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# Report on the Rapid Assessment of the Onion & Allied Value Chains in the Gambia

March 2023



# **REPORT ON THE RAPID ASSESSMENT OF THE ONION & ALLIED VALUE CHAINS IN THE GAMBIA**

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## **i. Executive Summary**

The United Nations Industrial Development Organization (UNIDO), with financial support from the European Union (EU), is implementing a regional project called The West Africa Competitiveness Programme (WACOMP). The counterpart contribution from The Gambia is to strengthen the quality compliance of onions and other vegetable crops through the value-chain model or approach. The agricultural regions of North Bank Region, Central River Region North, Central River Region South, Lower River Region and West Coast Region in partnership with United Purpose, Njawara Agricultural Training Centre, Freedom from Hunger Campaign and Trust Agency for Rural Development were implementing partners.

In The Gambia, vegetable production particularly onion faces numerous bottlenecks such as production (inputs, quality seeds, fertilizer), processing and marketing with other cross-cutting issues.

The production-related bottlenecks include (a) inaccessibility and untimely delivery of quality seeds, (b) inadequate water supply, (c) insufficient use of organic manure and (d) poor harvesting techniques (e) post-harvest losses. The challenges for processing are the value addition processes such as sorting, grading, weighing, packaging and storage facilities. The issue of market and marketing for onion and other vegetables continue to be challenging such as price determination, bargaining power, market plan and research.

The cross-cutting bottlenecks include (a) inadequate extension workers, (b) limited food safety inspections, (c) inadequate testing laboratories, (d) lack of measurement culture and equipment, (e) lack of compliance with quality requirements, (f) poor performance of onion business subsector and (g) lack of access to finance for the onion growers.

Consequently, the challenges include: a) how to improve competitiveness by raising the quality and increasing production and productivity of onions and vegetables in The Gambia; b) how to strengthen the supporting services by government, civil society and the private sector in improvements in standards and quality infrastructure; and c) how to build linkages and networks along the value chain and improve packaging and processing.

Thus, during the inception phase, the WACOMP-GM project, in its quest to better understand the dynamics of the onion value chain, embarked on a Market Analysis (RMA). The objectives of the RMA were (1) to conduct a value chain analysis of the onion and horticulture sub-sector in The Gambia to determine areas for quality improvements; and (2) to recommend potential intervention areas to address the quality-related gaps and constraints along the value chain.

The RMA was conducted in August 2021 by a three-man team and it focused mainly on the onion value chain. This was followed by another survey conducted in March 2022 by a three-man team which focused on allied vegetable crops such as tomatoes, chilli peppers and sweet potatoes.

The findings of the RMA will be of particular interest to traders/middlemen; importers; exporters; and policy makers at the Ministries responsible for Trade, Agriculture, Gender, The Gambia Standards Bureau (TGSB), The Food Safety and Quality Authority (FSQA), and Gambia Chamber

of Commerce and Industry, the Gambia Women Chamber of Commerce, Producer Associations, Business Associations, MSMEs and other actors along the onion and horticulture VC.

### *MARKET ANALYSIS OF ONION*

The findings of the RMA have established that onion production is remunerative and can create employment, improve nutrition, wealth and reduce poverty for poor-resource rural women who are the members of the farmer cooperatives or SMEs. However, it also revealed that the level of investment in the sub-sector is low and there are many aspects of onion production that need investments. It further revealed that the SME members have some knowledge on good agricultural practices as it concerns pre-harvest stages but with little knowledge on the post-harvest handling and management of onions. Furthermore, the RMA revealed that the SMEs do not have access to basic tools, appropriate technologies and storage facilities to maintain high quality onions. The total onion production was estimated at 2,510.72 MT (Table 6). The bulk of the onions comes from NBR followed by CRRN. These two regions produced almost 40% of the onion at 1173.96 MT and 838.25 MT, respectively. Table 5 shows that in 2021 the average estimated yield of the SMEs with the highest yields was 138 tons per hectare and the lowest yields estimated at less than 0.5 tons per hectare. The average estimated yield was 19 tons per hectare.

