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Resilient nations

Sahelian Onion Productivity and Market Expansion Programme (SOPMEP)

Evaluation Mission Findings

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LIST OF ACRONYMS

AFIM	African Facility for Inclusive Markets
AGRA	Alliance for Green Revolution In Africa
ASNAPP	Agribusiness in Sustainable Natural African Plant Products
BWFA	Bawku West Farmers Association
CIDA	Canadian International Development Agency
DFID	Department For International Development
ECOWAS	Economic Community of West African States
ECOWAS	Economic Community of West African States
EU	European Union
FAO	Food and Agriculture Organization
FAOSTAT	Food and Agriculture Organization Statistics
FEPA/B	Fédération des Professionnels Agricoles du Burkina
FGD	Focus Group Discussion
GAP	Good Agricultural Practices
Kg	Kilogramme
MCG	Micro-Catalytic Grant
MFI	Micro Finance Institution
MOFA	Ministry of Food and Agriculture
MOFA	Ministry of Food and Agriculture
MT	Metric Tonnes
RCB	Rural and Community Bank
SARI	Savanna Agricultural Research Institute
SARI	Sahara Agricultural Research Institute
SMEs	Small and Medium Enterprises
SOPMEP	Sahelian Onion Productivity and Market Expansion Programme
ToT	Trainer of Trainees
TOTs	Trainer of Trainers and also Training of Trainers
UNDP	United Nations Development Programme
WFP	World Food Programme
WRS	Warehouse Receipt System

EXECUTIVE SUMMARY

Prima facie Evaluation by objectives

E2. Regarding the first objective, of reducing post-harvest losses, increase market access and incomes of onion value chain actors, it was noted that the project exceeded construction of family level stores by 240% (34 realised against 10 expected). The project had also other benefits like increase in staggered sales, due to storage which increased the farmers income by 100% to 400%, and Increase in onion bulbs sizes due to better cultural practices,. Based on these reported outputs, the evaluation team finds that the project was successful and met the outputs of the stated objectives and considers this as the most successful and visible aspect of the project as it demonstrated directly to the farmer various positive attributes of the project like the usefulness of adopting an improved store, potential for proper post-harvest handling and the economic benefits of adoption. The success of this component is highlighted by the increased demand for stores and the interest by the rural banks to base a warehouse receipt system based on individual stores for lending to farmers. Potential financiers like CIDA have also noted this catalytic effect at farm level and are shifting the emphasis from funding community stores to individual stores.

E2. The second objective was aimed at increasing access to finance by onion producers and other chain actors. A study which had been done in the study sites, found that about 93.4% of the farmers interviewed had not taken a loan facility of any kind from any financial institution, while 95.5% of the traders interviewed had accessed loan facilities. 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. According to the overall results about 1837 farmers (73%) out the expected 2500 were trained on issues on access to acquisition of credit. The evaluation team based on results of the finance study and discussions with a rural bank and with farmers considers that the capacity building was in the right direction and that specifically tailored products like Onion storage facility loan product will go a long way in improving access by farmers.

E3. The third objective was aimed at strengthening the capacity of producers on Good Agricultural Practices. The outputs of capacity building objective exceeded the expectations by 26% and the objective was successful. Production of high quality onions by farmers is a pre-requisite for the successful value chain and creates potential for regional and international trade. The farmers were supplied with illustrated posters and guides in French and English and the team considers these useful as they can be used in the future. However discussions with farmers indicated that these posters need to be translated into local languages as most of them cannot read or understand French or English

E4. The fourth objective aimed at promoting cross-border regional market access was implemented through a regional workshop. The workshop brought together representatives from trade and producer associations as well as buyers from the following countries: Ghana (8) Burkina Faso (23), Niger (3), Togo (3), Mali ((1), Senegal (3) Nigeria. (4), Cote D'Ivoire (4) ECOWAS Secretariat (1) and UNDP-AFIM (2)... These also included regional experts and other stakeholders who were also present to share their views on successful business models that have the potential to make onions from West Africa more competitive against those from Europe and

Asia. A total of 51 participants attended workshop. The AU the continental body has strongly called for promotion of regional and continental trade in agricultural products. For this to happen there is a need to address constraints which impede the potential in trade. In ECOWAS, although considerable efforts have been made to remove tariffs, there are still barriers to trade due to non-tariff barriers. The consultant considers that the workshop was therefore timely, in bringing key regional stakeholders together and the implementation of the proposed action plans would go a long way in removing these barriers and increase the quantities in regional trade.

Field evaluation in Burkina Faso and Ghana

Evaluation in Burkina Faso

E5. Since joining the project, farmers have been trained in production and conservation techniques based on onion technologies (new varieties and technologies), (ii) information products (brochures, leaflets, posters and booklets), and (iii) delivery pathways (capacity building, exhibitions/field days/visits, demonstrations, media exchange visits. The project produced 3000 illustrated posters and 50 guides. Discussion with farmers indicated that they rated these approaches differently. In the case of written information products, they were considered useful but it has to be noted that many of the farmers do not understand French and there is need to translate to local dialects. Participating farmers have also a demonstration effect on non-participatory farmers. The interviewed farmers were asked on the number of farmers who had visited them to enquire on varieties and technologies. On varieties, the average enquiries were 6 farmers while on technology, it was 8 farmers. This implies the multiplier effect of the project is high and possibly from the 3140 farmers trained an additional 22,000 have benefitted

E6. Evaluating the impacts on increased production posed a problem due to the influence of external factors, like weather. It was noted that average production increased to a peak of 78 bags/ha in 2012 but due to poor weather, it has decreased to 72 bags/ha in 2014. Of this production, the percentage sold ranged from 63% to 80% and averaged at 69%. The price has been on the decrease from CFA 650/kg in 2011 to the current low of CFA 400/kg which is due to unfavourable market conditions especially high competition by traders, from Ghana. The consultant moted that despite these fluctuations in productivity and price the farmers were still very eager to continue with onion production/

Evaluation in Ghana

E7. In evaluating the farmers' Capacity Building and Technology Use, the question covered onion varieties and technologies, information products (brochures, leaflets, posters, and booklets) and delivery pathways (capacity building, exhibitions/field visits and days), demonstrations, media and exchange visits. The farmers' rankings and FGD were as follows. In all cases except for media exposure farmers ranked the factors high to very high. However the FGD only ranked onion varieties and technologies, plus exhibitions/field days as high while brochures, leaflets booklets in information products were considered moderate and posters as low. This is in contrast to individual farmers who thought pictorial posters were very informative. The FGD also ranked delivery pathways as having moderate to high impacts but

farmers thought that the media has low impacts. The consultant noted that Ghanaian farmers are comparatively new to onion production and required more capacity building.

E8. Yield increases for individual farmers ranged from 0% to 200% averaging at 47%. It is noted that farmers' average total production is 18/bags/acre in 2012 and 26.5bags/acre in 2013, which is an increase of 7%. Of the amount produced, 15% is consumed at home; about 10% given away and 12% is lost in storage while 63% is sold. In comparing this with FGD, the total average product was 60 bags/ha of which 3% was consumed at home (2 bags), 7% given away (4 bags) and 8.3% as storage loss while 81% was sold. The most important issue to note is the storage loss at 8-12% which can be eliminated by improved storage. It can be argued that the new varieties and capacity building in production technologies has improved yields.

E9. Lengthy discussions were held with Toende Rural Bank in Zebilla. This is a key MFI partner under SOPMEP and was established in 2005 in Zebilla. The most notable and useful financial product is its Onion storage facility loan product, which is operated as Warehouse Receipt System (WRS) 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. The innovative WRS package has come about due to UNDP/ASNAPP construction of onion stores which can store up to 3 months. The bank works with the trader (who has an account) in the bank and farmers group (due to absence of cooperative) who guarantee the farmer does not sell elsewhere except to specified traders and input suppliers. Upon the trader buying the farmers loan and inputs loans are subtracted and the farmer gets the balance. In 2013/14, the bank assisted 9 onion groups with GHC 10,168 and there was 100% repayment while in 2014, it assisted 8 groups with GHC 17,000 with 100% repayment. The consultant considers this credit approach as innovative and the training of farmers on its use based on on-farm store's needs to be encouraged.

Overall Team Evaluation of the Project impacts

E10. Based on discussions with relevant stakeholders' field visits and observations, the consultant is in agreement with these findings and as such we conclude that the project was a success and had the desired impacts on the farmers. However the target beneficiaries are the final authority on impacts of the project in terms of relevance, effectiveness, sustainability and linkages. As such the consultant had in-depth focussed discussions with farmers, and interviewed using a structured questionnaire on issues of relevance, effectiveness, sustainability and linkages.

Relevance

E11. From the discussions, observation and analysis of responses, the catalytic approach has played a catalytic impact in production and storage aspects. In relation to relevance, the project has been cited as positive in improving food security, addressing both the needs of men, women and youth. The approach used in terms of capacity building and extension was considered most

useful as well as promoting cross-border and regional trade. This was more pronounced in Burkina Faso which exports onions. However, there was uncertainty on the clear working relationships with traders especially Burkina Faso traders who argue that Ghanaian traders were not permanently based in Burkina Faso and were seasonal meaning that permanent relationships could not be developed.

Effectiveness

E12. This was discussed in relation to effect on male, female, youth and general community yield increases, income increases, fairness of price and quality improvements. The project ranked positively effective in all aspects except price. It was generally observed that incomes had increased. It was reported that 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. The spill over has gone into better schooling and buying of bicycles for women and youth.

Efficiency

E.13. The project promoter was expected to provide an up to date breakdown of expenditure per output with justifications on deviations if any. This was included in the quarterly reports, expected from the project promoter as per Article 1.1.1 of the MCG agreement signed between ASNAPP and UNDP. Observations in the field indicate the funds were used in tangible assets which include 34 small stores, 46 medium stores, 3000 illustrated brochures and 50 guide books. In addition to this, capacity building involved 3140 farmers in GAP and over 1800 in access to financial services. A regional workshop involving 50 participants was also held. Based on these results our observation in the field and discussions with stakeholders the team concludes that the funds were used properly.

Sustainability

E14. The project closed in December 2013 and a major plus in sustainability is that it is continuing with the same enthusiasm and that there has been considerable pressure on promoters for more individual stores and well organized input supply and provision of credit. The impact on the environment was considered negligible as the inputs usage like fertilizers and chemicals were minimal.

Networking

E15. During the project, networking and linkages were established between farmers, extension, traders, micro-finance institutions and agro-dealers. The general consensus was that linkages were introduced and working but in terms of organized continuity, about 60% of respondents thought they would continue. In terms of who should be responsible, there was difference between Burkina Faso and Ghana. In Burkina Faso where the cooperatives are well established, there was overwhelming support for the cooperatives while in Ghana with no cooperative, farmers were undecided on who should be responsible with 50% in favour of government and 50% in favour of cooperatives. This calls for organization of cooperatives in Ghana.

1: INTRODUCTION

In 2012 and 2013, UNDP AFIM provided catalytic funding to the “*Sahelian Onion Productivity and Market Expansion Programme (SOPMEP)*” for the period November 01 2012 to October 31, 2013. Agribusiness in Sustainable Natural African Plant Products (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 were the main promoters. 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.

