers and provides valuable income to support main season farming as well as other critical family expenditures. Of this number, 57% have increased production by between 1/8 to 1 acre with 14% and 7% increasing by 2-3 acres and 4-5 acres respectively. This also shows production of onion is largely done by small scale producers.

Data summary from production figures estimates average yield per acre of 24 bags (2.9 MT) for the district which is far below the national average of 10MT/acre. Farmers indicated having generated revenue ranging from GHC150 to GHC300 for cultivating on an acre of land. The low revenue recorded was due to high postharvest loss and the inability to stagger sales.

Burkina

Gender distribution

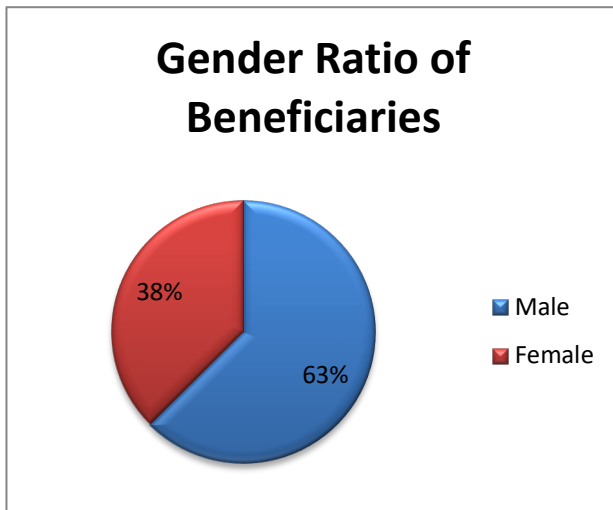


Figure 8 presents the Gender distribution for the beneficiaries in Burkina. Beneficiaries are made up of 38% females with an estimated 16 persons per household for the onion farmers.

Figure 8: Gender distribution of respondents

Production Cost and Revenue

Generally, farmers cultivated an average land size of 2.5ha under rain-fed and 0.5 ha under irrigation. Average yields from farmers interviewed for the baseline revealed an average yield of 20.5MT/ha under rain-fed. Farmers realize income varying from CFA 29,500 (US\$ 66) to CFA 225,000 (US\$ 500) for cultivating on 2.5ha land.

Data taken on 66 farmers on the previous season production prior to the GAP and PHH training, reveal a total of 130MT of onions were produced with 7.4MT sold immediately and only 5 MT stored. In terms of sales, the 66 farmers made a cumulative profit of FCFA 22,848,000 (US\$ 50, 773) after costs of production were deducted.

2.3 To strengthen the Capacity of producers on Good Agricultural Practices

Realizing the importance of sustained capacity building in the adoption of Good Agricultural Practices, it was made a key component of the SOPMEP project. Farmers as well as partners' capacity were to be developed on Good Agricultural Practices for onions as good field agronomic practices are directly correlated to prolonged onion shelf life and increases in bulb sizes.

2.3.1 Approach

To undertake this task, ASNAPP led the development and printing of 3,000 illustrated posters (1,500 each in French and English) on Good Agricultural Practices for beneficiary farmers in Ghana and Burkina Faso. ASNAPP relied on the expertise of its partners and network of experts from research institutions around the globe to gather technical agronomic information for the development of the posters. The experts were drawn from Rutgers University (USA), Stellenbosch University (South Africa) and KNUST (Ghana). Contributions also came from partners such as FEPA/B, SARI and MOFA, with on-the-ground experience, to complement the existing pool of knowledge provided by TRIAS and ASNAPP. Guides on Good Agricultural Practices and Postharvest Practices were also printed in addition to the illustrated posters to serve as teaching aids for the TOTs (both in French and English).

Ghana



TRIAS/Northfin Foundation (on the ground implementers in Ghana) organized a TOT training workshop for twelve (12) TOTs in Zebilla in the Bawku West District of the Upper East Region of Ghana for the month of November. The training was facilitated by MOFA extension

workers for the district. ASNAPP was present to observe the training and also capture baseline questionnaire and administer Pre and Post Training questionnaires. Each ToT (who are also farmers) was presented with a training Guide in English to guide their field trainings.

Follow-up trainings were organized by the twelve TOTs for 100 farmers each. The trainings were done for fifty farmers at a time for two days. It was supervised by MOFA extension workers and the field officer and Northfin. This facilitated easy comprehension and enabled the farmer trainees to subscribe



to the good agronomic practices being taught. MOFA staffs were also in the field to provide technical backstopping where necessary. They also served as monitors for the TOTs.

Table 1: Number of participants per community

Community	Participants		
	Male	Female	Total
Sapeliga	329	571	900
Binaba	235	65	300
Total	564	636	1,200

Burkina



FEPA-B/CPF has been working with 16 producing villages which altogether form four producer groups namely Bavila, Batondo, Koukouldi and Tenado in the Tenado Department of the Sanguié Province in the Centre-Ouest region of Burkina Faso. The four groups have a total membership of 5,387 farmers. Of this number, FEPA-B/CPF selected **130 onion TOTs** for GAP training with each TOT expected to train at least 10 farmers. A total of **1,312 onion farmers** were trained on GAP from these Unions excluding the 130 farmers who acted as TOTs.

Table 2: Number of participants per community

Union	Participants		
	Male	Female	Total
Bavila	196	104	300
Batondo	246	166	412
Koukouldi	123	177	300
Ténado	255	45	300
Total	820	492	1312

2.3.2 Outputs of Capacity Building

- i. **3,000** illustrated posters (1,500 each in French and English) on Good Agricultural Practices
- ii. 50 Guides on Good Agricultural Practices and Postharvest Practices (25 French and 25 English)
- iii. **12 TOTs** selected in Ghana to train 100 farmers each and **130 TOTs** selected to train 10 farmers each in Burkina.
- iv. In all, a total of **1,200** farmers (900 in Sapeliga and 300 in Binaba) in Ghana were trained on Good Agricultural Practices and a total of **1,312 farmers** were trained in Burkina Faso with 45% being females. About 38% and 30% of total farmers trained in Ghana and Burkina Faso respectively adopted and implemented good agronomic practices.
- v. The adoption of planting in rows technology (GAP) also led to remarkable increase in onion bulb sizes in Ghana from **50g to 100g** and yield increased by **70%** (from the existing 11 bags from 1/8 acre to 19 bag) by selected interviewed farmers. Overall, in Ghana, the 38% of farmers that implemented good agronomic practices realized yield increases of between 30% and 90%. Average yield per acre increased from 2.9MT to between 3.8MT and 5.5MT. In Burkina Faso, farmers (30% of those trained) increased average yield from 20MT/ha to 24MT/ha.

Direct Outcome of the training

Success Story from the Field in Ghana

“I realized the bulb sizes have become bigger and it costs me less time and labour to weed the same piece of land and apply fertilizer compared to the previous season after adopting the row plating technology taught to us” **Issaka Malia**.

“I also recorded increase in yield after adopting the row plating. I harvested **19 bags** of onions instead of **11 bags** from the same piece of land” **Mustafa Yakubu**



Issaka Malia showing the different onion bulb sizes

2.4 To reduce postharvest losses, increase market access and incomes of onion value chain actors

Farmers' capacity was expected to be built on Good Postharvest Practices and with specific emphasis on storage. This activity was expected to encourage farmers to store onions for up to four months thereby ensuring increased income for onion farmers.

2.4.1 Approach

ASNAPP/TRIAS still employed the same consultative processes in the development of the Postharvest Posters as was done for the illustrated posters on Good Agricultural Practices. For this activity, the project team developed and printed 3,000 illustrated posters (1,500 each in French and English) on Postharvest Practices for beneficiary farmers in Ghana and Burkina Faso.