The country consumption was estimated at 17,000 MT per annum (importation is 12,500 MT; production by Kharaffi Farms is 2000 MT and production by farmer cooperatives/SMEs is 2,500 MT). There are few renowned value chain actors in the input distribution business in the Greater Banjul Area (GBA). They source their goods mostly from Dakar but few of them have partners in Europe, United States and Asia. Among them, all the needs of the producers can be supplied. The inputs are mostly seeds, fertilizers, agro-chemicals, sprayers, garden tools and now more recently, smart agriculture irrigation paraphernalia. There are two categories of producers: high tech industrial and smallholder subsistence. The first category is Kharaffi Farms which is highly mechanized with a central-pivot irrigation. They produce mostly onions and Irish potatoes, but they do grow other vegetables. Annually, Kharaffi dedicates hundred (100) ha to the production and marketing of onions. In addition, the second category are the smallholder producers who are organized to work into community gardens with land area of 2.5 to 5.0 hectares. The membership of each community differs from each other usually formed as farmer groups, cooperatives or small and medium enterprises. There are two hundred and twenty-two (222) farmer cooperatives or small and medium enterprise under the apex body of the market federation. The total membership is thirty-three thousand, six hundred and eighty-two thousand (33,682).

The gender segregation is thirty-two thousand, one hundred and three thousand (32,103) female and one thousand five hundred and seventy-nine thousand (1,579) male. Importantly, ninety-five percent (95%) of the total membership are women while five (5%) are male, respectively. Apparently, there is no evidence that onions and vegetables are processed into secondary products nor transformed into by-products. There are six (6) Marketing Federations in the country, but this RMA is concerned with only five (5) federation and market federation in URR is not part of the analysis. The five MFs are Solicita in NBR; Hewal in CRRN; Fankaso in CRRS, Sofanyama in LRR and Fangsoto in WCR (Table 4). The Ministry of Trade with support from the ITC is implementing a project called SheTrade which is mandated to buy onion and other vegetables produced by women growers. The implementing partner of WACOMP-GM, United Purpose (UP), supported the Marketing Federations (MF) to establish a Price Market Information System (PMIS) during an erstwhile IFAD-funded NEMA project and continue under follow-up ROOTS project. Each MF has two members whose responsibility is to collect price data



information from weekly markets or lumos. On a weekly basis, average prices of commodities are collected and the information up-loaded to a WhatsApp platform. This helps the producers to know the available stock and price of onion and other commodities and by extension for producers to know when, where and how to sell their commodities.

#### *MARKET ANALYSIS OF VEGETABLES.*

In general terms, the small and medium enterprises mainly focus on production and marketing of onions, tomatoes and sweet potatoes in which some are usually used for home consumption to improve on the nutrition value of households. However, there is limited chilli pepper production due to unavailability of readily available markets, and low prices. Onions, tomatoes, and chilli peppers are profitable where most of the producers earn income. The production was promoted under a program for the Mothers' Club called Balu Timaring (BTM) of United Purpose, FAO, and the WFP. Primarily, vegetable crops have potential impacts on the lives and livelihood of the members as they sell, earn income and eat part of the produce to improve on food and nutrition diets while reducing their family expenses. The Seven (7) SMEs - Illiassa, Kiang Nema, Mamudfana, Jamali Ganyado, Buniadu, Njoben and Brefet have complete data on the crops under study (Table 7). Six SMEs, Gui Jahanka, Marakissa, Kiang Nema, Mamudfana, Brefet and Buniadu - did not cultivate chilli peppers and sweet potatoes, and have neither completed nor collected data on crops under study.

The biggest SME producers of onions are Buniadu and Illiassa of NBR of 600 MT and 300 MT, respectively. The other SMEs have production levels less than 100 MT. The biggest SME producers of tomatoes are Buniadu, Illiassa, Brefet and Njoben who are producing over 100 MT/ha. The biggest SME producers of chilli peppers are Njoben, Illiassa and Jamali Ganyado with 20 MT, 10 MT and 10 MT, respectively. The biggest SME producers of sweet potatoes are Buiba, Kiang Nema and Njoben with production levels of 60 MT, 30 MT and 20 MT, respectively. The SMEs have membership between 100 and 300 persons and the majority (95%) are women. They work individually, as they produce and sell their commodities but occasionally would work in groups or associations when the need arises to buy inputs or when they approach service providers. The most important partners supporting the vegetable producers directly are Service Providers such as FAO, DOA, WACOMP, UP, NARI Horticulture, TARUD, NATC & FFHC, the government projects and NGO projects.