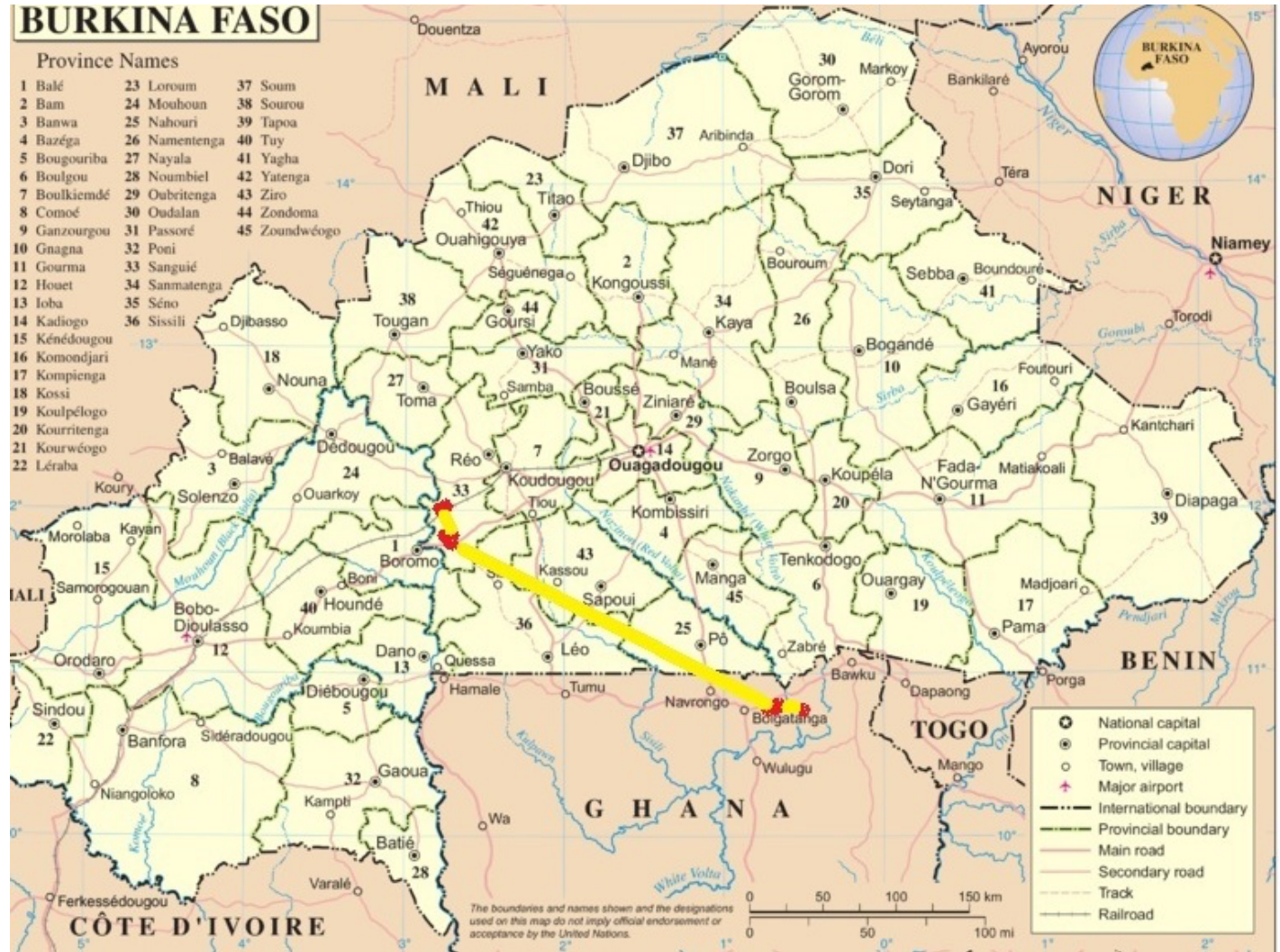
The stated objectives were: i) Reduce post-harvest losses, increase market access and incomes of onion value chain actors ii) Increase access to finance by onion producers and other chain actors iii) Strengthen the capacity of producers on Good Agricultural Practices and iv) Foster cross-border regional market access.

Key planned areas of activity included the following i) Developing the local expertise of farmers and extension officers on GAP, Harvest and Post-harvest Technologies, ii) Training farmers on the need to adopt an improved storage system and to stagger sales, iii) Organizing training workshops in collaboration with micro finance institutions on financial management and how to access funds, iv) Linking farmers to agro-input dealers and extension workers, v) Monitoring, evaluating and documenting processes for intensification and extensification to other areas, vi) Building the capacity of 2,500 small holder farmers, and vi) Minimizing post-harvest losses.

In Ghana the project was implemented in Bawku West District, in the Upper East Region of Ghana in Sapeliga and Zebilla by TRIAS based in Bolgatanga, while in Burkina Faso FEPA-B, a national federation of farmers, is the local implementing partner for the onion value chain project with ASNAPP implemented in two onion producer unions namely Koulkouldi and Tenado in the central region of the country.

The purpose of the evaluation was to evaluate the results of the UNDP-ASNAPP Sahelian Onion Productivity and Market Expansion Programme (SOPMEP) by evaluating the outputs of the four objectives namely i) Reduce post-harvest losses, increase market access and incomes of onion value chain actors ii) Increase access to finance by onion producers and other chain actors iii) Strengthen the capacity of producers on Good Agricultural Practices and iv) Foster cross-border regional market access.

Map1: ASNAPP Onion project areas in Ghana and Burkina Faso



2: AN OVERVIEW OF SAHELIAN ONION PRODUCTION AND MARKETING, AND OF THE UNDP/AFIM-ASNAPP PROJECT

2.1: Overview

Sahelian onion production is estimated at over 1.2 Million MT with Nigeria, Niger and Senegal as major producers. Average yields are 18.3MT/ha ranging from 14.8MT in Nigeria to 35.5 MT/ha in Niger. Onion producers across West Africa have to compete with imports from Europe and China to grab a higher share of regional markets. Onion producers in the countries of the Economic Community of West African States (ECOWAS) face high seasonality, post-harvest losses of about 40%, and various production-side constraints which include: low degree of organization, limited cooperation, high transactional costs, unfair markets, significant post-harvest loss, un-trained actors, insufficient use of research results, absence of use of improved storage facilities, poor road networks and insufficient transport facilities leading to loss of the product value. This limits their ability to meet domestic and regional market needs, leaving the region dependent on substantial external imports of some 288,000 tonnes during off-season months, and imported from the European Union. A solution to the problem would require integrating their small markets into a larger regional economy that would result in lower transaction costs and are at the same time attractive to foreign investors. The answer to the challenge is in improvement in production and trade facilitation.

2.2: UNDP/AFIM-ASNAPP Project

2.2.1: Catalytic Project description

In late 2012, the United Nations Development Programme (UNDP), the African Facility for Inclusive Markets and ECOWAS jointly launched the Sahelian Onion Productivity and Market Expansion Programme (SOPMEP) cross-border initiative, with the goal of integrating cross-border smallholder producers into the regional onion value chain, increasing their competitiveness and facilitating their access to the regional market. The project, which is funded by UNDP, was implemented in Ghana and Burkina Faso in collaboration with a wide range of partners: Agribusiness in Sustainable Natural African Plant Products (ASNAPP) a Ghanaian NGO, TRIAS (Ghana), the Fédération des Professionnels Agricoles du Burkina (FEPA-B), the Confederation Paysanne du Faso (CPF), North Fin Foundation (Ghana), the ministries of agriculture in Ghana and Burkina Faso, and the Progressive Onion Traders and Producers Association (Ghana).

The stated objectives were: i) Reduce post-harvest losses, increase market access and incomes of onion value chain actors ii) Increase access to finance by onion producers and other chain actors iii) Strengthen the capacity of producers on Good Agricultural Practices and iv) Foster cross-border regional market access.

ASNAPP's key planned areas of activity included the following:

- Building the capacity of 2,500 small holder farmers and extension officers on GAP, Harvest and Post-harvest Technologies in order to increase yields and minimize post-harvest losses,

- Training farmers on adopting and building improved storage system in order to stagger sales,
- Organizing training workshops in collaboration with micro finance institutions on financial management and how to access funds,
- Linking farmers to agro-input dealers and extension workers,
- Monitoring, evaluating and documenting processes for intensification and extensification to other areas

In Ghana the project was implemented in Bawku West District, in the Upper East Region of Ghana in Sapeliga and Zebilla by TRIAS based in Bolgatanga, while in Burkina Faso FEPA-B, a national federation of farmers, is the local implementing partner for the onion value chain project with ASNAPP implemented in two onion producer unions namely Koulkouldi and Tenado in the central region of the country.

2.3: Purpose of the evaluation and methodology

2.3.1: Purpose of the evaluation

In general this was a post-project closure evaluation. The purpose was to:

- Evaluate the results of the UNDP-ASNAPP Sahelian Onion Productivity and Market Expansion Programme (SOPMEP) by evaluating the outputs of the four objectives namely i) Reduce post-harvest losses, increase market access and incomes of onion value chain actors ii) Increase access to finance by onion producers and other chain actors iii) Strengthen the capacity of producers on Good Agricultural Practices and iv) Foster cross-border regional market access.
- Interview relevant stakeholders (ASNAPP, TRIAS, FEPA/B, traders, farmers, financial institutions) in relation to their participation in the project.
- Evaluate the project using the following dimensions: i) Relevance, Effectiveness, Efficiency, Sustainability and Impact and Network /linkages.
- Prepare a report on key lessons learnt from the MCGs as a catalytic mechanism to foster income generation and poverty reduction at the level of value chain actors, and regional integration.
- Identify challenges and propose on the way forward.

2.3.2: Methodology of Evaluation

The consultant used the following approach:

- Briefing from FEPA/BF and ASNAPP/TRIAS-Ghana on overall projects in Burkina Faso and Ghana
- Organize field visits to the Upper East Region of Ghana in Sapeliga and Zebilla by

TRIAS based in Bolgatanga, while in Burkina Faso FEPA-B, a national federation of farmers, is the local implementing partner for the onion value chain project with ASNAPP implemented in two onion producer unions namely Koulkouldi and Tenado in the central region of the country.

- At each site the introduction of the purpose of evaluation, was made by the consultant to all farmers at each site. Then farmers were selected in groups reflecting specific sub-localities in the area.
- In each group focused group discussions were held and question and answer session organized with farmers. From each group one farmer was picked randomly for detailed interview using a structured questionnaire
- Interviews with cooperatives/farmers (Burkina Faso) and farmers groups in Ghana.
- In terms of tools, three types of tools were used:
 - General checklist for trainer of trainees (TOTS) focusing on project issues of relevance, efficiency, sustainability and network linkage.
 - Structured questionnaire for cooperative management plus project evaluation issues as above.
 - Structured questionnaire for farmers plus project evaluation issues

3: EVALUATION OF UNDP-AFIM-ASNAPP ONION PROJECT

3.1: Project Objectives and expected outputs

The project had four objectives aimed at improved production, reduction of post harvest losses and promoting regional trade as follows:

- To reduce postharvest losses, increase market access and incomes of onion value chain actors
- To increase access to finance by onion producers and other chain actors
- To strengthen the Capacity of producers on Good Agricultural Practices
- To Foster regional collaboration and monitor progress of work

The key objectives and expected outputs are shown in Figure 3.1.