Key to the adoption of improved storage for onions was the provision of model storage structures for demonstration purposes in the various communities. Different designs from Ghana, Niger and Burkina were considered and a draftsman from Ghana appointed to develop five suitable and low-cost designs for Ghana and Burkina taking into consideration the local materials present and the ability of farmers to invest in the structure. Three designs were selected and proposed for the development of the Storage Posters. They were christened community-based onion storage structures, family-based onion storage structures and local family-based onion storage structure based on cost and type of material used. It cost **US\$4,342.11** for community-based onion storage structures, **US\$1,450.00** for family-based onion storage structures and **US\$286.42** for local family-based onion storage structure.

300 community posters (150 French and 150 English) on the three selected storage structures were printed to enhance knowledge transfer and increase the rate of adoption. The poster presented information on investment cost, expected revenue, duration for storage and other relevant information to allow farmers to make informed choices based on their financial strength and size of farms.

Ghana



Twelve (12) selected TOTs were trained on Postharvest Practices and in-turn trained 100 colleague farmers each. An expert knowledgeable in fabricating storage structures was contracted to support the storage infrastructure development. He was to work directly with the farmers and provide hands-on training and guidance to enable farmers undertake future constructions unaided. In all, thirty-four (34) model local family-based onion storage structures were constructed in the two participating communities to store onions and stagger sales for the 2013 season. These structures can store 3-6.5 bags (300-650kgs) of onions. Based on lessons learnt, observations and modifications made in Burkina Faso, the Architect worked with the communities to construct an additional 10 structures with higher storage capacities to be used in the coming production season.



Of the 34 farmers that received demonstration family-based storage structures, 100% stored an average of 10 bags of onions in the storage structure as well as their bedrooms (the usual practice prior to the provision of storage structures). With the advent of the storage structures, farmers were encouraged to hold onto the onions in their bedrooms for longer and also extended the good storage practices taught to tend better the onions kept in their bedrooms. They however admitted that apart

from the convenience of having the onions in the storage structure freeing up space in the rooms, onions in the storage structure kept better and rot did not spread as quickly as it did amongst onions stored in bedrooms.



Of the 100% that stored onions, about 50% stored it up to 1.5 months and realised between 110% to 200% increase in income at the time of sale. A further 35% stored for up to 3 months and realised between 201% to 400% increase in income. About 15% stored their onions for over 4 months and realised 500% increase in income. Beneficiary farmers of the storage structures who could not crop the requisite acreages due to family emergencies (sickness or death), still bought onions in

the bumper season to store to take advantage of the high off season prices. By the project insisting on equal ownership (50% each) of the demonstration storage units by men and women, not only have the women been empowered to benefit directly from the high off season prices, important cultural barriers have been removed and the point proven that women can also easily construct, own, operate and manage these family-based storage structures to generate critical off-season income to support their families. Nearly all the farmers have indicated their commitment to invest and add to the number of storage facilities in the coming year. Farmers who did not benefit have also witnessed the advantages of storage and have shown interest in investing in their own storage structures.

Burkina



Based on the successful construction of the 34 storage structures in Ghana, the Architect visited and spent about 10 days in Burkina Faso with the four onion unions to redesign their existing and expensive storage structure made of steel with local materials thereby making it relatively cheaper and easily adoptable. Originally, 10 structures

were constructed, two per union and two at the Union headquarters in Batondo, under the supervision of the Architect. Subsequently, an additional 36 have been constructed by the farmers bringing the total to **Forty-six (46)** different sizes of the family level structures with capacity to store varying quantities of onions. The structures can store **2.5MT to 7MT of Onions**. With the redesigning and use of local materials, the cost of the steel structure has been reduced drastically by a margin of **81%, from FCFA700, 000 (US\$1,556) to FCFA 130,000 (US\$289)** making it more affordable and exciting for farmers to invest in. Farmers were trained on the construction through hands-on experiential learning. In all, demonstrations were conducted in 8 sites, two per union, for about 230 farmers from the union and larger community. A total of **1,840 farmers** capacities were built in storage construction and good post-harvest management.

Producers could not store enough onions in the needed critical mass due to the heavy down pour of unexpected rains just before harvesting rendering onions unsuitable for storage. Data on adoption and increased income from storage will therefore be realised in the upcoming onion season. For trial purposes, 9 bags of 100kgs each were stored in 5 structures. These onions were sold in September at an average price of \$130 per bag representing more than 160% price increase over the price at the time of storage of \$50/bag. Generally, prices of onions vary from **FCFA 8,000 (US\$18)** per bag to about **FCFA 80,000 (US\$ 178)** over the bumper to the lean season in Burkina Faso.





Figure 9: Farmer Visits and provision of technical training on need for curing and sorting before storage

2.4.2 Output



- i. **3,000** illustrated posters on Postharvest Practices on Onion were developed and printed for the training on Postharvest practices.
- ii. **300 illustrated** community posters on different storage structures were printed and distributed to beneficiary communities.
- iii. About **1,300 and 1,840** farmers in Ghana and Burkina Faso respectively had their capacities built in good post-harvest management and construction of family-based storage structure. Over 30% of farmers trained in Ghana adopted and implemented good post-harvest management practices. Adoption of post-harvest practices in Burkina Faso could not be assessed due to the loss of the season's crop from the heavy downpour of rains in April.
- iv. **34 small family size level** storage structures valued at **US\$200** each constructed in Ghana for communities that previously stored only in their rooms.
- v. **46 medium and large family size** storage structures (made from local materials; mud and sticks) valued at **US\$140 -US\$260** constructed in Tenado department for four Onion Unions in Burkina Faso. These structures were easily adoptable as it was cheaper compared to existing **Steel Structures costing US\$1,400**.
- vi. Selected beneficiaries of the storage structure in Ghana who sold in July recorded **400% increase in Price** up from **US\$25/bag** in March to **US\$100/bag**, whilst the few who were able to store till September obtained 500% price increase. With the current results and the high adoption rate observable from the July monitoring , 10,000 producers both in Ghana and Burkina stand to gain additional **US\$7.5 million** by storing onions for just 3-6 months in the simplified family level structures developed.

Direct Outcome of the training

Success Story from the Field in Ghana

<p>From no or Improper storage</p>	<p>TO</p>	<p>Appropriate onion Storage structures</p>
	<p>Beneficiary communities that were long saddled with the challenge of where and how to store were happy to see this simple and low cost structure developed for onion storage.</p> <p><i>“I observed that rotting onions from the storage structure did not spread to affect other healthy onions as was usually the case with storing on the bare floor of our rooms” Osman Maria</i></p>	
<p>UNDP/AFIM----ASNAPP----TRIAS</p>		

Success Story from the Field in Burkina Faso

		
<p>CFA 700,000 (Steel Technology)</p>	<p>“We are happy and will want to invest into more of the structures as it is much cheaper now” farmer Unions</p>	<p>CFA 130,000 (local materials; wood & mud)</p>
<p>UNDP/AFIM----ASNAPP----FEPA/B</p>		

2.5 To increase access to finance by onion producers and other chain actors

GHANA

2.5.1 Micro-finance Study

A micro-finance assessment was commissioned in Ghana to provide an understanding of the cash flow and financial requirements of onion farmers in order to enable the project to develop suitable financial products for farmers in collaboration with the MFI's located in the project areas. ASNAPP and TRIAS composed a technical team made up of micro-finance expert from TRIAS, ASNAPP value chain expert and selected rural banks to undertake the financial study to design an appropriate financial model for the onion value chain actors. The decision to compose an in-house technical team was informed by the need to draw on experiences of on-the-ground partners and collaborators with relevant in-depth industry knowledge and appreciation of the local situation and context. The study covered UNDP/AFIM supported farmers and a complimentary project on onions funded by CIDA/MLGRD. The UNDP/AFIM project supported the provision of family level structures while that of CIDA/ MLGRD focussed on community storage structures.