Unfortunately, most of the places visited, the members are not aware of agricultural policies and hence they feel that government policies have no impact on their production. On the contrary, half of members knew about the government moratorium, in place between 2010 and 2020, against importation of onions during the harvest period of onions in The Gambia. They expressed interest for government to re-instate the moratorium when their onions are ready for marketing between March and June of the year. However, the risks faced by the SMEs are (a) lack of curing/storage facilities, (b) lack of primary processing facilities. (c) un-regulated markets policies, (d) inadequate support supply of assorted vegetable seeds, and (e) inadequate water supply.

## **CONCLUSIONS:**

In conclusion, the Market Analysis revealed that information on vegetable production through the value chain approach including quality market infrastructure. Importantly, onions remain the main focus of the SMEs and is the most remunerative crop among other vegetables. The production of tomatoes surpasses that of onions because of its perishability, it cannot be stored nor traded in an open market as onions. Chilli peppers have a potential to become a major crop, but its market is not big compared to tomatoes and onions while sweet potato is produced for nutritional purposes. Furthermore, standards and regulations do not exist in the country for onions and the allied vegetables in rural communities of the Gambia. However, there are no precision instruments with the SMEs, that is appropriate equipment, tools and supplies to ensure compliance to mandatory regulations to national, regional and international standards. There is no national entity/organization that would be in charge of the accreditation activity and assessment bodies are weak in terms of human resources.

## **RECOMMENDATIONS**

The above analysis and conclusions of the RMA and its update allow the study to derive the following recommendations. The recommendations are addressed to the WACOMP-GM and UNIDO for considerations in the future country programmes.

- (a). The WACOMP-GM project should promote the idea of two cropping season i.e. dry season and rainy season onion production per year in the next three (3) years. The country consumption is estimated at 17,000 MT per annum (importation is 12,500 MT; production by Kharaffi Farms is 2000 MT and production by farmer cooperatives is 2,500). Thus, the country production is 25% of the consumption requirements which will require two (2) production season in the 3 remaining years of the project to bridge the gap.
- (b). WACOMP-GM project should continue to invest in the area of capacity building on the best agronomy practices of onion and other vegetable crops.
- (c). WACOMP-GM project should provide standard infrastructure for drying, curing and storage at the farm level and provide basic precision instruments that will allow weighing and measuring. The quality of the local onion and vegetables are below international standards because curing, drying, measuring and weighing of the produce at the site are not conducted properly. There is a lack of culture of weighing and measuring and the project to provide training on the use and maintenance of these instruments.
- d). Standards on onion and quality requirements should be developed in collaboration with UNIDO and TGSB. A selected number of SMEs will be identified and build their capacities with an ultimate goal for certification. These SMEs will be trained on GHP, GMP and HACCP for handling and management of fresh onions and vegetables. The various steps will lead to certification and will require a lot of mentoring and counselling. It is therefore recommended that the project appoint a full-time resource person on contract basis with the responsibility to supervise the steps involved in the envisaged of tailor-made or technical guidance program that will build capacities of the onion value chain actors in standards and quality parameters.

- e). The WACOMP-GM project should partner with the Ministry of Trade for appropriate marketing of onions at rural communities. The She-Trade project, DOA and UP to develop market linkages between producers and buyers from urban growth centers of marketing Federations and SMEs.
- c). UNIDO should support construction of a tomato processing plant for The Gambia. It is recommended to have an industry to absorb surplus production and transform it into processed by-products such tomato paste, ketchup, juice and dried tomatoes using the osmotic dehydration method.
- d). UNIDO should support the private sector to have industries that can transform the peppers and sweet potatoes into by-products. For example, chilli peppers can be processed to make sauce, dried powder, and oil (e.g., the akabanga made in Rwanda with UNIDO support). Sweet potatoes can be processed to make cakes, chips (French fries) and powder which can serve as baby food and pastry industries.
- e). UNIDO should support a diagnostic assessment of the Nyangen pepper processing plant in CRR/North with a view of revitalization.