Figure 3.1: Key Objectives and the Expected Outputs/Targets

Key Objectives	Expected Outputs/Targets
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

In addition it addressed cross-border partnerships with a much wider range of stakeholders, and internal obstacles to trade and cross-cutting issues that need attention to improve overall competitiveness. It should now become easier to agree on customs procedures and harmonized standards within the ECOWAS free trade area, increasing the competitiveness of regional suppliers.

3.2: Evaluation of Reported results under specific objectivess

3.2.1: To reduce postharvest losses, increase market access and incomes of onion value chain actors (Objective 1)

The outputs reported for this objective were:-

- 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.

Based on these reported outputs and field discussions and observations, the evaluation team considers this as the most successful and visible aspect of the project as it demonstrates directly to the farmer various positive attributes of the project like the usefulness of adopting an improved store, potential for proper post-harvest handling and the economic benefits of adoption. The success of this component is highlighted by the increased demand for stores and the interest by the rural banks to base a warehouse receipt system based on individual stores for lending to farmers. Potential financiers like CIDA have also noted this catalytic effect at farm level and are shifting the emphasis from funding community stores to individual stores.

3.2.2: To increase access to finance by onion producers and other chain actors (Objective 2)

Availability of credit to finance activities along the value chain is a constraint most actors face in their operations. A study done by ASNAPP revealed the following:

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. A major output of the study has been the development of loan products. This stage of product development is still on going 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***. 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.

According to the overall results about 1837 farmers out of the expected 2500 were trained on issues on access to acquisition of credit. The achievement was 73% of the target. It was explained that the number was lower than expected as the period set for training such a large number proved too short and training facilities and trainers were also a constraint.

The evaluation team based on results of the finance study and discussions with a rural bank and with farmers considers that the capacity building was in the right direction and that specifically tailored products like Onion storage facility loan product will go a long way in improving access by farmers.

3.2.3: To strengthen the Capacity of producers on Good Agricultural Practice (Objective 3)

The outputs of Capacity Building objective were as follows:

- 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 Faso.
- 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.

The outputs of capacity building objective exceeded the expectations by 26% and the objective was successful. Production of high quality onions by farmers is a pre-requisite for the successful value chain and creates potential for regional and international trade. The farmers were supplied with illustrated posters and guides in French and English and the team considers these useful as they can be used in the future. However discussions with farmers indicated that these posters

need to be translated into local languages as most of them cannot read or understand French or English.

3.2.4: To Foster regional collaboration and monitor progress of work (Objective 4)

3.2.4.1: Need for Regional Trade

The need for regional trade has been highlighted by AU and other organisations. The **Abuja Food Security Summit (AU 2006)** declared a firm commitment in promoting and in increasing intra-African trade. Measures articulated for accelerated development of trade were through fast tracking of trade arrangements at RECs level by lowering tariffs and non-tariff barriers, ratification of harmonized standard and grades and SPS construction and maintenance of critical infrastructure to facilitate movement across borders, development of regional and continental information systems, promote and increase public-private sector investment in agricultural related infrastructure, reduction of both natural and commercial risks through marketing arrangements/insurance schemes and financial institutions to improve access to soft and small loans and grants among other measures.

ECOWAS has mostly eliminated tariffs to enhance trade, However, NTBs, whether protectionist in intent or not, still remain raising trade costs and inhibiting regional trade. At the country-level, many of these, have been captured by the USAID Gap Analysis of the ECOWAS Trade Liberalization Scheme (ETLS). These include gaps between regional agreements, national legislation and implementation; limited private sector knowledge of free trade protocols; strong incentives for informal trade; non-compliance with existing tariffs; the widespread imposition of non-tariff barriers (NTBs); the non-functioning of the Inter-States Road Transit (ISRT) regime; non-recognition of certificates of origin and non-compliance with truck axle loads; and the challenges of joint membership for members of both ECOWAS and UEMOA. For example, Ghana imposes bans and restrictions, often for months at a time on unprocessed agricultural products, Burkina Faso imposes seasonal restrictions on maize, and Senegal and Togo mandate escort services for transit goods. It is argued this is in part driven by the pace of liberalization and integration and fears of inadequate protection for local producers which facilitate the proliferation of NTBs in the region.

Trade in food staples in West Africa is also hampered by the widespread nature of bribery in the region, notably the prevalence of road corruption at checkpoints throughout the region. In the area of sanitary and phyto-sanitary standards (SPS), concerns have been raised about inadequate inspection systems, as well as the need for an integrated strategy to develop testing capacity and eliminate redundancies and greater commitments for regional standardization, harmonization and participation. The UEMOA Agricultural Policy has identified the issue of SPS harmonization as one of the key areas of action. However, there is no evidence of any concrete engagement and action to increase capacity in this area: Workshop to promote regional collaboration

3.2.4.2 Ghana Regional Workshop

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.

The workshop brought together representatives from trade and producer associations as well as buyers from the following countries: **Ghana (8) Burkina Faso (23), Niger (3), Togo (3), Mali (1), Senegal (3) Nigeria (4), Cote D'Ivoire (4) ECOWAS Secretariat (1) and UNDP-AFIM (2)**. These also included regional experts and other stakeholders who were also present to share their views on successful business models that have the potential to make onions from West Africa more competitive against those from Europe and Asia. A total of 51 participants attended workshop (see Annex 3 for the list of participants).

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

Outputs

- i. 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
- ii. 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.)
- iii. 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 (Annex 4)
 - 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.

3.3: Best Practices, Lessons Learnt, Conclusions, Recommendations and Way Forward

3.31: Best Practices

The best practices/positive lessons learnt identified during the project implementation included:

- Approach was good in relation to training of farmers, providing extension materials in pamphlets and TOT approach in training farmers.
- Demonstration of the profitability potential of storage convinced many farmers that this is a useful technology.
- Farmers exchange visits to different sites and to Ghana was considered very useful as farmers were exposed to activities by other farmers.
- The project demonstrated that instead of waiting for years to realize benefits they could get benefits within a season.
- The onion financial product based on farm stores is an innovative approach to financing farmers by introducing a warehouse receipt system (WRS) pioneered by Toende Rural

Bank, shows the potential of increased finance to farmers based on adoption of an improved and secure post-harvest technology.

- In terms of relevance, the catalytic project was considered to be very relevant especially in capacity building and demonstrating the economic impacts of proper storage and staggered selling.
- The improved individual farmer storage technology which can be constructed with locally available materials is attracting donors who had previously promoted community storage (e.g. CIDA) to move to individual storage.

3.3.2: Lessons Learnt

Lessons learnt related to the project were also identified

- Lack of adequate networking with MFIs especially in Burkina Faso
- Price fixing by traders especially external traders from Ghana
- Sustainability of stores especially the roof which has to be replaced every three months
- Inadequate catalytic funds as the demand by farmers is high for stores
- Short period of implementation
- The absence of strong farmers' organization in Ghana may disrupt the continuity and sustainability of the project and there is need for this to be addressed
- Problem of quality seeds by stockists and the project had to depend on an earlier FAO-funded project.

3.3.3: Conclusions

- Discussions and analysis of responses from stakeholders show that the project has met its objective of increasing food security, income and promoting cross-border trade.
- Suggestions by farmers on increased construction of individual storage, additional capacity building, more linkages with micro-finance institutions and requirements for more varieties and irrigation equipment show that the farmers potential for increased onion production has been awakened and there is need for expanding the project.
- The considerable interest in onions as demonstrated by TRIAS-donor sponsored projects: EU-microfinance project with 12 rural banks, (ii) CIDA-3 year project on onions value chains and, (iii) DFID pilot on rain season production of onions, show that donors interest in onions is growing TRIAS is also opening an office in Burkina Faso to coordinate activities.

3.3.4: Recommendations for the way forward:

- There was a need for the new projects to increase the number of farmers by increasing TOTs to train more farmers
- Need for more farmers to be trained in conservation and building improved stores
- Need for revolving funds in terms of micro-finance requirements
- Training in new areas of value addition
- Annual local fairs
- More exchange visits
- FEPA/B has developed a concept note for a USD205,000 expansion project.
- ECOWAS should spearhead the need for more funding and coordinated approach in the Sahelian onion value chain.

USEFUL REFERENCES

1. ASANAP (2013): Promoting Regional Competitiveness of Onion Production and Marketing
2. Braimah A. (2013): Boosting Onion Farmers Income in West Africa
3. Nyambaka R. (2013): Sahelian Onions Productivity and Market Expansion Programme: Monitoring and Evaluation Mission Report
4. Rwamba A. (2010): An Integrated Value Chain of Onion and Shallot in West Africa- Strengths and Weaknesses
5. ASNAPP/FEPA-B/TRIAS (2014): SOPMEP Final Report
6. UNECA (2012): Regional Integration: Agricultural Value Chains to Integrate and Transform Agriculture in West Africa
7. Abbey R/S Oppong-Konado (1997): Status of Onion Production in Ghana and Prospects for Improvement
8. GIZ/BMT (2011): Financing Agricultural Value Chain in Africa: Focus on Burkina Faso
9. Blonk J. et al (2010): Measuring the Sustainability Performance
10. EU(2013): Agri-business and Development: How Investments in African Agri-Food Sector can help support development
11. WTO/OECD (2013): Aid for Trade in Value Chains in Agri-food

ANNEX 1. MISSION FIELD VISITS AND FINDINGS IN BURKINA FASO AND GHANA

1: Burkina Faso

1.1: Interviews with stakeholders

The mission took place from 14th July – 18th July and started with a briefing at FEPA-B Offices in Ouagadougou. The consultant then moved to the field and stayed at Koudougou (130 km from Ouagadougou) and visited farmers at Tenado and Koukouldi.

1.1.1: Briefing by FEPA/B

After introductions, the consultant gave a brief on the purpose of the visit. He explained that since the mid-term evaluation (July 2013), the project had closed and the evaluation was to find out what had happened since then and to get the final financial budget as well as to evaluate the project in terms of relevance, efficiency, effectiveness, sustainability and networking and linkages. The consultant explained that evaluation will be done at four levels:

1. General briefing by FEPA-B
2. Field visits to two sites
3. Checklists for project management and TOTs
4. Structured questionnaires for onion farmers, cooperative union and onion traders
5. Final debriefing to FEPA/B

The coordinator of FEPA/B explained that it is a regional office of the regional association. At country level, FEPA/B membership includes farmers at village level and unions at community level and commodity groups (maize, coffee, sorghum/millet, etc). It is financed by unions which benefit from FEPA/B through 82 extension/animators who train farmers. Under UNDP-AFIM, 1,300 farmers were to be trained in Burkina Faso in the twelve months of the programme. The activities were undertaken as follows:

- Capacity building – Initially 130 TOTs were trained and each was to train 10 farmers
- 46 improved stores were constructed
- Networking with traders was developed
- Microfinance mechanisms with Caisse Populaire has been started since the last evaluation and will be in place in the next season
- Gender issues have been incorporated in all aspects of the project

The best practice identified during the project implementation included:

- Approach was good in relation to training of farmers, providing extension materials in pamphlets and TOT approach in training farmers.
- Demonstration of the profitability potential of storage convinced many farmers that this is a useful technology.
- Farmers exchange visits to different sites and although to Ghana was considered very useful as farmers were exposed to activities by other farmers.