The aim of the study was to recommend strategies for effective and efficient credit linkage facilitation between financial institutions and actors within the onion value chain project currently being implemented in the Bawku-West district. It was anticipated that the implementation of the financial model will contribute to increased access of credit by the project target beneficiaries.

Specific objectives:

1. To conduct rapid assessment on the current financial model and or loan products available to the onion value chain actors in the Bawku West and Garu Tempene districts of the Upper East region.
2. To identify the financial gaps of the actors within the onion value chain
3. To design a financial model and loan products that are tailored to the needs of the actors within the onion value chain

Summary of the Study Scope and Interactions

The study covered two onion producing districts namely: Bawku West and Garu Tempene. Two (2) RCBs (Bessfa and Toende), 10 input suppliers (dealers), 22 onion traders (wholesalers and retailers), 61 individual onion farmers and 21 onion farmers' groups were interviewed. It afforded the banks an opportunity to interact with onion value chain actors and to better appreciate the specific challenges of these actors as it relates to onion production, trade and financing in their operational areas. It also enabled the banks to assess the level and quality of storage infrastructure (both community and family-based) available to support longer term lending. The farmers were also presented with a detailed understanding of the bank requirements and evaluation criteria for effectively assessing credit facilities

and how they ought to modify their operations and develop their capacities in order to successfully access credit.

i. Key Findings from the Study

Value chain actors' perspective

About 93.4% of the farmers interviewed had not taken a loan facility of any kind from any financial institution. 95.5% of the traders interviewed had accessed loan facility from financial institutions whilst only 30% of the input suppliers had accessed a loan facility from financial institutions. Onion traders seem to have increased access to financial services compared to the input suppliers and farmers.

With respect to the challenges faced by the actors in accessing finance, 63.9% of farmers indicated high interest rates as a major concern. Input suppliers on the other hand, reported of high interest rate and collateral requirement as challenges to access to finance. Although the findings of the study point to increased access to finance by the traders, they complained of collateral requirement and reduced loan size.

In an effort to address the challenges associated with access to finance, the actors made suggestions for increased adoption. These are, provision of loans through alternative forms of collateral, reduction of interest rate, reaching out to new communities and opening of savings accounts for the farmers, traders and input suppliers.

It was found that the adoption of the proposed actions will contribute to increased access to financial services among value chain actors. This is evident in affirmative response to the question “*would you like to access loans from the RCBs?*”. Over 90% of the actors indicated working capital loan as their preferred loan product.

From RCBs' perspective

The two (2) RCBs were found to have some experience with value chain financing. This is facilitated by their collaboration with other development organizations. However, their decision to lend within the agricultural value chain is usually not influenced by scientific methods and appraisals. In view of this, tools such as value chain map, onion production calendar and cash flow statements were presented and discussed. Based on the analysis of the value chain map, it was found that the transactions within the value chain generated positive IRR. This implies that investment in the onion value chain is profitable.

ii. Outputs from the study

A major output of the study has been the development of loan products. This stage of product development is still ongoing and various products are being pilot tested. Four loan products have been developed. The first financial product that has been developed and is being pilot tested is the ***Onion storage facility loan product***.

Onion storage facility loan product:

This is a loan product granted to the borrower when he/she stores his or her produce in an approved storage structure as loan collateral. Borrowers (farmer/traders) deposit their onion in an approved storage structure and receive a receipt certifying the deposit of the produce of a particular quantity, quality and grade. The farmer can use the receipt as collateral to request for loan from the RCB. Additionally, the farmer groups will guarantee for their members using the group as the collateral.

With the expansion of storage infrastructure at the community level through the introduction of affordable family-based storage provided under SOPMEP, UNDP and the community storage provided by the CIDA/MLGRD and following the MFI study, product development and interactions, the bank reassessed onion producers and groups from the project area and proposed to offer 3 months credit lines with an average loan size of GHC400 (\$200) at an interest rate of 28% per annum.

To date, about 19 groups out of the 23 from 2 UNDP assisted communities in the Sapeliga district, with a membership of 400, have been profiled and their details forwarded to the Bank. Currently, the bank has approved a first installment of ghc27,640 (USD13,820) for disbursement to 150 farmers with others being processed. Additionally, International Development Enterprise, a US NGO, operating in the last community in the Sapeliga district, with 13 farmer groups and membership of 300, is assisting these farmer groups to obtain credit from the rural bank to acquire water pumps to support their production activities.

Prior Experience of Credit Provision by an MFI in Ghana

Toende Rural Bank is a key MFI partner under SOPMEP and was established in 2005 in Zebilla in the Upper East region of Ghana with elders of the town as shareholders. The bank now boasts 3 active branches in Zebilla, Bawku and Bolgatanga. In 2006, the bank got approval for credit delivery to farmers and SMEs. TRIAS provided support to the bank towards development of its credit verification system in 2009. The bank has mostly been providing lending to SMEs, especially that of the construction sector, and in more recent times, has started providing agricultural credit.

Criteria to access agriculture micro-credit

- A farmer must belong to a group (unregistered)
- Farmers must belong to one community and have a good knowledge of each other
- A group needs to be recommended by a partner organization or NGO
- There must be an existing group account to encourage savings
- Submit a draft application developed by the group with support from the bank

Credit Access and Uses by Farmers/Traders

Turnaround time for processing micro credit for an old group is 3-4 days and two weeks for a new ones.

Additionally, the groups capacity are built in Group dynamics and record keeping to enhance credit repayment and peer monitoring. Interest charged is about 28% per annum. 1% of the interest charged is retained in the group account to support the activities of the group. In advancing loans, the bank pays directly to the input dealers who intend supply the needed input on the request sheet to the selected farmers. The bank records 96-97% recovery for all agricultural loans in contrast to the commercial sector which posts a recovery rate of less than 50%.

In 2008, the bank disbursed GHC11,500 to 7 onion farmer groups and GHC15,000 to 9 farmer groups in 2009. However, during 2010-2011, the bank did not disburse any loans as a result of bad debts resulting from poor onion prices and lack of storage facilities. In 2012, the bank disbursed GHC 1,696,013 (roughly US\$850,000). So far, the bank has a total of 4,260 clients who are farmers. Average loan sizes during 2012 ranged from GHC 500-600.

Other Programmes the Bank is involved in

- The bank is implementing a value chain financing model for the Maize, Soya bean and Sorghum commodities which has been very successful. This model has VC committee for all the products who meet and work to improve the life of farmers. (MOFA, Traders, Tractor Services, ACDEP, Banks and Farmers)
- The bank also advanced Commercial loans to traders who require higher capital and has provided a maximum of GHC10, 000 at an interest rate of 28% to an individual.
- The bank is currently pilot testing a life insurance and agric insurance programme for customrrs.

Major Challenges faced by the Bank

- Inadequate staffing to support wider coverage
- Low rates of returns on debts by the commercial sector
- Lack of guarantees to cushion risks on lending
- Operational costs of monitoring loans

2.5.2 Training of Onion farmers on the ABC of Finance

With the development of a financial product for producers in Ghana which is being pilot tested, the project team organised training sessions for 10 TOTs on the ABC of loans which focussed on the accessibility of credit, types of credit, **do's** and **don'ts** on credit use and responsibility associated with accessing credit. The TOTs then organised two days follow-up trainings for 1,150 producers in Sapeliga and Binaba communities with 55% being women. Each TOT was provided with illustrated guides for the trainings. This facilitated training and knowledge exchange as the materials were simple to use and had more pictorial presentations. The detail report is attached.