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## ii Abbreviations

ADWAC	Agency for the Development of Women and Children
AGOA	African Growth and Opportunities Act
ABS	Agricultural Business Services
ANR	Agriculture and Natural Resources Policy
AVISU	Agency for Village Support
CH	Cadre Harmonisé
COVID-19	Corona Virus Disease 2019
CRRN	Central River Region North
CRRS	Central River Region South
DIC	Domestic Investment Certificate
DOA	Department of Agriculture
DOJ	Department of Justice
DOP	Department of Planning
EBA	Everything But Arms
ECOWAS	Economic Community of West African States
ETLS	ECOWAS Trade Liberalization Scheme
EU	European Union
FAO	Food and Agriculture Organization
FAOSTAT	Food and Agriculture Organization Statistics
FASDEP	Food and Agriculture Sector Development Program
FC	Farmer Cooperative
FFHC	Freedom From Hunger Campaign
FFS	Farmer Field School
FSQA	Food Safety and Quality Authority
FSCA	Food Security through the Commercialization of Agriculture
FTS	Food Technology Services
GALDEP	Gambia Lowlands Development Project
GAP	Good Agricultural Practices
GAWFA	Gambia Women Finance Association
GBA	Greater Banjul Area
GBOS	Gambia Bureau of Statistics
GCAV	Gambia Commercial Agriculture and Value Chain Development Project
GCCI	Gambia Chamber of Commerce and Industry
GDP	Gross Domestic Product
GHE	Gambia Horticulture Enterprises
GIEPA	Gambia Investments and Export Promotion Agency
GIRAV	Gambia Inclusive and Resilient Agricultural Value Chains Project
GNAIP II	Gambia National Agricultural Investment Plan II
GWCC	Gambia Women Chamber of Commerce
HDI	Human Development Index
HTS	Horticulture Technical Services
IDH	The Sustainable Trade Initiative
IFAD	International Fund for Agricultural Development

I/NGO	International Non-Governmental Organisation
ITC	International Trade Center
KF	Kharaffi Farms
Kg	Kilogram
LDC	Least Developed Country
LIFDC	Low-Income Food-Deficit Country
LRR	Lower River Region
MF	Marketing Federation
MOA	Ministry of Agriculture
MOTRIE	Ministry of Trade, Regional Integration, Industry & Employment
MRL	Maximum Residue Levels
MT	Metric Ton
NANA	National Nutrition Agency
NATC	Njawara Agricultural Training Center
NARI	National Agricultural Research Institute
NAWFA	National Women Farmers Association
NBR	North Bank Region
NDP	National Development Plan
NEMA	National Agricultural Land and Water Management Project
NGO	Non-Governmental Organization
NHS	National Household Survey
NHSMP	National Horticulture Sector Master Plan
PCR	Project completion Report
PMIS	Price Management Information System
PPS	Plant Protection Services
QI	Quality Infrastructure
RAD	Regional agricultural Directorate
ROOTS	Resilience of Organizations for Transformative Smallholder Agriculture Project
RMA	Market Analysis
SIC	Special Investment Certificate
SME	Small and Medium Size Enterprise
TARUD	Trust Agency for Rural Development
TGSB	The Gambia Standards Bureau
UNDP	United Nations Development Program
UNIDO	United Nations Industrial Development Organization
UP	United Purpose
USD	United States Dollar
VC	Value Chain
WAAPP	West Africa Agricultural Productivity Program
WACOMP-GM	West Africa Competitiveness Program/The Gambia
WCR	West Coast Region
WFP	World Food Program



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## MARKET ASSESSMENT

### 1.0. INTRODUCTION

The Gambia is among the Low-Income, Food Deficit Countries (LIFDC) of the world. The per capita Gross Domestic Product (GDP) is estimated at USD534.30 and the UNDP Human Development Index (HDI) is estimated at 0.460 ranking the country 174<sup>th</sup> out of 189 countries in 2017. The poverty rate was estimated at 53.4% of the population and was higher in rural communities than in urban areas, 69.5% and 31.6%, respectively in 2015. Gambian households experience both acute and chronic food insecurity with 8% of households being food insecure or vulnerable to food insecurity.