- The project demonstrated that instead of waiting for years to realize benefits they could get benefits within a season.

Some shortcomings related to the project were also identified:

- Lack of adequate networking with MFIs
- Price fixing by traders especially external traders from Ghana
- Sustainability of stores especially the roof which has to be replaced every three months
- Inadequate catalytic funds as the demand by farmers is high for stores
- Short period of implementation
- Problem of quality seeds by stockists and the project had to depend on an earlier FAO-funded project.

FEPA/B also made some recommendations for the way forward:

- There was a need to expand the project to more farmers by increasing TOTs to train more farmers
- Need for more farmers to be trained in conservation and building improved stores
- Need for revolving funds in terms of micro-finance requirements
- Training in new areas of value addition
- Annual local fairs
- More exchange visits
- FEPA/B has developed a concept note for a USD205,000 expansion project.

The consultant raised issues on: i) Operation of micro-finance by Caisse Populaire in the case of onions ii) NTBs in Burkina Faso – Ghana cross-border trade.

On the first issue, it was explained that borrowing for onions will start in the next season but as in the case of cereals, farmers can get cash direct from the MFI and pay after sales. On the second issue, it was explained that Burkinabe cross-border traders facing problems of NTBs on both sides of the border while Ghanaian traders seem to face no NTBs in Burkina Faso. It was explained that the issue of NTBs was discussed in the Sahelian workshop in Burkina Faso but as yet no solutions.

1.1.2: Union de Production Tenado (Saunglie)

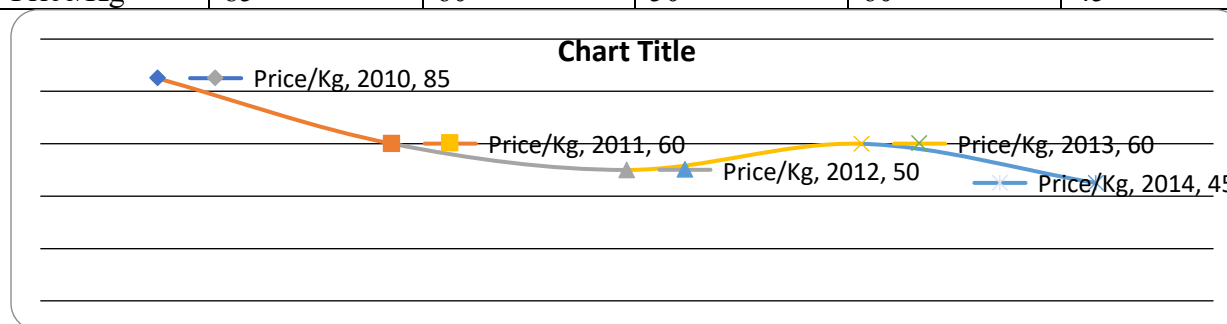
It was started in 2009 and currently has 1,300 members (40% M, 60% F) from Tenado, Tialbo, Tio and Baleledo who are mostly in production. The farmers are in 70 farmers groups. According to the cooperative, the problems in onion production include: (i) moving from subsistence production to commercialization, (ii) inadequacy of credit, and (iii) market price fluctuations. In their collection system, they have four centres each capable of serving about 500 farmers at an average of 4km radius, so more farmers can be served. At the centre only, a store is available. Transport per 100kg bag is about CFA 250/bag and the producer price is CFA 42,000/100kg bag (CFA 420/kg). The cooperative has a central store with a capacity of 4.5MT and can store onions for 6 months from where they sell to about 50 traders.

Apart from capacity building the core technology delivered was on post-harvest storage through locally assembled stores. The cooperative joined the project in 2013 and has benefited from capacity building and building of the central store.

In the last five years the prices of onions have generally been on the downwards trend. Most farmers sell during the harvest season and traders exploit this situation by paying low prices.. The trend in prices between 2010 and 2014 were as follows:

Onion Price fluctuations (CFA/Kg)

	2010	2011	2012	2013	2014
Price/Kg	85	60	50	60	45



The observed decline in prices, can as such act as a catalyst in prompting farmers to store the onions for a longer period to achieve higher prices

In the evaluation of project in relation to relevance, effectiveness, efficiency, sustainability and network/linkages, they rate the project at 96% and suggest that a similar approach can be continued by cooperatives.

1.1.3: Union de Koukouldi

The cooperative was started in 2008 and has a membership of 1,485 members (891F and 594M) of whom 1,000 are in production, 1,300 in storage and other activities. Farmers are in groups from the area around Koukouldi. They have contacts with MOA on production and conservation (PHH). The cooperative has a 3MT store at Koukouldi from which they sell onions to traders. The main problem has been the rotting of onions and the construction of stores has created improvements. The cooperative was recruited to UNDP-AFIM project and have been given capacity building in production and conservation which was considered useful. Under the project, they have benefited from a storage facility at a cost of CFA 1690. The status of business improvement was not given. In evaluation of the project in relation to relevance, effectiveness, efficiency, sustainability and networks/linkages, they rated the project highly at 90% and argued the cooperative can continue with the project. Some farmers are innovative and during their field visit to Niger they copied a simple and easily manufactured pump for the shallow boreholes and this helps them to irrigate their nursery and farms.

1.1.4: Interview with Traders Association

This association of traders covers the whole of Commune de Tenado. The trader interviewed (Bogie Justin, Tel: 70-48 11 10) started with CFA 4mi and current month requirements is CFA 2 million and competes with 52 other traders. The daily purchase is about 30 bags or an average 500-800 bags/month. He employs about 10 casuals (IF, 9M) at CFA 35,000/month.

Suppliers in terms of gender are 30% female and 70% male and in terms of traders, 80% small traders and 20% big traders. The problems faced include poor rural feeder roads and lack of funds for purchase. In selling 90% is sold at retail at CFA 30000/50kg (CFA 600/kg) and 10% to wholesalers at 60,000/100kg. Onions for wholesale trade are re-packaged in 100kg bags in long distance trade at over 100km, onions are traded in 65kg bags, transport is with a 6MT lorry at CFA 6,500/bag (65kg bag). At the border duties and other taxes amount CFA/ 2,950/3MTtruck and landed price CFA 61300/65 kg bag.

The trader joined UNDP-AFIM project in 2013 and has benefited from training and conservation which he considered useful. In terms of trading patterns, there has been a decrease in bags traded due to poor weather and competition in the last two years as shown below:

Bags Traded and Price

Year	2010	2011	2012	2013	2014
Bags	3,000	5,800	4000	3000	2500
Price/kg	600	650	650	500	450

The drop in purchase between 2011 and 2012 is significant and seems to be sustained in 2013 and 2014. It is mostly due to poor weather and competition. The competition is mostly from Ghanaian traders who come in large numbers to Burkina Faso during the harvest season.

In evaluation in terms of relevance, effectiveness, efficiency, sustainability and network/linkages, he ranks the project at 95% and thinks the cooperative can run it.

1.1.5: Farmers Analysis

In Tenado area, the total number of farmers addressed was 96 (see Annex 1). These farmers were divided into seven groups from different localities from which one farmer was interviewed in each group. The farmers were interviewed on utilization characteristics based on average production in utilisation in Tanedo and Koukouldi as given below:

Production and Utilization of Onions (mean of Tenado and Koukouldi farmers)

	Tenado	Koukouldi
Total Production	99 (Average 50 kg bags in Tenado)	100 (Average 50 kg bags in Koukouldi)
Consumer at home	3.5	3.5
Given out	3.5	3.5
Loss	5.0	5.1
Sold	87.0	88

It is noted that in the two areas the production and utilisation characteristics are very similar. In the two areas about 88% of produce is sold, 7% is used at home or given out while losses account for about 5 percent.

Since joining the project, farmers have been trained in production and conservation techniques based on onion technologies (new varieties and technologies), (ii) information products (brochures, leaflets, posters and booklets), and (iii) delivery pathways (capacity building, exhibitions/field days/visits, demonstrations, media exchange visits). Farmers were asked to rate this and the findings were as follows:

Farmers' evaluation of Technologies

Type	Rating
New Varieties	Very High
Technologies	60% = very high, 40% = high
Information Products	
a) brochures	40% = very high, 60% = high
b) Leaflets	60% = very high for those who could read
c) Posters	‘ ‘ ‘ ‘
d) Booklets	20% = very high, 80% = high
Delivery Pathways	
a) Capacity building	60% = very high, 40% = high
b) Exhibitions/field days/visits	20% = very low, 70% = high, 10% = low
c) Demonstrations	20% = very high, 60% high
d) Media	100% = low
e) Exchange visits	60% = very high; 40% = high

This demonstrates that although these approaches have varying ratings, they are all useful for farmers. Some were not tried but in future they can be tried. In the case of written information products, they are useful but it has to be noted that many of the farmers do not understand French and there is need to translate to local dialects. Participating farmers have also a demonstration effect on non-participatory farmers. The interviewed farmers were asked on the number of farmers who had visited them to enquire on varieties and technologies. On varieties, the average enquiries were 6 farmers while on technology, it was 8 farmers. This implies the multiplier effect of the project is high and possibly from the 3140 farmers trained an additional 22,000 have benefitted

In terms of production and selling operations, the average characteristics are in table –

Average Production and Selling Operations

Year	2010	2011	2012	2013	2014
Production	43	60	78	69	72
Sold	31	38	54	45	58
% sold	69	63	69	65	80
Price/kg	590	650	470	440	400

It is noted that production increased to a peak of 78 bags/ha in 2012 but due to poor weather, it has decreased to 72 bags/ha in 2014. Of this production, the percentage sold ranged from 63% to 80% and averaged at 69% which is lower than the 88% calculated earlier. The price has been on the decrease from CFA 650/kg in 2011 to the current low of CFA 400/kg which is due to unfavourable market conditions especially high competition by traders from Ghana. In terms of evaluation on aspects of relevance, the farmers rated it high while in terms of effectiveness, 80% rated it high. In terms of sustainability, it was rated sustainable while in terms of linkages, 80% thought linkages will continue. All farmers quoted cooperatives as the best option for continuity. Overall grading ranged from 60% to 98% giving an average of 82%.