TOT/FARMER TRAINING WORKSHOPS IN MFI IN GHANA



BURKINA FASO

2.5.3 MFI exchange and training

The MFI expert from TRIAS together with ASNAPP facilitated a meeting between Caisse Populaire and the onion producers associations to explore potential and untapped credit facilities available to farmers. The meeting sought to deepen the understanding of Caisse Populaire on the financial constraints associated with the Onion Value Chain in Burkina.

The four sessions training/exchange lasted two days for the onion groups of Bavila, Batondo, Koukouldi and Ténado. A total of 687 producers were trained with 45% being women. The training Report is attached.



Delegation from Ghana



Representatives of Caisse populaire



Participants of Ténado



Participants of Batondo

2.6 To Foster regional collaboration and monitor progress of work

The Regional onion value chain is characterized by high seasonality and major structural and organizational inefficiencies that hamper the ability of producers in West Africa to fully satisfy sub-regional market demand throughout the year. This has enabled other more efficient, higher value producing countries from the EU and Asia to exploit what is a growing competitiveness gap by targeting West Africa's markets, particularly during the off season months when the region imports over **288,000MT (valued at over US\$200 million)** from the EU to supplement the regional deficit.

As part of the process of deepening the gains realized under SOPMEP, ASNAPP was expected to organize a regional workshop with the objectives of exploring the establishment of a regional onion knowledge sharing and interaction platform to develop and strengthen the onion value chain in the sub-region and boost the region's competitiveness to take better advantage of the region's market potential currently exploited by Europe and Asia.

2.6.1 Approach

With support from UNDP/AFIM, the Workshop on Promoting Regional Competiveness of Onion Production and Marketing in West Africa was held at Pacific Hotel in Ouagadougou, Burkina Faso on October 28 and 29, 2013 under the leadership of Agribusiness in Sustainable African Plant Products (ASNAPP) in close collaboration with ECOWAS, UNDP Burkina, the Ministry of Industry, Trade and Craftmanship of Burkina Faso, the Fédération des Professionnels Agricoles du Burkina (FEPA/B) and TRIAS Ghana. In line with securing funding for the workshop and soliciting buy-in, the organisers also sought support from UNDP country offices to provide travel support to country representatives attending the workshop.



Figure 10: Plenary session of the Regional Workshop

The following were the major specific objectives of the workshop:

- Identify gaps and constraints that hamper the ability of producers in West Africa to fully satisfy sub-regional market demand throughout the year.
- Develop regional strategies to take advantage of the high prices in off seasons and satisfy the sub-regional market demand throughout the year.
- Share findings and draw lessons from the SOPMEP catalytic project on the rate of adoption, benefits of adopting Good Agricultural and Postharvest Practices, the challenges and way forward with stakeholders in the sector.

Expected results of the workshop

Key outcomes expected from the workshop included:

- The Roadmap for the establishment of a Regional Knowledge sharing platform/exchange developed
- Lessons learnt from SOPMEP incorporated in development agenda of development organizations and producer associations in the region
- Identification and definition of follow up activities based on the recommendations of participants

Day 1 of the workshop focused on presenting findings from the implementation of SOPMEP, discussing crosscutting challenges associated with onions in West Africa and exploring possible areas of collaboration to make onions in West Africa more competitive whiles Day 2 focused on group work and discussions on three main aspects of the West African Onion value chain, namely production/productivity, post-harvest and market competitiveness with participants tasked to come up with clear analysis and outline of critical issues, recommended action plans and responsible persons/institutions.

2.6.2 Output

- The workshop brought together representatives from trade and producer associations from the following countries: **Ghana, Burkina Faso, Niger, Togo, Mali, Senegal and Nigeria.**
- Regional experts and other stakeholders were also present to share their views on successful business models that have the potential to make onions from West Africa more competitive. The workshop registered a total of 51 participants.
- The welcome and opening ceremony of the workshop was chaired by the Minister of Industry, Trade and Craftmanship of Burkina Faso, Patiendé Arthur Kafando. It was co-chaired by the UNDP representative for Burkina Faso, Pascal Karorero; Director for Private Sector - ECOWAS, Alfred Braimah; and UNDP/AFIM Programme Specialist, Pascale Bonzom. Key note address by the chair can be found in the workshop report.
- Presentations were made by SOPMEP project implementers and key stakeholders on the topics below:
 - Overview of the SOPMEP Project and of the workshop purpose and agenda
 - The Role of a Value Chain facilitation and Regional Networking Platform in enhancing cross border trade

- The competitiveness of onion production and trade in West Africa -Trends, opportunities and challenges
 - Productivity Enhancement in Onion production and Storage
 - Presentation on the economics and success stories on the adoption of the improved storage facility
 - The role of partnerships in ensuring project success
 - Producer Associations and their role in the extension of improved technologies and ensuring effective project management
 - The role of Micro Finance & Agriculture Insurance in the Onion Value Chain
- v. Breakout sessions were organized on the second day of the workshop to discuss specific issues and propose pragmatic solutions. Participants were grouped into three to deliberate on the thematic areas below:
- Group 1: production related issues (seed, diseases & pests, techniques, research, incentives for attracting private sector, etc.)
 - Group 2: post-harvest handling (storage technologies, access for small and large scale producer, adapting to local condition, quality system, processing, attracting private sector, etc.)
 - Group 3: market and competitiveness (planning, market information system, market infrastructure, private sector, etc.)
- vi. To move the process forward, workshop participants agreed on a road-map that includes the following actions to be taken in the short term:
- Synthesis of the workshop recommendations and actions (Appendix 2) - Workshop report, to be coordinated by ASNAPP.
 - Submission of a concept note to ECOWAS (by UNDP/AFIM and ASNAPP) seeking audience to deliberate on the way forward.
 - Development of a proposal brief to ECOWAS and other development organizations covering key priority areas to be addressed at both the national and regional levels. Each participating country was tasked to widen consultations back home to develop a comprehensive national competitiveness strategy which will then be consolidated and expanded into a regional strategy.

In the closing ceremony, all speakers expressed their thanks to the organizers of the workshop. ECOWAS, UNDP and the Ministry of Industry, Trade and Craftmanship of Burkina Faso guaranteed their continuous support for follow-ups to this workshop as a successful onion value chain could significantly contribute to food security, develop commercial opportunities for Sahel countries to entrench good governance, food security and peace as well as drive private sector development.

At the end of the two (2)-day workshop, assessment forms were given to the participants to express their views about the workshop, its organization and the content and performance of the facilitators. The survey was divided into two parts. The first focused on assessing the quality of the workshop organization and the second focused on the content of the presentations and materials presented at the

workshop. The outcome of the survey revealed that over 70% of respondents of the respondents rated the organization, content and facilitators are good and excellent with less than 30% rating the workshop as acceptable and unsatisfactory.

2.7 Monitoring

Planned periodic monitoring and evaluations are critical to the success of any project. They not only provide valuable inputs for assessing progress of work but also help in deciding whether investing in such projects and current approaches employed are worthwhile or that alternative approaches be considered. Monitoring and Evaluation has therefore become a key component of any meaningful project in order to track changes in program performance over time and the project contribution towards the attainment of its objectives and goals that will either lead to a continuation of the project by adopting same approach or a revision of strategies.