### 1.1. Historical Background

The growing of vegetables in The Gambia dates back many centuries with early explorers reporting that travelers to the region in the 14<sup>th</sup> century have observed women cultivating vegetables in household gardens and in rotation with rice in lowland swamps. The first modern vegetable growing scheme in the country was reported to have been established during the colonial period [1951/1952] and since then the Department of Agriculture has promoted the cultivation of vegetables as a source of income and nutrition for households. A pilot project for producing onions was established in 1971, followed by 20 similar schemes with a total membership of over 900 growers by 1972/73. By the end of the decade, the number of growers had doubled as production expanded as a result of the links that were developed with the growing tourist industry. Since then, there has been a steady expansion of horticulture in terms of land area, crops grown, exports and contribution to employment and GDP (NHSMP 2015).

### 1.2. National Policy Documents

#### 1.2.1. The National Development Plan 2018-2021

The Gambia formulated a medium-term blueprint, the National Development Plan (NDP 2018–2021), to address poverty, particularly rural poverty, and to close the growing gap in access to basic services between the predominantly urban western part of the country, and the rural poor, predominantly found in other parts of the country. The vision and overall goal of the NDP is centered around eight strategic priorities and seven crosscutting critical enablers, summarized in Table 1.

**Table 1.** Strategic priorities and crosscutting enablers of the NDP 2018 - 2021.

Strategic priorities	Crosscutting enablers
1. Restoring good governance, respect for human rights, the rule of law, and empowering citizens through decentralization and local governance.	a. A public sector that is efficient and responsive to the citizenry.
2. Stabilizing the economy, stimulating growth, and transforming the economy.	b. Empowering the Gambian Woman to realize her full potential.
3. Modernizing agriculture and fisheries sectors for sustained economic growth, food and nutritional security and poverty reduction.	c. Enhancing the role of the Gambian Diaspora in national development.

Strategic priorities	Crosscutting enablers
4. Investing in people through improved education and health services and building a caring society. 5. Building infrastructure and restoring energy services to power the economy. 6. Promoting an inclusive and culture-centered tourism for sustainable growth. 7. Reaping the demographic dividend through an empowered youth. 8. Making the private sector the engine of growth, transformation, and job creation.	d. Promoting environmental sustainability, climate resilient communities and appropriate land use. e. Making The Gambia a Digital Nation and creating a modern information society. f. A civil society that is engaged and is a valued partner in national development. g. Strengthening evidence-based policy, planning, and decision-making.

Strategic priorities number 3 and 8 and crosscutting enabler *b* have special and direct relevance for implementing the onion-horticulture project for The Gambia. The goal of the third priority of the NDP is to have a modern, sustainable, and market-oriented agriculture, including livestock, fisheries sectors for increased food and nutrition security, income and employment generation, poverty reduction and economic transformation (NDP, 2018-2021).

### 1.2.2 The Gambia National Agricultural Invest Plan, 2019-2026

The Ministry of Agriculture (MOA) adopted an Agriculture and Natural Resources sector policy, ANR 2017–2026, which resonates well with the NDP and envisages “a market-led commercialized, efficient, competitive, and dynamic agriculture and natural resource sectors”. The sector investment plan, National Agricultural Investment Plan (GNAIP II 2019-2026), was formulated by MOA to implement the ANR policy. It envisages “a food and nutrition security at household level including vulnerable households through increased Agriculture and Natural Resources (ANR) productivity based on sustainable use and management of natural resources in support of national goals of poverty reduction and improved livelihood (GNAIP II, 2019)”. The GNAIP II constitutes the main investment framework for agricultural development in The Gambia in the medium term (2019-2026). The programme comprises of six (6) priority programmes:

- 1) Production and value chain promotion on food crops and vegetables sub-sector
- 2) Production and value chain promotion on livestock husbandry and pastoralist sub-sector
- 3) Production and value chain promotion on fishery and aquaculture sub-sector
- 4) Production and value chain promotion on forestry and environment sub-sector
- 5) Food and nutrition security, resilience, social protection; and,
- 6) Promote good governance of the whole agriculture and natural resources sector.