1.1.6: Debriefing Meeting with FEPA/B

This was held on morning of 18th July before travelling by road to Ghana. The Consultant noted the following:

Achievements

- Over 2,500 farmers trained
- About 46 stores constructed
- Considerable networking with traders
- Gender issues well incorporated

Shortcomings:

- Inadequate networking with MFI
- Sustainability of stores (roofs)
- Inadequacy of funds and short period
- Quality seeds
- Incorporate youth fully in the value chain

Way forward:

- Expand project by increasing TOTs
- More conservation
- New areas of value addition
- Annual fairs
- Concept proposal (USD205,000)

Consultant's Observation

- The two communities are well balanced in terms of gender
- Farmers have demonstrated their trust in FEPA/B – high grades
- Observations show that there is potential for expansion
- Before any analysis, we feel confident the project has benefited farmers.
- Our approach in writing suggestions will be that the project can be supported for coherence in gender issues
- In terms of coops, we feel that these can be strengthened by additional training beyond production and conservation into areas of governance, advocacy and management.
- As a project of less than one year, we feel the impact has been tremendous.

2: MISSION FIELD VISITS AND FINDINGS IN GHANA

2.1: Interviews with stakeholder

2.1.1: Briefing by TRIAS-Ghana

The briefing was done by the micro-finance advisor in the TRIAS office in Bolgatanga, although the consultant was introduced to the coordinator who was busy in a meeting. Between 2010 and 2012 Ghana imported an average of 66,153MT of onion per year at an average of USD 12 million per year. Most of the imports are from Niger and Burkina Faso which in 2012 accounted for 95% of import value. Ghana produces onions but is not self-sufficient. The onion production sites in Ziplanga and Zebilla were visited.

TRIAS is currently dealing with the following projects:

1. EU-sponsored microfinance involving 12 rural banks with 19,000 savers and 8,377 borrowers and a loan portfolio of USD1.151 million but lending to agricultural related activities is only 17.8%.
2. AGRA-sponsored improved extension in two districts involving soybeans and using ITC technologies like mobiles. AGRA is also sponsoring a rice quality improvement project with Savanna ARI looking at issues in productivity and AMTAK looking at marketing issues.
3. CIDA-sponsored 3 year onion value chain project
4. DFID-sponsored pilot on rain season onion production as most of current production is during dry season. The project will be concentrated in phase one in Bwaku and later to other areas.

It was proposed that the consultant be accompanied to the field by two staff members. The field visits were suggested as follows:

2.1.2: Interview with Trader

BOX 1: DOMESTIC AND CROSS BORDER TRADE IN ONIONS: The Case of Ali Owusu an onion Trader in Zepilla-Ghana

Background

1. Sahelian onion production is estimated at over 1.2 mi. MT with Nigeria, and Senegal as major producers. Major exporters are Niger and Burkina Faso which export to Ghana, Ivory Coast and other countries. Niger produces over 600,000 Mt and exports are valued at USD 90 million annually.
2. Ghana produces onions, but also imports considerable amounts from the region and outside the region. In 2012, imports were 51,000 MT valued at USD 10.2 million but by 2012 they had increased 72,146 MT (an increase of 41%) valued at USD 12.5 million. In 2012 the major suppliers were Niger at 44,844 MT (62% of imports) and Burkina Faso at

24,966 MT (35%). Other suppliers in the region included Ivory Coast, Benin and Togo. As such there is considerable cross-border trade in the region.

Trader and Operations

3. The trader has operated for 28 years in Zebilla market and has five other competitors in the market. Under AFIM, he got a community type store (150 bags) and has a tricycle transporter which currently costs 4,500 GHE. In operations, he employs 15 casuals (60% women and 40% men) and also 3 permanent (1 W, 2M).

In his operations, he procures 70% onions locally and 30% imported from Niger. The type of suppliers is 30% women and 70% men. During the onion harvesting season, he procures 210 bags/day and GHE 260/bag for local and GHE 280/bag imported. Unloading and loading costs are GHE 2/bag while a bag costs GHE 3 and can be used three times. Storage loss is about 10 bags for 150 bags stored (7% of stored bags).

In marketing, he sells to retailers (30% of sales) but mostly transports to Accra and Kumasi using a lorry (capacity 125 bags) with transport costs at GHE 2/bag to Accra and GHE 12/bag to Kumasi as he has to travel by highway to Accra and then to Kumasi. The direct taxes included veterinary licence (GHE1/bag), local taxes (GHE/full load and market fees (GHE 0.5/bag). The indirect taxes within Ghana are however high at GHE 50/full load. The selling price in Accra is GHE 350/bag for imported and GHE 400/bag local. In imports, he incurs a duty of GHE 180/lorry.

Business Operations

Business operations have been as follows:

Year	2010	2011	2012	2013	2014
Bags	2,000+	3,000	35,000	4,060	5,000
Price/bag	30	70	150	270	250

In his evaluation, he agreed with all aspects and graded the project at 100% but noted that it should continue with storage, more credit facilities and a guaranteed minimum return system for farmers.

2.1.4: Interview with Toende Rural Bank Zebilla (Peedah Lincoln Winriu – Project Officer)

Introduction

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. In 2008, the bank disbursed GHC 11,500 to 7 onion farmer groups and GHC 15,000 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 GHC 10, 000 at an interest rate of 28% to an individual.
- The bank is currently pilot testing a life insurance and agric insurance programme for customers.

Warehouse Receipt System (WRS)

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.

The innovative WRS package has come about due to UNDP/ASNAPP construction of onion stores which can store up to 3 months. Based on the amount stored, the farmer can get:

- a) Consumption loan ≈ 500 GHC
- b) Production loan ≈ 1,000 GHC

The conditions for getting a loan are:

- 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

Based on the above, the bank works with the trader (who has an account) in the bank and farmers group (due to absence of cooperative) who guarantee the farmer does not sell elsewhere except to specified traders and input suppliers. Upon the trader buying the farmers loan and inputs loans are subtracted and the farmer gets the balance.

In 2013/14, the bank assisted 9 onion groups with GHC 10,168 and there was 100% repayment while in 2014, it assisted 8 groups with GHC 17,000 with 100% repayment. Despite this, 93%

of bank lending is from non-agricultural SMEs while major agricultural loans have gone for cereals. Drought has been the major uncertainty and problem in loan repayment.

2.2: Interviews with Farmers

2.2.1: Areas visited

Farmers were visited in Zepalanga and Zebilla (an irrigated rice area). A total of about 43 farmers in both areas attended meetings and 10 from different localities were interviewed while the rest had a focused group discussion with the consultant. In the onion growing area, there were no cooperatives unlike in Burkina Faso. Ten farmers were interviewed (7M, 3F) on production and utilization, use of technology and aspects of outreach. In addition, they were interviewed on the catalytic grant issues of relevance, effectiveness, sustainability and networking.

2.2.2: Issues of Production and Utilization of Onions

Covered questions on total production consumption at home, given out, storage losses and amount sold. Eight farmers and the focussed group discussion (FGD) gave the answers as follows:

Analysis of Production and Utilization of Onions (100kg bags)

Farmers	Total product Bags	Consumed at home	Given out	Storage loss	sold	GHC/bag
1	6.6	1.1	2.2	2.2	6.05	200
2	9	2	2	2	3	100
3	30	2	5	0.5	22.5	100
4	6	3	0.5	-	2.5	100
5	10	3	0.5	1	5.5	100
6	5	1	0.5	-	3.5	
7	33	1.1	3.3	0.5	28.5	150
8	20	0.5	0.5	4	18.6	
Mean	18.43	2.74	1.81	2.2	11.64	
%		14.9	9.8	11.96	63.3	
FGD		14.9	9.8	11.96	63.3	
FGD/ha	60	2	4	5	49	
Average		3.3	6.6	8.3	81	

It is noted that farmers average total production is 18.45/bags/acre (45.6 bags/ha) of which 15% is consumed at home, about 10% given away and 12% is lost in storage while 63% is sold. In comparing this with FGD, the total average product was 60 bags/ha of which 3% was consumed at home (2 bags), 7% given away (4 bags) and 8.3% as storage loss while 81% was sold. The most important issue to note is the storage loss at 8-12% which can be eliminated by improved storage.

2.2.3: Capacity Building and Technology Use

The question covered onion varieties and technologies, information products (brochures, leaflets, posters, and booklets) and delivery pathways (capacity building, exhibitions/field visits and days), demonstrations, media and exchange visits. The farmers' rankings and FGD were as follows:

	% Scale by Farmers					% FGD
	Very High	High	Moderate	Low	Very Low	
Onion varieties	30	20	20	20	10	High
Improved technologies	40	30	30	-	-	High
Information Products						
- Brochures	43	29	14	14	-	Moderate
- Leaflets	43	14	29	14	-	Moderate
- Posters	57	43	-	-	-	Low
- Booklets	33.3	33.3	33.3	-	-	Moderate
Delivery pathways						
Capacity building	60	10	20	10	-	Moderate
Exhibitions/field days	44.4	11.1	11.1	33.3	-	High
Demonstrations	44.4	22.2	11.1	22.2	-	Moderate
Media	0	14	43	-	43	Moderate
Exchange visits	25	25	25	12.5	12.5	Moderate

In all cases except for media exposure farmers ranked the factors high to very high. However the FGD only ranked onion varieties and technologies, plus exhibitions/field days as high while brochures, leaflets booklets in information products were considered moderate and posters as low. This is in contrast to individual farmers who though pictorial posters were very informative. The FGD also ranked delivery pathways as having moderate to high impacts but farmers thought that the media has low impacts.

2.2.4: Issues of Increase in Yields

Out of the 10 farmers interviewed, they gave increases in yields for 2012 and the project years 2013 as shown below:

Farmer increase in yields

2012	2013	Yield Increases (bags)	%
20	60	40	200
25	30	5	20
30	36	6	20
15	25	10	67
3	4	1	33
7	11	4	57
22	22	6	0
22	24	2	9
144	212	68	47

It is noted yield increases ranged from 0% to 200% averaging at 47%. It can be argued that the new varieties and capacity building in production technologies has improved yields.

2.2.3: Briefing and de-briefing at ASNAPP Office (Accra)

Briefing by ASNAPP

The session was both a briefing (by ASNAPP) and debriefing (by consultant) as the evaluation was carried out before meeting ASNAPP, the project promoter. It was explained that the Agribusiness in Sustainable Natural African Plant Products (ASNAPP) started about 20 years ago.

It operates in Ghana, S. Africa and Zambia where it is registered as an NGO. It has also operations in Senegal, Rwanda, Malawi, Mozambique, Angola and Liberia. It mostly operates in natural products and horticulture. Its areas of expertise include:

- Market intelligence and development
- Quality control and quality assurance
- Enterprise development
- Capacity building
- Research and development
- Consultancy (Agri Impact Consult)

In the UNDP-AFIM, it partnered with FEPA/B of Burkina Faso and TRIAS-Ghana who are more experienced in handling onions through various previous projects. It was explained that in the case of onions, the market is not the limiting factor. Ghana alone imports over 70,000MT annually from as far as China and Netherlands when there are shortages in traditional surplus countries of Niger, Burkina Faso and Mali. The onion producers have been arguing for a regional fund for development and ECOWAS to address NTBs. They have developed a concept paper which was availed to the consultant.