2.7.1 Approach

Three different levels of monitoring were implemented by the Project. The first level of monitoring was undertaken by field coordinators who were contracted by the project to provide on-the-ground support and guidance to farmers and to ensure new knowledge and skills taught were being implemented. They visited the farmers' fields to supervise their activities, clarify issues and work with them to resolve any difficulties and to refer unresolved issues for redress by project team. They provided regular updates on progress of work through project partners. Also, in Ghana, the staff of Ministry of Agriculture were engaged to assist the field coordinator in monitoring follow-up trainings by ToTs to ensure knowledge transferred was consistent with that taught as well as provide on-farm extension support and monitoring. The operations of the field coordinators and MOFA staff were assessed by a second level of monitoring which was conducted by the head office of project implementing partners who paid monthly visits to supervise and ensure implementation of planned activities and work with front line staff to resolve challenges whilst feeding back developments to project team.

The third level of monitoring was quarterly monitoring which was undertaken by the ASNAPP team together with implementing partners to assess the progress of work. During these visits, ASNAPP took the opportunity to discuss with partners on possible opportunities and challenges to the project implementation. In the field, the team interacted with farmers to appreciate their challenges and also inspect activities undertaken and compare against project targets.

Outputs of this activity has been limited to key observations made during the third level of monitoring which were conducted in January, April, July and September 2013.

2.7.2 Output

Burkina Faso

- The project got off to a slow start as the selection of participating farmers and ToTs took longer than anticipated. There were also managerial challenges with project implementation as the focal project persons hadn't been clarified by FEPA/B, the lead implementing partner in Burkina Faso. The first monitoring visit in January therefore provided the forum for these emerging issues to be thoroughly discussed and afforded the project team an opportunity to work through the challenges with FEPA/B, outline the key areas of attention and re-establish mechanisms for effective and timely communication.
- The project team conducted a second monitoring visit in April mainly to assess the rate of adoption of good agricultural practices. About 1,442 farmers (including ToTs) were trained and of this number about 30% were implementing recommended practices. The team noted the difficulty of adoption of row planting by farmers cultivating in sunken beds around wells, whereas farmers that grew by the river with irrigation systems showed higher adoption rates. The former were of the view that due to the curved shape of sunken beds and limited space available for planting within each bed, densely populated cropping will give better result. Attention of the farmers were drawn to the fact that, the haphazard planting, as opposed to row planting, result in significant yield losses because of the reduced size of onion bulbs and time-consuming and difficult nature of maintaining such farms. Further GAP trainings and demonstrations will be needed to reinforce the benefits of adopting recommended practices and to help shift long held cultural beliefs and practices. During this visit, FEPA/B also requested that arrangements be made for the Storage structure fabrication expert from Ghana to come and work with the team to develop reasonably priced alternatives to the existing steel structures used.



Figure 11: Monitoring visits in Tenado Department of Burkina

- Production records for the 2012/2013 season show an appreciable average increase in total yield/ha of 24.4MT/ha compared to the previous year of 20.5MT/ha across the four Unions among the 30% farmers that instituted good agronomic practices. One union however recorded lower average yields than recorded for the baseline.
- Follow-up visits in July 2013 on the storage structures showed farmers' were unable to store their onions as harvesting was preceded by a heavy downpour of rains which made the onions unsuitable for storage. The structures will be put fully to use in the next onion season. The flooding was particularly bad on the sunken beds designed to hold and preserve water, in the

driest months of the year, and which therefore acted as reservoirs resulting in significant rot of onions. Farmers need to keep an eye on this event and should it be repeated, would need to modify their production system to accommodate these destructive incidence.

- No assessment could be undertaken on the adoption of good post-harvest practices due to the loss of crop.
- During final monitoring visit paid in September, it was noted that the 900kgs of onions stored on a trial basis had been sold at an average of \$130 per bag (100kgs). This represent an over 160% increase in the price at storage in May of \$50 per bag.

Ghana

- The first monitoring visit was conducted in January to assess progress of work by partners and evaluate the adoption of good agricultural practices amongst farmers trained. Monitoring visits to farms in Ghana showed almost 90% adoption rate for row planting in Binaba and about 20% in Sapeliga. A major obstacle to the adoption of row planting for the Sapeliga farmers was the unreliability of planting stock. Farmers are not sure about the germination and seedling survival rates (as most of the seed stock is raised by the farmers and not certified). Farmers therefore hedge their risk by planting more plants than is necessary and this can negatively affect yields. Though not a focus of this project in this first phase, the issue of certified or well self-raised seed stock needs to be addressed for the full impact of the project to be realized. The high success rate recorded in Binaba was also attributed to the dynamism of the MOFA staff in the community who provided timely support compared to the agent at Sapeliga. Overall, about 38% of farmers trained implemented improved production techniques and good agricultural practices.



Figure 12: Farm Visits in Ghana

- Second monitoring visit which was conducted in April to assess adoption of good post-harvest practices showed most farmers had harvested and were curing onion for storage while some sold. About 30% of farmers were implementing good post-harvest practices. The team discovered that the majority of farmers were not adhering to the recommended practice of properly airing and strictly sorting onions before putting into long term storage. The impact of

circumventing this process was reemphasised by the team but further follow-up training and supervision will be required for adoption rate to increase.

- Follow up visits in July showed a 100% utilization of 34 demonstration structures provided by the project. Farmers stored an average of 10 bags and stored onions for one and half to over four months. Computation from end of season data show that out of 387 bags produced by beneficiaries of the storage structure, 330 bags were put into storage. By July, 298 bags had been sold at between \$30 and \$100 valued at approximately \$17,050. By September, the remaining 15% of onions in store were sold at an average of \$150 per bag valued at \$4,800. This brought the total value of stored onions to \$21,850 compared to the \$8,238 farmers would have realised from selling the 330 bags at the time of harvest for about \$25/bag.
- Data computed from final monitoring visit in September on end of season yields also showed an appreciable increase in yield from baseline of 2.9MT/acre to between 3.7MT and 5.5MT/acre (increases of between 30% and 90%) for farmers that adopted row planting and other good agronomic.

3.0 OBSERVATIONS AND COMPLEMENTING PROJECTS

- The UNDP/AFIM Project has achieved some catalytic effect by impressing on the TRIAS Belgium office to establish a cross border project in Ghana and Burkina in Rice and Onion Value Chains and create a regional office in Burkina Faso. This idea was initially thought not to be feasible until some level of success was reported after the first 3 months of implementation of the UNDP/AFIM cross border onion project. TRIAS is currently getting the last approvals to set up its new office in Burkina Faso.
- TRIAS is also implementing similar projects for Ministry of Local Government and Rural Development (MLGRD) in Ghana for 2,500 farmers in the Upper West region. This is a 3 year project which includes the provision of subsidized fertilizer to farmers to increase production. This is expected to compliment and increase the geographical scope of this project.
- The introduction of family level storage structure by UNDP/AFIM Project is redirecting the focus of the CIDA/MLGRD project from the provision of community storage structures (which are more problematic in its management) to that provided by ASNAPP/TRIAS under the UNDP/AFIM Project.
- FEPA/B has institutionalised the trainings on GAP and PHP trainings to be part of the federation's calendar of activities. With the needed financial support, this is expected to impact greatly on the production of onion in Burkina as it has large producer unions.
- The project by CIDA/MLGRD paid for the services and fuelled the motor bikes of extension officers to provide services to farmers under the UNDP project as well as secured subsidies fertilizer for the beneficiaries. These contributed to alleviating the weakness in the SOPMEP Project.