The priority programme of the GNAIP II is for promotion and production of the food crops and vegetable value chains.

### **1.2.3 The Agriculture Sector**

Agriculture occupies a prime place in Gambia's economy and a key driver of economic growth. It accounts for approximately 30% of GDP and employs nearly half (46.4%) of the working population and over 80% of the rural working population. The total arable land area is estimated at 558,000 hectares of which about 58% is cropped annually. The River Gambia offers a reliable source of fresh water in the east of the country for irrigation.

However, Gambia's agriculture is relatively undiversified, it is mainly small-holder and characterized by rain-fed subsistence farming of cereals (millet, maize, rice, sorghum) and a limited range of cash crops (mainly groundnuts), as well as livestock production. Agriculture remains the predominant sector in The Gambia and is instrumental in poverty reduction. It is the mainstay of the rural economy where most of the poor lives. In The Gambia, agriculture is largely a household activity with women, men and the young playing important roles in crop production, horticulture, and the rearing of livestock. The sector comprises of five sub-sectors: food crops, horticulture, livestock, fisheries and forestry.

The sector serves as the main source of income and food for majority of the rural household population, its share of the country's total exports is an estimated 70% making up for a substantial fraction of The Gambia's foreign exchange earnings. While agriculture is considered a priority on account of its important contribution for food security and employment, it has received a stiff competition from tourism that has become an important driver with 40% earnings in foreign exchange, and accounting for two-thirds of the country's total household income. However, the COVID-19 pandemic has crippled the tourism sector as source of income for the sellers, hoteliers and the government.

### **1.2.4 The National Horticulture Sector Master Plan, 2015-2035**

Prior to the existence of the NDP, the Ministry of Agriculture had formulated a National Horticulture Sector Master Plan 2015-2035 (NHSMP) to exploit the growing demand and market opportunities available in the national, regional, and international markets. Horticulture is one of the priorities in the agriculture sub-sector and a key activity in the bid for diversification of the sector from over-dependence on traditional cereal products. It has a potential to become one of the main sources of foreign exchange earnings for The Gambia (NHSMP, 2015). In The Gambia, horticulture is the sub-sector that has seen the most commercial investments in recent years. Vegetable production contributes 4% to GDP, accounts for 65% of the agriculture labour force and 88% of the vegetable growers are women. Horticulture accounted for 2% of the cultivated land, 8% of the agriculture production in volume, and 16% of the agriculture production in value (IDH 2018).

Horticulture is among the potential areas for food, nutrition, and income security as well as an export potential of the Gambian economy. Production of vegetables was estimated at 13,515 MT in 2019 (FAO). The key vegetables grown are chilli pepper, onion, tomato, cabbage, bitter tomato, eggplant, and sweet potato. The country developed 250 ha of gardens equipped with boreholes, overhead water tanks, and water reticulation systems by public sector projects such as the National Agricultural Land and Water Management (NEMA), the Gambia Commercial Agriculture and Value Chain Development (GCAV), the Food and Agriculture Sector Development (FASDEP), the West Africa Agricultural Productivity Project (WAAPP), the Gambia Lowlands Development Project (GALDEP) and the Gambia National Agricultural

Investment Programme (GNAIP II). In The Gambia five high priority vegetable crops are identified: chili pepper, onion, mango, tomato, and sweet potato. They have a potential to tap USD 64 million to international market, benefit 36,600 farmers, and create 16% more jobs in the horticultural sector (IDH 2018).

### 1.2.5. Onion production and consumption

The smallholder farmers in rural communities widely grow onion as the most important source of income generation and it has comparative advantage over other vegetable crops. It is the most important crop widely consumed as an additive to food prepared on a daily basis. In The Gambia, each household consumes onion as delicacies. The consumption of onions alone constitutes 33% of vegetable consumed and large tons of onions are imported from international markets. The production cycle of onion is roughly 3-5 months to grow, and the average price at the market, was D40 per kilogram. The average national onion yield is 20 tons/ha (IDH 2018). Importantly, more recent trends in vegetable production in project areas shows increase in yields up to 30t/ha (NEMA PCR, 2020).