Debriefing by Consultant

The consultant explained the evaluation done in Burkina Faso and Ghana and concluded that the project had the desired impacts even for a short period and stakeholders were particularly excited about training in production and post-harvest handling. As a summary, the consultant summarized the key suggestions by farmers as:

- Need for more individual stores
- More varieties of onions
- Additional training in pests and diseases control
- More access and training on use of credit
- Water pumps for irrigation
- More fertilizers/inputs
- Continuation with capacity building

ANNEX 2: LIST OF PROPLE INTERVIEWED

TENADO – KOUKOULDI

	Name	Contact
1.	Bado Benard	
2.	Bayli Yagni	070 509 626
3.	Bazie Christophe	070 737 933
4.	Kanjula Awa	-
5.	Bado Epilou	79 86 01 85
	TENADO – II	
1.	Ramouni Amoudi	62 74 73 80
2.	Baijili Bouglibi	70 52 98 80
3.	Boumini Elieyye	72 20 59 02
4.	Bayile Acchomna	70 59 14 74

GROUP 1 – TeENADO

Group Members

1.	Bako Urbain	76 16 55 91
2.	Bamouni Antoine	73 19 66 43
3.	Ilboudo Sylvain	61 65 72 79
4.	Bationo Baye	76 24 57 36
5.	Bamouni B. Emmanuel	73 06 82 93
6.	Bationo Bolzona	68 69 07 84
7.	Bassole B. Thomas	60 53 38 30
8.	Bamouni Prosper	70 81 03 41
9.	Bassono Bali Bagnomo	
10.	Bado Balele	72 31 05 91
11.	Bazie B. Justin	70 48 21 10
12.	Bazie Buli	73 96 48 31
13.	Boko Nebon	71 15 09 66

GROUP 2 – TENADO

1.	Bomoumi Etiere	Baseseg	72 26 53 02	F
2.	Bamouni Jema	Baleledo	71 25 33 95	M
3.	Bazemo Bassoloe	Baleledo	73 08 41 97	M
4.	Baddo Sydonice	Baleledo		F
5.	Kando Elibie	Baleledo		F
6.	Kamolmi Elde	Baleledo		F
7.	Kando Eliema	Baleledo		F
8.	Kassole Essama	Baleledo	60 72 05 89	F
9.	Komsole Ehantale	Baleledo	61 94 56 10	F
10.	Komsole Egnama	Baleledo		M

11.	Bomolimi Bali	Tialgo	73 41 17 89	M
12.	Bamouni Bazona	Tialgo	61 38 96 43	F
13.	Kanyala Ekoalboe	Baleledo		F
14.	Kondo Elema	Baleledo		F
15.	Konyala Elie	Baleledo		F
16.	Konyala Ebon	Baleledo		F
17.	Kantiona Harma	Baleledo	73 47 73 60	F
18.	Kanzemo Hartime	Baleledo	68 69 07 97	M
19.	Kandid Ebon	Timalo	60 19 70 21	M
20.	Kantiono Eboli	Tio		F
21.	Bomouni Bali	Baleledo	63 72 15 51	F
22.	Bamouni Balili	Baleledo	70 99 63 09	F
23.	Bamouni Nebilloe	Baleledo	73 32 63 96	M
24.	Kangili Egmo	Baleledo		F

GROUP 3 – TENADO

1	Bayili Bayuibie	70 52 98 86	
2.	Bayili Joachim	73 32 62 18	
3.	Bamouni Buluo	75 11 86 45	
4.	Baiyle Balibie	76 48 13 93	
5.	Bozie Blaire	72 88 77 67	
6.	Bado Leonard	71 12 43 99	
7.	Bazie Bubou		
8.	Bado Balibie	71 10 04 71	
9.	Bado Bolgemoi	72 53 86 17	
10.	Bado Lucien	64 88 46 80	
11.	Kamouni Elie Antoinette	62 30 54 12	
12.	Baijule Moderte	73 03 88 70	
13.	Bazie Audiel	71 69 69 80	
14.	Bationo Bernard	71 50 92 81	
15.	Bazlano Bazona	63 69 58 32	
16.	Bayili Nebou	70 43 61 42	

GROUP 4 – TENADO

1	Bazie Bakouli		M
2	Bayili B. Alphonse	70 59 14 74	M
3	Bassomo Korsie	75 14 59 68	M
4	Bassomo Balisie	60 50 40 46	M
5	Bayili Yortin	62 35 57 79	M
6	Bayili Pieboe	71 95 61 06	M
7	Bamoini Bagmibie	62 60 96 61	M
8	Kanmoum Ebon		F
9	Kanyolo Eliete	62 30 44 48	F
10	Bulio Hameolon	62 31 70 31	M
11	Bazie Bagnomo	72 31 55 13	M

12	Bussonou Bulili		M
13	Bazie Baldbone		M
14	Bazie Bazona	71 88 33 09	M

GROUP 5 – TENADO

1	Bamouni Amadou	62-74-73-80	
2	Bamouni Bayon	71-14-92-12	
3	Bamouni Ezona Solange	72-30-77-55	
4	Basonon Brailrie	75-10-47-98	
5	Baka Mebila	61-83-31-77	
6	Bado Matie	74-06-71-30	
7	Basien Carmel	73-07-11-81	
8	Batiomen Balibie	71-36-39-71	
9	Batonu Babreu	76-25-91-39	
10	Bamouni Dema		
11	Bazono Claude	79-89-84-34	
12	Kantionor Eburu (F)		
13	Kanzie Eyor (F)	65-14-03-93	
14	Kayili Marie Brugilte (F)	71-12-52-26	
15	Kandalie Eta adette (F)		
16	Bationo Bakele	72-48-40-27	
17	Bamouni Souleymane	77-94-38-10	
18	Bako Xanvier	77-02-01-99	
19	Kandolo Ezono-Eya (F)		
20	Bado Baloua B. Evariste	63-69-45-34	

GROUP 6 – KOUKOULOU DI

1	Balzie Christophe	M	70-79-79-33
2	Boki Boli	M	60-14-88-63
3	Kamsole Ezoma	F	72-93-86-42
4	Bado Olo Dominique	M	71-17-92-15

GROUP 7 - KOUKOULOU DI

1	Bazie Francois	M	74-04-21-51
2	Kama Nahomie	F	72-42-78-59
3	Bayili Ygni	M	70-50-96-26

GROUP 8 - KOUKOULOU DI

1	Bayili Claude	M	72-71-45-53
2	Baho Bali	M	71-14-78-26
3	Kanyala Awa	F	70-87-29-23
4	Kasole Iriene	F	72-42-45-27

GROUP 9

1	Bado Gregole	M	71-10-04-64
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2	Bado Bernard	M	71-97-64-31
3	Kandolo Christine	F	72-36-14-63
4	Bayili Nebila	M	71-20-04-36

GROUP 10

1	Bassole Abel	M	71-45-21-24
2	Bado Egilou	M	79-86-04-85
3	Baki Innocent	M	72-14-68-35
4	Kando Egomboe	F	73-64-30-37

FARMERS IN GHANA SEPALANGA AND ZEBILLA – FARMERS NAMES

	Name	Telephone
1.	Hauna Labilla	024 96 71 322
2.	Mohammed Seidu	024 522 65 93
3.	Rahimatu Karim	024 872 22 38
4.	Habiba Sumaila	-
5.	Sala Iddrisu	-
6.	Asakmam Asuguru	024 1985 669
7.	Adisah Abdalla	054 0918 670
8.	Rabi MOhamme	-
9.	Safia Awudu	
10	Fati Salaw	
11.	Sadia Ali	
12	Moriama Mphamadu	
13	Damani Belle	024 656 0812
14	Alhassan Yariha	
15	Karim Sarko	
16	Karim Salam	
17	Safura Mumumui	
18	Menuwa Mustapha	
19	Malia Issaka	
20	Alizatu Mohamadu	
21	Shaitu Karim	
22	Seidu Alale	0541 273 348
23	Abdulai Adan	0240 429 636
24	Issifu Salifu	0249 353 438
25	Moriama Salaw	
26	Sarifa Bukan	
27	Abudu Agambilla	
28	Aturi Issaka	0243 540 867
29	Dauda Mulitari	0548 454 813
30	Maika Ganiniu	0541 262 364
31	Ibrahim Abdulrazak	0246 013 065

32	Laadi Arabogo	-
33	Farmers Zebilla	
34	Apam Abendera	
35	Ababu Mora	

ANNEX 3: ITINERARY OF VISITS – ONIONS

A: BURKINA FASO

ITINERARY OF VISITS – ONIONS

A: BURKINA FASO

14 – 07-2014	<ul style="list-style-type: none">• Arrive in Ouagoudougou – 5pm• Picked by PEFAP/B to Hotel
15-07-2014	<ul style="list-style-type: none">• Meeting with PEFAP/BF project staff• Collecting Passport/Visa in the afternoon
16-07-2014	<ul style="list-style-type: none">• Travel to Koudougou (130 kms)• Visit Tenado Cooperative and farmers• Spend the night in Koudougou
17-07-2014	<ul style="list-style-type: none">• Visit and interview cooperatives and farmers in Koudougou• Travel back to Ougadougou
18-07-2014	<ul style="list-style-type: none">• Debriefing meeting with PEFAP/B in the morning• Travel by road to Paga border town
GHANA	
18-07-2014	<ul style="list-style-type: none">• Picked by TRIAS and travel to Bolgatanga• Short briefing by TRIAS
19-07-2014	<ul style="list-style-type: none">• More briefing by TRIAS and setting field programme
21-07-2014	<ul style="list-style-type: none">• Travel to Sepelinga and interview farmers• Telephone conversation with MOFA (were out of office)
22-07-2014	<ul style="list-style-type: none">• Travel to Zebilla and interview farmers• Interview with Toende Rural Bank
23-07-2014	<ul style="list-style-type: none">• Debriefing session with TRIAS• Travel by road to Tamale and take flight to Accra
24-07-2014	<ul style="list-style-type: none">• Briefing in ASNAPP offices in Accra
25-07-2014	<ul style="list-style-type: none">• Visit to Accra market to see onion traders (Many are off for Ramadhan)
28-07-2014	<ul style="list-style-type: none">• Ramadhan – Stay in Accra
30-07-2014	<ul style="list-style-type: none">• Leave for Nairobi

ANNEX 4. Summary of Group work/discussions at regional workshop

GROUP 1

TOPIC: PRODUCTION OF ONION

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 <ul style="list-style-type: none"> • Seed production (hybrid and improved varieties) • Inputs supply • Processing • Storage/storage structure • Transportation (facilities) 	- ECOWAS - ASNAPP - World Bank
7. ACCESS TO FINANCE	
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	- Individual countries - ECOWAS - ASNAPP