4.0 Lessons learnt

- Most of the success chalked in Ghana, were due to complimentary projects that provided funding support to different aspects of the project that SOPMEP did not fund while in-kind contribution from FEPA/B in Burkina also saw the successful execution in the Tenado Department. A project involving a large multi-stakeholder participation has high cost associated with all the facilitation processes and should thus be considered in funding similar projects in the future. Though advantage can be taken of the network and expertise of local implementing partners like the Ministry of Agriculture district office in Ghana, to support and facilitate farmers' capacity building, such agencies are severely constrained by lack of resources and hence without support and provision by the project are unable to effectively provide the needed assistance and local institutionalisation desired.

- UNDP/AFIM should secure and work towards the UNDP Country Offices committing to support similar and future projects to ensure the catalytic effect is felt by a greater number of beneficiaries.
- There is also a need to address the language barrier challenge by translating existing material into local languages or using pictorials that can be easily understood by community households in both countries.
- The appropriateness and cost effectiveness of the storage technology introduced made it easy to be adopted by farmers
- Though SOPMEP achieved significant success in the limited time, limited budget constrained reach and impact of project. The foundation for intervention effectiveness has been established to attract further support for deepened impact.
- Onion is an important crop in the sub-region for ensuring income generation, employment creation and food security and can help contribute to peace. Issues of low productivity, limited access to good storage facilities and post-harvest management, finance and market information systems and infrastructure coupled with challenging trading environment are widespread among all the major producing countries in the sub-region rendering the region un-competitive. A region wide approach to solving these challenges backed by viable country strategies remains the only effective solution.

5.0 Issues requiring Urgent attention

- Scaling-Up of Interventions on GAP and Postharvest/Storage
- Increase access to Improved Planting Materials (seeds)
- Availability and Access to Agro inputs
- Addressing, in a coordinated manner, issues relating to Competitiveness of Onions at both the national and regional levels

6.0 TECHNICAL RECONCILIATION OF ACTIVITIES

	OBJECTIVELY VERIFIABLE RESULTS (OVR)	RESULTS	VARIANCE
Goal: To reduce poverty and improve food security by increasing Production of onions and Productivity of Onion Value Chain Actors in West Africa	<ul style="list-style-type: none"> 40% of 2,500 producers and other value chain actors income enhanced 		
Objective 1: To reduce postharvest losses, increase market access and incomes of onion value chain actors	<ul style="list-style-type: none"> 40% of 2,500 producers stagger sales to take advantage of minor season prices Incomes of 40% of 2,500 producers increased by 80% 	<ul style="list-style-type: none"> 50%, 35% and 15% of 34 producers supported in Ghana staggered sales by 1.5, 3 and 4+ months respectively to take advantage of high prices 100% of 34 farmers increased income by 110% to 500%+ 	<ul style="list-style-type: none"> Low number of producers reached is as a result of budgetary constraints but high utilization rates and % income increase realised coupled with farmers enthusiasm and commitment to invest in more storage structures should result in greater outcomes in subsequent years
Output 1: Farmers trained on the need to adopt improved storage system and stagger sales for increased income	<ul style="list-style-type: none"> 2,500 small holder farmer capacity enhanced to adopt improved storage system and stagger sales to increase income 40% adopt and invest in improved storage facilities 40% stagger sales to access off season markets and increase income by 80% 10 improved family level 	<ul style="list-style-type: none"> 3,140 Producers trained on the construction of family level storage structures in Burkina and Ghana 100% utilization of storage structures provided in Ghana and farmers have indicated interest to add to storage capacity in coming season 100% of farmers supported with storage in Ghana 	<ul style="list-style-type: none"> Larger scale adoption rate and increased income levels will be captured in following year Burkina yet to utilize storage structures and results will be captured in coming season

	storage facilities established and demonstrated to producers	realised between 110% and 500%+ increase in income	<ul style="list-style-type: none"> 80 demonstration family level storage structures constructed for farmers in Ghana and Burkina Faso.
Activities 1:	<ul style="list-style-type: none"> Inception workshops (Ghana & Burkina) Development and Printing of training materials Post Harvest, Storage and Selling Scenarios (Ghana & Burkina) Construct demonstration storage structures (Ghana & Burkina) Build capacity of onion value chain actors on Post harvest and Storage practices (Ghana & Burkina) 	<ul style="list-style-type: none"> 2,500 training materials printed 10 improved family level storage facilities established and demonstrated to producers 2,500 onion value chain actors capacity built on Post harvest and Storage practices 	<ul style="list-style-type: none"> 3,000 Posters of Post-Harvest Practices (1,500 English and 1,500 French) printed. Also, 300 Posters on Storage and Selling Scenarios Printed (150 English and 150 French) 80 demonstration family level storage structures constructed for farmers in Ghana and Burkina Faso. 3,140 Producers trained on the construction of family level storage structures in Burkina and Ghana and need to adopt improved storage system
Objective 2: To increase access to finance by onion producers and other chain actors	<ul style="list-style-type: none"> 150 chain actors linked to microfinance institutions 	<ul style="list-style-type: none"> Over 400 farmers from 32 farmer groups, profiled and linked to MFIs. About 150 have had their facilities approved 	
Output 2: Onion value chain actors trained on sourcing credit from financing institution	<ul style="list-style-type: none"> 2500 farmers trained on sourcing credit from financing institution 150 value chain actors linked to MFIs 	<ul style="list-style-type: none"> 1,837 farmers trained on sourcing credit from financial institutions Over 400 farmers from 32 farmer groups, profiled and 	<ul style="list-style-type: none"> Not all farmers in Burkina could be reached due to time constraints but FEPAB has undertaken, together

		linked to MFIs. About 150 have had their facilities approved.	with Caisse populaire, to continue with the exchanges and work to make credit available to farmers.
Activities 2: <ul style="list-style-type: none"> • Conduct rapid assessment to design appropriate microfinance products for value chain actors in collaboration with MFI's in Ghana • Build capacity of onion value chain actors on financial and business management and sourcing micro credit (Ghana & Burkina) 	<ul style="list-style-type: none"> • 100 training materials printed • 2,500 onion value chain actors capacity built on financial and business management and sourcing micro credit • Identification and development of appropriate finance products for value chain actors 	<ul style="list-style-type: none"> • 120 training materials printed • 1,837 farmers in Ghana and Burkina Faso trained on sourcing credit from financial institutions • MFI Study undertaken and 4 financial product developed and pilot tested. 	<ul style="list-style-type: none"> • Only 50% of farmers (637) in Burkina Faso reached due to time constraints but FEPAB will continue to work with Caisse Populaire to reach remaining farmers
Objective 3: To strengthen the Capacity of producers on Good Agricultural Practices	<ul style="list-style-type: none"> • 40% of 2,500 producers increase yield by at least 10% 	<ul style="list-style-type: none"> • 38% of 1,212 farmers trained in Ghana increased yield by between 30% to 90% • 30% of 1,442 producers trained in Burkina Faso increased average yield/ha by 17% (from 20.5MT/ha to of 24MT/ha) 	<ul style="list-style-type: none"> • Only 1 set of training could be provided. Ghana realised better results because project started on time and field coordinator had more contact time with farmers. Also, MOFA provided invaluable support
Output 3: Producers trained to adopt Good Agricultural Practices and increase yields	<ul style="list-style-type: none"> • 60% of 2,500 producers adopt GAP and good post-harvest practices 	<ul style="list-style-type: none"> • About 38% and 30% of farmers in Ghana and Burkina Faso respectively trained adopted good agronomic practices whilst 30% in Ghana followed 	<ul style="list-style-type: none"> • The low adoption rate can be explained by the limited training and hand-holding guidance provided to farmers due to budgetary constraints.