### 1.2.6. National and Regional Demand for onion.

In The Gambia, in 2020, it was estimated that 12,500 MT of onions were imported into the country which had an import value of USD 2.12 million (Tridge. 2020). However, due to the limited amount of total production at the national level, onions are perceived as an import substitution crop to satisfy local consumption of onions and to meet rising demand in the future. In 2018, the addressable market was an estimated USD14.0 million and it is predicted that all future demand for locally grown onions will be from within the country (IDH 2018). To plan and prioritize specific support interventions, the onion sub-sector will require an in-depth analysis of the value chain to guide future investments in the sub sector (Jallow, 2019). In West Africa estimated production of onions stands at 3.5 million MT annually (Table 2). The biggest producer countries are Nigeria, Niger, Ghana, Senegal, Mali and Benin (Tridge, 2021). It is also estimated that the region imports annually, approximately 288,000 MT of onions during the off-season from the European Union. The world average consumption per capita is 11.7 kg and that of The Gambia is 6.97 kg. In the top ten world rankings for consumption per capita of onions figures two (2) West African countries: Niger (40.4 kg) and Senegal (34.2 kg).

**Table 2.** West Africa Onion Production and Consumption 2019

Country	Area (ha)	Production (KG)	Yield (MT/ha)	Consumption per capita (kg)
World	5,192,651	99,968,016	19.20	11.7
Benin	2,942	42,074	14.30	6.84
Burkina Faso	1,079	18,061	16.73	-
Cape Verde	121	3,167	26.10	-

Côte d'Ivoire	814	8,602	10.56	-
Gambia	210	4,000	19.00	6.97
Ghana	8,013	155,402	19.30	7.06
Guinea Conakry	-	-	-	4.74
Guinea Bissau	-	-	-	2.98
Liberia	-	-	-	2.05
Mali	3,326	66,041	19.80	5.34
Niger	37,644	1,313,179	34.80	40.4
Nigeria	592,678	1,374,764	23.10	6.71
Senegal	14,472	444,871	30.70	34.2
Sierra Leone	-	-	-	2.48
Togo	-	-	-	-

Sources: FAOSTAT 2019; Helgi Analytics 2021 & Tridge 2020)

### 1.3. Scope of Market Assessment

Onion and vegetable production in The Gambia faces many bottlenecks and these are often related to either production, marketing, processing, or some cross-cutting issues. The production-related bottlenecks include low levels of quality and price. The processing-related bottlenecks include lack of curing and storage facilities and low added value to the product arising from lack of sorting and grading. The marketing-related bottlenecks include low negotiation capacity leading to limited options to market onions; poor packaging; and low level of linkages along the value chain. The cross-cutting bottlenecks include inadequate extension service delivery which results in little plant protection and little adoption of GAPs; limited food safety inspections; lack of testing laboratories resulting in poor food safety; lack of measurement culture and equipment; lack of compliance with quality requirements; and poor performance of onion business sub-sector; and lack of access to finance for the onion growers. Consequently, the challenges include: 1) how to improve competitiveness by raising the quality and increasing production and productivity of onions and other vegetables crops in The Gambia; 2) how to strengthen the supporting services by government, civil society and the private sector improvements in standards and quality infrastructure; and 3) how to build linkages and networks along the value chain and improve packaging and processing.

#### **1.4 Objectives of Market Analysis (RMA)**

1. Conduct value chain analysis on onion production, processing and marketing.
2. Identify the best agronomic practices on onion in the intervention sites.
3. Identify challenges and possible solutions to the challenges.

#### **1.5. Value Chain Stakeholders**

The findings of the RMA will be of particular interest to traders/middlemen; importers; exporters; and policy makers at the Ministries responsible for Trade, Agriculture, Gender, The Gambia Standards Bureau (TGSB), Food Safety and Quality Authority (FSQA), and Gambia Chamber of Commerce, Industry (GCCCI), the Gambia Women Chamber of Commerce, Producer Associations, Business Associations, MSMEs and other actors along the value chain of onion and horticulture (Figure 1).