GROUP 2**TOPIC: POST-HARVEST**

ISSUES OF DISCUSSIONS	RESPONSIBLE
1. STORAGE TECHNOLOGIES	
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	
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	
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	
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	
i. Identify and catalogue examples of processing already practiced in the different countries (e.g. Niger: dried onion, powder, jam). Overall this should include appropriate technologies ii. Develop product specifications for processing iii. Dissemination in the different countries of the region	<ul style="list-style-type: none"> - At the national level: Associations of processors, if they exist, or associations of producers where they do not exist - At the regional level: Regional onion Platform
6. INVESTMENT BY THE PRIVATE SECTOR	
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) ii. Organization of forum for private investors iii. Use and promote incentives for the private sector	<ul style="list-style-type: none"> - Chamber of Commerce and Industry - Ministry of Commerce - Regional onion Platform - ECOWAS - ROPPA - PAFO
7. ACCESS TO FINANCE	
i. Identify financial products that best meet the needs of producers. For example, need to guarantee funds to access credit ii. Sharing of best practices in financial products iii. Financing of capacity building: the need to identify sources of funding in each country and to have a strategy for resource mobilization	<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

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 the production areas • 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"> • Build warehouses of medium capacity • Build trading posts with large storage capacities (e.g. 10,000 tons) • 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 	Governments of member countries ECOWAS private investors stakeholders of the value chain	Good storage technique requires compliance with production techniques Ensure a good calibration of onion and package according to each class. Market infrastructure includes all warehouses at different levels (small and large)
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	<ul style="list-style-type: none"> • Low private sector 	<ul style="list-style-type: none"> • Improve product quality for 	Governments	

Issues discussed	Constraints	Actions points	Responsible party	Comments
investment	involvement in the sector <ul style="list-style-type: none"> • Low investment in the private sector due to the perishable nature of the product • Road Harassment 	better storage <ul style="list-style-type: none"> • Stabilize investment conditions by negotiating fair prices and rationalization of imports • Promote suitable containers for packaging 	of member countries Stakeholders of in the value chain	

ANNEX 5: 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 storage facilities established and demonstrated to producers 	<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 realised between 110% and 500%+ increase in income 80 demonstration family level storage structures constructed for farmers in Ghana and Burkina Faso. 	<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
Activities 1:			
<ul style="list-style-type: none"> Inception workshops (Ghana & Burkina) Development and Printing of 	<ul style="list-style-type: none"> 2,500 training materials printed 10 improved family level storage facilities established 	<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 	

<p>training materials Post Harvest, Storage and Selling Scenarios (Ghana & Burkina)</p> <ul style="list-style-type: none"> • Construct demonstration storage structures (Ghana & Burkina) • Build capacity of onion value chain actors on Post harvest and Storage practices (Ghana & Burkina) 	<p>and demonstrated to producers</p> <ul style="list-style-type: none"> • 2,500 onion value chain actors capacity built on Post harvest and Storage practices 	<p>Scenarios Printed (150 English and 150 French)</p> <ul style="list-style-type: none"> • 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 	
<p>Objective 2: To increase access to finance by onion producers and other chain actors</p>	<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 	
<p>Output 2: Onion value chain actors trained on sourcing credit from financing institution</p>	<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 linked to MFIs. About 150 have had their facilities approved. 	<ul style="list-style-type: none"> • Not all farmers in Burkina could be reached due to time constraints but FEPAB has undertaken, together with Caissepopulaire, to continue with the exchanges and work to make credit available to farmers.
<p>Activities 2:</p> <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 CaissePopulaire to reach remaining farmers
<p>Objective 3: To strengthen the Capacity of producers on Good Agricultural Practices</p>	<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 recommended post-harvest practices. 	<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. 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 Group & Knowledge Exchange Platform 	<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 Competiveness of Onion Production and Marketing in West Africa (SOPMEP) was held in Ouagadougou for 50 participants, including producer associations, traders, researchers, government representatives and development partners, from eight West African Countries. 	

ANNEX 5: ONION FARMERS QUESTIONNAIRE
UNDP-AFIM AGRO-VALUE CHAINS EVALUATION
ONION VALUE CHAIN
ONION FARMER

We are carrying out an Evaluation of **UNDP-AFIM Onion Agro-Value Chain** being promoted by **ASNAPP in collaboration with FEPA/B and TRIAS** in Ghana and Burkina Faso to identify how the project has improved the provision of knowledge, extension and other services to onion farmers.. The information you give us will be kept confidential.

A: GENERAL INFORMATION

A1. Classifying information				
Name of the enumerator & Mobile No.				
Date of interview				
Data entry date				
Country				
County/District / Division				
Location/ Sub Location/Village				
A2: Respondent and general household information				
2.1. Name of respondent)				
2.2. Respondent gender		1= Male [], 2 = Female []		
2.3. Is respondent head of household		1 = Yes [], 2 = No []		
2.4 Household size		(Wife/husband = __, Son/s= ____, Daughter/s= ____, other= M __, F= __)		
2.5. If no, relationship to household head		1=Household head [], 2= Spouse [], 3 = Son/daughter [], 4 = Parent [], 5 = Son/daughter in-law [], 6 = Grand child [], 7=Other relative [], 8 =Hired worker [], 9 =Other (Specify)		
2.6:How many household members are involved in farming?		1=Total (No.) ----- (M/F); 2=full time (No.) ----- (M/F); 3=part time (No.) ----- (M/F)		
2.7:Is any member of your household a member of a community development group in your village?		Yes	1	
		No	2	
2.8 If yes to above, please give information as below				
	Organization	Objective	Year of joining	HH member
	1.			
	2.			
	3.			
	4			
	5			
	6			
	7			
2.9.How does household benefit from being a member of the above named group?	Source of financial capital		1	
	Source of technical information on agricultural production		2	
	Marketing produce		3	
	Cash lending services		4	
	Others (specify)		5	
2.10	If No to quest 2.7. Above, please indicate reason why no HH member has joined a group			

1.
2.
3.
4.
5.

B. LAND OWNERSHIP AND UTILISATION

B1	Land ownership					
B1.1	Which year did your household settle here?	Year.....				
B1.2	What is the nature of land tenure of the household?	Trust land	1			
		Government land	2			
		Bought	3			
		Rented land	4			
		Family	5			
		Settlement schemes	6			
		Others	7			
B1.3	What is the average size of the farm(s) in acres you own					
B1/4	What is the status of entitlement to the land that the household lives on?	Has a Title deed	1			
		Letter of allotment	2			
		Others specify	3			
B2	FARMING AND CROPPING CHARACTERISTICS					
B2.1	Please indicate area of land under the following in acres	Crops	Ha			
		1. Crops production				
		2. Grazing				
		3. Farm Forestry				
		4. Grass				
		5. Other				
B2.2	What is the current price of an acre of land?	Price/Acre.				
B2.3	What is the rental/leasecost of an acre of land?	Rent/acre.				
B2.4	What type of agriculture do you practice	Irrigation	1			
		Rain fed	2			
		Others specify	3			
B3	TYPE OF CROPS, AREA, YIELD AND PRICE					
	<i>a.</i> Which crops did your household grow between July and December last year (last season)?	<i>b. How much land was used for the crop?</i> (in acres)	<i>c.</i> Quantity Produced (Kgs, Bags/Sacks, Tins,Basin)	<i>d. Did the HH sell part of this crop produced?</i> 1. Yes 2. No	<i>e.</i> Total Amount (in Shs) received from sale of this crop?	<i>f. Who earned this income?</i> 1. Myself 2. Spouse 3. Both Spouse & Self 4. Entire HH 5. Other HH Member
B3.1	Did not grow any crops					
1	Sorghum					
2	Maize					
3	Beans					
4	Irish Potatoes					
5	Carrots					
6	Cabbages					
7	Other crops (Specify)					

B4. Household onion production during 2011/12 and 2012/13 farming seasons (own and rented land):			
Sorghum	a)Land area (ha)	b)Total Production (kg)	c)Price per kg
1)Own land			
1a)2011/12 season			
• Local			
• Improved			
1b) 2012/13 season			
• Local			
• Improved			
2) Rented land			
2a) 2011/12 season			
Local			
Improved			
2b)2012/13 season			
Local			
Improved			

C: COSTS OF PRODUCTION AND TECHNOLOGY USE

In this section we shall trace the costs of production for onions

Name of crop	Area grown normally (Acres)	Times grown per year	Type of Farming	
			Irrigated	Rainfed
C1	Name variety you prefer			
C2	Do you replace a variety in use		? 1= yes, 2= no	
C3	If yes, in how many years do you replace a variety			
C4	Why did you replace it?		1= decreasing productivity 2= No seeds, 3= disease and pest susceptibility, 4= market preference,\ 5= availability of better variety, 6= others/specify-----	
C6	Are there varieties that have been abandoned?		1=yes, 2=no	
	If yes, list them		1 2 3	
C7	State reasons for abandonment		1 2 3 4	
C8	Average yield of variety	(kgs/acre)		
C9	Maturity period	in months		
	Average price per kg of crop	Ksh/Kg		
C10	Crop Constraints	a). Rank of constraint (1=Mild, 2=Severe, 3=Very severe, 4= Not a problem)	b). Major coping mechanism	

	1=Low soil fertility		
	2=Pests		
	3=Diseases		
	4=Weeds		
	5=Vermins		
	6=Lack of improved varieties		
	7=Lack of access to inputs		
	8=High cost of inputs		
	9=High climate variability		
	10=Small land holding		
	11=Lack of labor		
	12=Lack of markets		
	13=Lack of information		
	14=Others (specify)_____		

D: INPUT USE IN CROP PRODUCTION (LAST SEASON)

D1	Area under onion crop (acres)	
D2	Main cropping	system (1 = Monocrop , 2 = Intercrop* 3= Mixed cropping)
D3	Nursery preparation	
	a) What method did you use?	1=Nursery/seedbed 2=Direct sowing
	b) If Nursery answer the following	1. Seedrate kg/ Nursery
		2. Source of seed: (1 = Own , 2 = Farmer groups, 3=StockistI 4=Other farmers 5=Research centers 6=Union/coop 7= MoA 8=NGOs 9= others (specify _____))
		3. Did you use 1=seed dresser 2= sterilized seeds
		4. nursery Management labour> 1= .....mandays 2=Cost/manday...../manday
D4	Land preparation (consider an acre)	
D42	Method of land preparation	(1= Using oxen, 2 = Using tractors, 3 = Using manual labor
D43	If using oxen	(1 = Own, 2 = Hired)
	a)Number of days	
	b)Average hours spent per acre	Hours per acre=
	c) Total cost of preparation	in Ksh per acre
D44	. If using tractor	(1 = Own, 2 = Hired)
	a)Number of hours spent per acre	Hours per acre=
	b)Total cost of preparation in Ksh per acre	in Ksh per acre
D45	If manual labour,	type (1 = Family, 2 = Hired, 3=both)
	a)Gender predominantly involved	(1 = Male, 2 = Female, 3=Children, 4= Both male and female, , 5 = all members)
	b) Number of males	(hired , family)
	c)Number of females	(hired , family)
	d)Average man days spent per acre	
	e)Average payment per man day	
D46	Planting	
	a) Type of seed bed (1=flat, 2=mound, 3=ridges)	
	b)Method of planting	a) direct sowing 2= in lines
D47	Planting material	
	a)Sources	(1 = Own , 2 = Farmer groups, 3=StockistI 4=Other farmers 5=Research centers 6=Union/coop 7= MoA 8=NGOs 9= others (specify _____))
	b) Quantity (estimate seedlings)	.....seedlings//acre