		recommended post-harvest practices.	ToTs received one-off training and they in turn were able to provide one-off training to colleague farmers. One coordinator had responsibility for over a 1,000 farmers making effective follow-up difficult.
Activities 3:	<ul style="list-style-type: none"> • Development and printing of GAP Materials (Ghana & Burkina) • Conduct capacity building on GAP- workshops and farmer exchanges (Ghana & Burkina) 	<ul style="list-style-type: none"> • 2,500 training materials printed • 2,500 onion value chain actors capacity built on GAP 	<ul style="list-style-type: none"> • 3,000 Posters of GAP (1,500 English and 1,500 French) printed and 50 training manuals printed as guides for ToTs 2,654 Producers (ToTs and farmers) in Ghana and Burkina trained on Good Agricultural Practices
Objective 4: To Foster regional collaboration and monitor progress of work	<ul style="list-style-type: none"> • At least 2 consultative meetings held amongst Ghana, Burkina and Niger project collaborators 	<ul style="list-style-type: none"> • Regional consultative workshop involving 50 participants from 8 West African countries held. 	<ul style="list-style-type: none"> • A regional workshop held instead to widen stakeholder consultation
Output 4: Outline Regional Expansion Project involving Niger and Benin			
Activities 4:	<ul style="list-style-type: none"> • Hold consultative meetings (with Niger & Benin) • Monitor projects to assess impact (Ghana & Burkina) • Create a Regional Working 	<ul style="list-style-type: none"> • One consultative workshop for program expansion held 	<ul style="list-style-type: none"> • A regional workshop on Promoting Regional Competitiveness of Onion Production and Marketing in West Africa

**Group & Knowledge
Exchange Platform**

(SOPMEP) was held in Ouagadougou for 50 participants, including producer associations, traders, researchers, government representatives and development partners, from eight West African Countries.

7.0 APPENDICES

Appendix 1: GHANA- RECORDS ON THE 34 FARMERS HAVING THE FAMILY BASED ONION STORAGE STRUCTURES AT SAPELIGA AND BINABA

NO.	Name	Sex	community	No. acres	No. bags harvested	Total # of bags stored	Total # of bags sold	Total Amount bags sold(Gh¢)	Total # of bags remaining in storage	Total cost of inputs/materials / labor Gh¢
1	Issaka Ramani	M	Binaba	2	30	30	10	600.00	20	592.00
2	Apam Ayaab	M	Binaba	0.5	3	2	3	260.00	-	170.00
3	Atampuba Akudugu	M	Binaba	0.5	5	5	4	600.00	-	127.00
4	Apam Amoro	M	Binaba	0.5	6	6	5	510.00	-	158.00
5	Kasim John	M	Binaba	0.5	4	4	4	400	-	250.00
6	Adanaba Tonsul	M	Binaba	0.5	13	13	-		13	198.00
7	Cletus Avoka	M	Binaba	0.5	1.5	1.5	1	180.00	-	102.00
8	Tonsul Haruna	M	Binaba	1	10	10	7	1050.00	3	256.00
9	Issaka Akologo	M	Binaba	0.5	4	4	4	600	-	166.00
10	Issifu Salifu	M	Sapeliga	1	10	10	10	1500.00	-	295.00
11	Mustapha Yakubu	M	Sapeliga	1	19	19	19	2385.00	-	432.00
12	Mumuni Safura	F	Sapeliga	0.5	7	5	6	430.00	1	240.00
13	Alhassan Yariha	M	Sapeliga	3	25	20	23	1450.00	-	403.00
14	Abdulai Fati	F	Sapeliga	0.5	3	2	3	600	-	330.00
15	Braima Kriben	M	Sapeliga	2	30	9	17	1020.00	8	725.00
16	Ben Memuna	F	Sapeliga	1	4	4	-	-	4	253.90
17	Sumala Habiba	F	Sapeliga	1	17	13	8	470	5	303.00
18	Sumaila Hassana	F	Sapeliga	1	8	5	3	180.00	5	389.00
19	Awudu Agambilla	M	Sapeliga	1	6	6	6	600	-	239.00

20	Azuwa Mamudu	M	Sapeliga	1.5	9.5	9	9	560	-	196.00
21	Osman Maria	F	Sapeliga	0.5	5	5	-	-	6	170.00
22	Issaka Malia	F	Sapeliga	0.5	3	3	3	380	-	145.00
23	Ibrahim Shera	F	Sapeliga	0.5	5	5	5	570.00	-	175.00
24	Damani Beli	M	Sapeliga	1	25	24	24	1320	-	1022.00
25	Mumuni Avoka	M	Sapeliga	1.5	21	21	21	1470	-	395.00
26	Issaka Teni	M	Sapeliga	1	6	6	6	360	-	375.00
27	Hamadu Hassana	F	Sapeliga	1	14	14	14	1225.00	-	302.00
28	Dago Wilimpoka	F	Sapeliga	0.5	5	5	-	-	5	231.00
29	Alhassan Haruna	M	Sapeliga	1	10	10	10	740.00	-	400.00
30	Karim Sheitu	F	Sapeliga	0.5	4	4	-	-	4	307.00
31	Salam Tahiru	M	Sapeliga	1	10	9	9	1150	-	357.00
32	Hamadu Haruna	M	Sapeliga	2	34	21	33	3620	-	598.00
33	Mohammed Alizetu	F	Sapeliga	0.5	10	6	4	240	6	322.00

NB: The number of acreages reported by farmers is usually half the size. The acreages above as reported by the farmers is therefore in excess of what was actually cropped. The sizes are smaller as tractor service providers plough a limited area (say half an acre) and charge fees for higher for one acre.

Burkina: Production Data for Burkina for 2012/2013 season is separately attached to this Report.

Appendix 2: Summary of Group work/discussions at regional workshop

GROUP 1

TOPIC: PRODUCTION OF ONION

- 12 members from 8 countries
- Moderator: Francis Kusi
- Secretary: Joel Aiki

ISSUES OF DISCUSSIONS	RESPONSIBLE
1. SEEDS	
i. Need to increase the use of improved varieties of onion across the sub-region ii. Identification of local varieties with good storability, high yields, diseases/pest resistance for development iii. Need for capacity building in local seed production	- Farmer-based organizations - Research institutes in the different countries - To be coordinated by ASNAPP
2. PRODUCTION TECHNIQUES	
i. Need to strengthen/build farmers capacity on -Better nursery establishment -Better land preparation -Appropriate/adequate use of organic manures/inorganic fertilizers (in respect of purpose) ii. Introduction of drip irrigation technique/option iii. Learn and build upon Moroccan onion production practices and experience	- Team of regional and country researchers - Experienced farmers - Extension agents and technicians - ECOWAS
3. DISEASES AND PEST ISSUES	
i. Adequate training for farmers to be able to identify pest and disease situations on their farms ii. Emphasis on IPM rather than chemical pest control iii. Screening for disease resistant varieties that will do well across the sub-region	- Regional/country research team - Experienced farmers - ECOWAS
4. COORDINATION OF RESEARCH	
i. Establishment of a regional research team (RRT) to coordinate all research work in the sub-region	- ECOWAS - ASNAPP
5. HARMONIZATION OF PRODUCTION TECHNOLOGIES	
i. Establishment of a website as a platform for quick information sharing across the sub-region ii. Production of guides and information papers iii. Exchange visits (for researchers, farmers, Extension agents and technicians) iv. Periodic review meetings	- ECOWAS - ASNAPP
6. PRIVATE SECTOR INVESTMENT	
i. Need for private sector investment in	- ECOWAS