	c)If bought, state price	Price/seedling...../seedling
D48	Planting labor	
	a)Type of planting labour	(1 = Family, 2 = Hired permanent, 3 =Casual labour, 4= more than one)
	b)Gender predominantly involved in	planting (1 = Male, 2 = Female, 3= Children, 4= Both male and female, , 5 = all members))
	c)Number of males	(hired , family)
	d)Number of females	(hired , family)
	. Average payment per man day in Ksh.	/day-----
D49	Weeding	
D49.1	1st Weeding	
	.a)Type of labour	(1 = Family, 2 = Hired permanent, 3 =Casual labour, 4=> one)
	b)Gender predominantly involved in	weeding (1 = Male, 2 = Female, 3= Children, 4= Both male and female, , 5 = all members))
	c)Number of persons per acre	
	d)Number of males	(hired , family)
	.e) Number of females	(hired , family)
	f)Average payment per man day .	...../manday
	g) If by animal indicate costs	...../acre
	h)If by tractor indicate costs in	..... per acre
D49.2	2nd Weeding	
	.a)Type of labour	(1 = Family, 2 = Hired permanent, 3 =Casual labour, 4=> one)
	b)Gender predominantly involved in	weeding (1 = Male, 2 = Female, 3= Children, 4 = Male and Females, 5 = all members)
	c)Number of persons per acre	
	d)Number of males	(hired , family)
	.e) Number of females	(hired , family)
	f)Average payment per man day .	...../manday
	g) If by animal indicate costs	...../ acre
	h)If by tractor indicate costs in	.....per acre
D50	Fertilizer applications	
	Fertilizer use	
	a). Type of fertilizer	(1 = None, 2 = DAP, 3=CAN/Urea, 4 = Others
	b)Quantity per acre in kg	50kg bag/DAP----- 50kg bagCAN-----
	c)Price per 50kg bag(<i>in</i>)	-----50kg bags- DAP -----50kg bagsCAN
	d)Cost of fertilizer application (<i>in</i>)	Mandays= Ksh/manday=
	d) Use of Manure	Tonnes/acre----- cost/tonne----- Applicatin-days/acre cost/manday-----
D51	Use of chemicals	
	a)Types	(1= Insecticide, 2 = Herbicides, 3=fungicide 4= Others
	.b Quantity used in liters per acre	Insecticide,----- Herbicides----- ,fungicide----- Others-----
	.c) Price per liters (<i>in</i>)	Insecticide,----- Herbicides----- ,fungicide----- Others-----
	d)Cost of pesticide application (<i>in</i>)	Mandays/acre----- /manday-----
D52	Integrated Pest management (IPM)	
	a) Which diseases and Pests are common in your farm?	Give names Diseases pests 1.Purple Blotch 1. Onion thrips 2. Downey Mildew 2. Others

		3. Rust 4. Bulb rot 5. Others(Give name)
	b) Are you aware of IPM?	Yes=1 NO=2
	c) Source of information on IPM	(1 = UNDP/ASNAPP , 2 = Farmer groups, 3=Stockist 4=Other farmers 5=Research centers 6=Union/coop 7= MoA 8=NGOs 9= others (specify))
	d) Do you practice it? YES=1 NO=2	
	e) If yes state what you do	1. 2. 3. 4
	f) Do you know local medicinal plants you can use in onions? YES=1 NO=2	If yes give names 1 2 3
	g) Do you know of other good agricultural practices? (GAP) YES=1 NO=2	If yes give names 1 2 3
D53	Use of Irrigation Yes=1 No=2	
	If yes how much do you pay for irrigation water?	...../Month-----or ...../season
	Harvesting	
	a) Harvesting methods	(1= Manual, 2= Mechanized,)
	b) Type of labour used	(1 = Family, 2 = Hired permanent, 3 =Casual labour, 4= more than one)
	.c) Gender involved in harvesting	(1 = Male, 2 = Female, 3= Children 4 = Males and females, 5 = all members)
	.d) Number of days of harvesting an acre	Days/acre-----
	e) Number of males	(hired , family)
	f) Number of females	(hired , family)
	.g) Average payment per man/day	...../manday
	h) Other harvesting costs	...../acre
	i) Cost of packaging materials if any	No. of bags/crate/nets/acre-----/ bags/crate/net-----
	. Yield (kgs)	
	.Quantity produced in	kgs/acre
	Proportion consumed at home in	kgs
	Proportion given out in	kgs
	Proportion lost	kgs
	Proportion sold	kgs
	Price per unit kg (<i>in</i> )	...../kg

E: CROP MARKETING VALUE CHAIN

In this section we shall trace the value chain of the crop described above.

Value addition along the marketing value chain

E1	Quantity sold (as stated above)	Bags=.....Crates=.....Nets----- Others=
E2	Transportation means from the field	(1=Motor vehicles, 2= motorcycles, 3= bicycles, 4= animal transport, 5= foot, 6=boat 7. Cart)

E3	Cost of transport/bag (state weight in Kg)	...../.....kg bag				
E4	Sorting and grading at the homestead	1= mandays-----2=Ksh/day-----3= other (name)				
E5	Disposal of rejects	1=sell locally@...../unit-----2=other 3=Use at home				
E6	Storage methods for onionssava	1=Bag in house, 2=Baskets, 3=Granaries, 4=Unbagged in house, 5=Others (specify)				
E7	To whom do you sell?	Code	Name	Km from farm	Cost of transport	Price ...../unit
		1	Farm/homestead			
		2	Nearest Market			
		3	Coop/Group center			
		4	Company buying centre			
		5	Larger market			
		6	Broker			
		Other(specify)				
E9	What problems do you face during storage of crop	1. Pests 2. Molds 3. Thieves 4. Bad weather 5. Others (specify)				
E10	Proportion lost during storage	Kg				
E11	Did you use any new improved post-harvest handling and processing technologies?	1-Yes 2= No				
E12	If "YES" mention them:	1.Drying (Tarpaulin or canvas) 2. New store 3. .Others (specify)				
E13	Do you do any processing?	Yes=1 No=2				
	If so State what you do	1				

E14: WHAT PROBLEMS DO YOU EXPERIENCE IN ONION PRODUCTION AND MARKETING AND WHAT ARE YOUR SUGGESTED SOLUTIONS

PROBLEMS	SOLUTIONS

F: FARMERS INVOLVEMENT WITH UNDP/ASNAPP/FEPA/B/TRIAS PROJECT

F1: RECRUITMENT	
F1.1: Year recruited	
F1.2: Who recruited you?	1) Extension 2) UNDP/ASNAPP/FEPA/B/TRIAS3) other
F1.3: Reasons for Joining	State the reasons

	1
	2
	3
	4
	5
	6
	7

F2: CAPACITY BUILDING/TRAINING SINCE RECRUITMENT

	State Type and Its Usefulness	
	Type of Training	Usefulness 1=Good 2=Fair

F3: SERVICES AND OTHER FACILITIES PROVIDED BY UNDP/AHI

F3.1 To what extent are you satisfied with the generated technologies, information products as well as delivery pathways? Put your tick (✓) on each of the technologies given along the itemized scale below:

Criteria	Technologies	5= very high	4= High	3= Moderate	2= Low	1= very low
1) Onion technologies	a) Improved varieties					
	b) Improved management practices					
	c) Labour saving technologies					
2) Information products	a) Brochures					
	b) Leaflets					
	c) Posters					
	d) Booklets					
3) Delivery pathways	a) Training/ Capacity building of target beneficiaries & Supplement with manuals of extension materials					
	b) Exhibitions/field days/ visits					
	c) Demonstrations					
	d) Media - TV, Radio, Newspaper, Mobile, ...					
	e) Exchange visits					
	f) Other (mention if any)					

F3.: SINCE JOINING UNDP PROJECT HOW HAS YOUR PRODUCTION AND BUSINESS IMPROVED

F3.1: Increase in Yields						
Year	2010	2011	2012	2013	2014	
1; Yield (Kg/Ha)						
2 Total Onions produced (Bags)						
F3.2: Increase in Sales						
Year	2010	2011	2012	2013	2014	
1; Total groundnuts traded						

1a. Sold to processor/Exporter				
1a. Price/ MT				
1b Sold to others				
1b Price price/MT				
3. Improvement in Quality	1=Improved 2=Small 3=As before 4=Not improved			
4.Others (specify)				
F3.4:What are your comments in view of increasing the adoption of improved Onions and management practices in your area?				
1				
2				
3				
4				
5				
6				
7				
F3.5: How many of your neighbours have visited you to discuss the variety and technology?				
Variety and technology	Number of Neighbours			
1.Variety	1a			
2Technology	2a			

G: PERSONAL EVALUATION OF PROJECT

As a participant in the UNDP/AFIM Project we would like you to give your personal evaluation on the project on the following issues

G1: RELEVANCE		1=YES	2=NO	3=NOT SURE
1. Support the development of the African food industry				
2, Including smallholders to work with private sector				
3.Addresses the needs and demands of the beneficiaries	Men			
	Women			
	Youth			
4.Approach used in meeting the above three items		1-Good	2=Fair	3=Not sure
5. Relevance of assistance offered				
G2:EFFECTIVENESS		1=YES	2=NO	3=NOT SURE
1. How has the project affected	Men			
	Women			
	Youth			
2,Does it improve income for	Men			
	Women			
	Youth			
3.Is it improving yields of groundnuts				
4. Is it improving the community benefits				
5. Considering what is paid to farmers and trader is it fair				
G3. EFFICIENCY		1=YES	2=NO	3=NOT SURE
1. In your opinion are project funds used properly				
2. Do you think the reporting system is okay				
3. Which factors do you think prevented efficient implementation				
Factor		1=YES	2=NO	3=NOT SURE

3.1 Technical factors			
3.2. Managerial factors,			
3.3. Organizational			
3.4 Institutional factors			
3.5 other external factors			
G4: SUSTAINABILITY AFTER DONOR LEAVES			
	1=YES	2=NO	3=NOT SURE
4.1: Do you think the project results likely to be sustainable beyond the project's life?			
4.2: Do the project interventions have effects on environment			
	1=Good	2=Fair	3= Not sure
4.3. What are emerging impacts on food security, income, asset enhancement on following:.	Men		
	Women		
	Youth		
	Community		
G5: NETWORK /LINKAGES:			
5.1: Do you think there were adequate linkages between, farmers, traders/aggregators, Government extension and cooperative/processor?.	1=YES	2=NO	3=NOT SURE
5.2; Do you think that the linkage between cooperative, traders and farmers and processor will continue?			
5.2. Who should continue with the project after donor leaves?	1=Government 2=Cooperative 3=processor 4= Other (specify)		
G6: FINAL GRADE FOR PROJECT			
What marks can you give the project out of a total of 100?			

G78: CAN YOU GIVE POSITIVE AND NEGATIVE ASPECTS YOU FOUND IN THE PROJECT

POSITIVE ASPECTS	NEGATIVE ASPECTS

THANK YOU FOR TAKING TIME TO ANSWER THIS EVALUATION QUESTIONNAIRE.

THANK YOU