<ul style="list-style-type: none"> • Seed production (hybrid and improved varieties) • Inputs supply • Processing • Storage/storage structure • Transportation (facilities) 	<ul style="list-style-type: none"> - ASNAPP - World Bank
7. ACCESS TO FINANCE	
<ul style="list-style-type: none"> i. Adequate sensitization and training of MFI and Agricultural banks ii. Sharing and Scaling-up TRIAS Ghana' experience in the sub-region iii. Establishment/strengthening of Farmer-based organizations/Commodity associations 	<ul style="list-style-type: none"> - Individual countries - ECOWAS - ASNAPP

GROUP 2

TOPIC: POST-HARVEST

Facilitators: Pascale Bonzom/Robert Nyambaka

ISSUES OF DISCUSSIONS	RESPONSIBLE
1. STORAGE TECHNOLOGIES	
<ul style="list-style-type: none"> i. Identify existing models and their costs in each country, including the importing countries ii. Adapt existing models in Ghana and Burkina to the contexts of different countries iii. Share good technologies that work for each type of producer (small, medium, large) iv. Develop different sizes that meet the different types of producers (small, medium and large) 	<ul style="list-style-type: none"> - Associations of producers in each country + national coordinator in each country - A coordinator at the regional level (e.g. onion platform at regional level) - Associations of traders in each country
2. RESEARCH TO ADAPT STORAGE TECHNOLOGIES	
<ul style="list-style-type: none"> i. A team of regional experts be put together to design localised structures that will best fit the different variations environment across West Africa 	<ul style="list-style-type: none"> - Burkina: INERA - Cote d'Ivoire: MINAGRI, ANADER - Niger: INRAN - Togo: ITRA - Ghana: SARI - Nigeria: NIHORT, NSPRI (National Stored Product Research Institute) in Kano - Senegal: ISRA - Mali: IER - Benin - Regional level: Regional Onion Platform, CORAF
3. POSTHARVEST PRACTICES	
<ul style="list-style-type: none"> i. Develop national strategies ii. Identify existing good practice in each country iii. Develop manuals / tools for the storage of the onion iv. Disseminate at national and regional level (between countries) v. Develop and implement capacity building programs (including exchange visits within and between countries) vi. Organization of exchange visits to countries outside ECOWAS 	<ul style="list-style-type: none"> - Nationally: federations and their partners - Regional level: onion platform and its partners
4. ESTABLISHMENT OF A QUALITY SYSTEM	
<ul style="list-style-type: none"> i. Good practices and storage guidelines must be developed and adhered to – this activity must be linked to point 3 on best postharvest practices 	<ul style="list-style-type: none"> - Nationally: federations and their partners - Regional level: onion platform and its partners
5. PROCESSING	
<ul style="list-style-type: none"> i. Identify and catalogue examples of processing already practiced in the different countries (e.g. Niger: dried onion, 	<ul style="list-style-type: none"> - At the national level: Associations of processors, if

<p>powder, jam). Overall this should include appropriate technologies</p> <p>ii. Develop product specifications for processing</p> <p>iii. Dissemination in the different countries of the region</p>	<p>they exist, or associations of producers where they do not exist</p> <ul style="list-style-type: none"> - At the regional level: Regional onion Platform
6. INVESTMENT BY THE PRIVATE SECTOR	
<p>i. Advocacy at regional and national level to attract private investment in the processing and storage (towards governments and the private sector directly and ROPPA)</p> <p>ii. Organization of forum for private investors</p> <p>iii. Use and promote incentives for the private sector</p>	<ul style="list-style-type: none"> - Chamber of Commerce and Industry - Ministry of Commerce - Regional onion Platform - ECOWAS - ROPPA - PAFO
7. ACCESS TO FINANCE	
<p>i. Identify financial products that best meet the needs of producers. For example, need to guarantee funds to access credit</p> <p>ii. Sharing of best practices in financial products</p> <p>iii. Financing of capacity building: the need to identify sources of funding in each country and to have a strategy for resource mobilization</p>	<ul style="list-style-type: none"> - The regional onion platform - Financial Partners of producers' associations - Financial Institutions - ROPPA

GROUP 3

TOPIC: MARKET OPPORTUNITY & COMPETITIVENESS / OPPORTUNITES DE COMMERCIALISATION ET COMPETITIVITE

12 members, Facilitators: Dan Acquaye/Philippe Tokpanou, Secretary: Kanazoé Yacouba

Issues discussed	Constraints	Actions points	Responsible party	Comments
Production and marketing planning	<ul style="list-style-type: none"> • Insufficient quantities produced • Unavailability of product throughout the year • Low quality of product (perishable) • Difficulty of production planning • Low seed quality • Non-compliance with quality standards • Multiplicity of onion varieties (which variety is most suitable for conservation e.g. violet galmi is appropriate for conservation in Niger) • Storage difficulties 	<ul style="list-style-type: none"> • Conduct a study on the characterization of demand for onion in the sub-region • Promoting standards and quality of onion produced in the sub-region • Strengthening the capacity of stakeholders of the value chain on compliance with production and marketing techniques (for better storage) 	ASNAPP ECOWAS Development Partners and stakeholders of the value chain	There are different requirements depending on the client (hotel, end users, etc.). We must characterize the onions in the markets Taste is an important factor in assessing a variety
Market information system	<ul style="list-style-type: none"> • Difficulty in collecting data • The Unreliability of the data collected • Diversity of Market Information System (MIS) in the sub-region with the strengths and weaknesses 	<ul style="list-style-type: none"> • Conduct a diagnosis of existing MIS at the sub-regional level • Establish a regional Onion MIS based on national MIS 	ASNAPP ECOWAS Development partners Stakeholders of in the value chain	Ensure the reliability and market data collection on the. The best data collectors are the stakeholders themselves. There are MIS several experiments (agricultural products Trading Posts, MIS)
Market infrastructure	<ul style="list-style-type: none"> • Existence of storage problems • Atomicity of the production • Difficulties accessing 	<ul style="list-style-type: none"> • Build warehouses of medium capacity • Build trading posts with large storage capacities (e.g. 10,000 tons) 	Governments of member countries ECOWAS	Good storage technique requires compliance with

Issues discussed	Constraints	Actions points	Responsible party	Comments
	<p>the production areas</p> <ul style="list-style-type: none"> • The size of packaging bags impact on the cost of transport (transport costs are related to the amount of bag, not the volume per bag). • Road Harassment 	<ul style="list-style-type: none"> • Develop rural roads • Promote appropriate types of packaging with adequate and accessible packaging materials • Promote retail shops • Standardize packaging types in the sub-region • Ensure the implementation of regional regulations on free movement of people and goods 	private investors stakeholders of the value chain	<p>production techniques</p> <p>Ensure a good calibration of onion and package according to each class.</p> <p>Market infrastructure includes all warehouses at different levels (small and large)</p>
Regional networking platform	<ul style="list-style-type: none"> • Informal nature of trade in the sub-regional • Low harmonization in the terms of conditions governing sub-regional trade 	<ul style="list-style-type: none"> • Assess national platforms • Establish a regional platform with a proper operation scheme. • Organize a knowledge fair every two years within ECOWAS 	ASNAPP ECOWAS Stakeholders of in the value chain	
Private sector investment	<ul style="list-style-type: none"> • Low private sector involvement in the sector • Low investment in the private sector due to the perishable nature of the product • Road Harassment 	<ul style="list-style-type: none"> • Improve product quality for better storage • Stabilize investment conditions by negotiating fair prices and rationalization of imports • Promote suitable containers for packaging 	Governments of member countries Stakeholders of in the value chain	

Appendix 3: Documents attached

MFI training Reports

Regional Workshop Report