#### **1.6. Methodology**

A Market analysis was conducted in August 2021 by a three-man team comprising of the National Coordinator for UNIDO in The Gambia, the National Horticulture Value Chain Specialist, and the International Horticulture Value Chain Specialist. A follow up to the RMA was conducted in March 2022 which was conducted by a three-man team comprising of the International Horticulture Value Chain Specialist, the National Horticulture Value Chain Specialist and the National Communications and Visibility Expert. The team interviewed a sample of 20 of Farmer Cooperatives<sup>1</sup> (FC)s (Table 2). Every FC has at least one Farmer Field School (FFS). Where an FC has more than one FFS, the managers of the cooperative organized a composite team of 30 women for us to meet. The analysis of the data from both missions consisted of (i) a desk review (ii) a series of focus group discussions (face to face).

- a) The RMA was conducted in 5 regions of the country in 2021 and 20 farmer cooperatives/SMEs were visited. The mission interviewed farmer cooperative/SMEs, the executive members of Marketing Federations, institutions supporting the onion value chain, institutions supporting development of the quality infrastructure landscape and those responsible for trade promotion and creation of an enabling environment for successful onion sub-sector. The interviews were in the form of focus group discussions using a structured questionnaire (Annex 6.1).
- b) An update of the RMA was conducted in March 27-31, 2022 by the International Horticulture Value Chain Specialists, the National Horticulture Value Chain Specialists, the National Communications and Visibility Expert and a staff of United Purpose/WACOMP-GM. The mission went to five regions: NBR, CRRN, CRRS, LRR and WCR. In each region, the mission met two Farmer Cooperatives/SMEs. The interviews were in the form of focus group discussions using a questionnaire (Annex 6.2) based on the ‘making markets to work for the Poor’ (M4P) approach. The crops of interest were onions, tomatoes, chilli peppers and sweet potatoes.

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<sup>1</sup> The Farmer Cooperatives are the women working in a village vegetable garden who come together to form a cooperative for the purpose of marketing their produce as a group. The FC membership ranges from 100 to 400 members and may include a few men, 10-20).



### 1.6.1 Study Area Selection

The study area covers five rural regions of the country, NBR, CRRN, CRRS, LRR and WCR. The United Nations Industrial Development Organization (UNIDO) is implementing the WACOMP-GM project with a strategic partner, the international NGO, United Purpose (UP) based in The Gambia. United Purpose has three strategic local NGO partners: NATC, FFHC and TARUD. The study area is covered by these three local NGO partners. URR was not included because UP does not have a local NGO implementing partner covering URR. The RMA team with the local NGOs identified the farmer cooperatives/SMEs to visit and interview. The workers in the gardens are women organized into farmer cooperatives (FCs) with membership extending from approximately 100 to 400 members. Each farmer cooperative/SMEs organized, Farmer Field School (FFS) comprising of 25-30 members who receive training on Good Agricultural Practices (GAP) in vegetable production. The FFS operate demonstration plots in the gardens and through these plots they put into practice their newly acquired knowledge on GAPs and train their fellow members. In each region, a Marketing Federation<sup>2</sup> (MF) was established by UP through support of an erstwhile IFAD-funded project called NEMA. The MFs members are the FCs/SMEs and each MF may have between 30 to 50 FCs/SMEs membership. Each MF has an executive member of 13-15 members who are presidents of the FCs/SMEs who manage the affairs of the federation.

### 1.6.2 Selection Criteria

The team visited a total of 20 FCs/SMEs from the five agricultural regions during the RMA and 10 FCs/SMEs during the RMA update. In the selection of the gardens the team utilized purposive sampling through the use of knowledge and experience of the local NGO partners. First, the four biggest markets (lumos) in a region were identified. Second, one garden close to each market (lumos) was identified. Third, the distance between the gardens and the market (lumos) was considered. Fourth, the level of organization and capacity to absorb new support from WACOMP-GM (see Table 3) was considered.

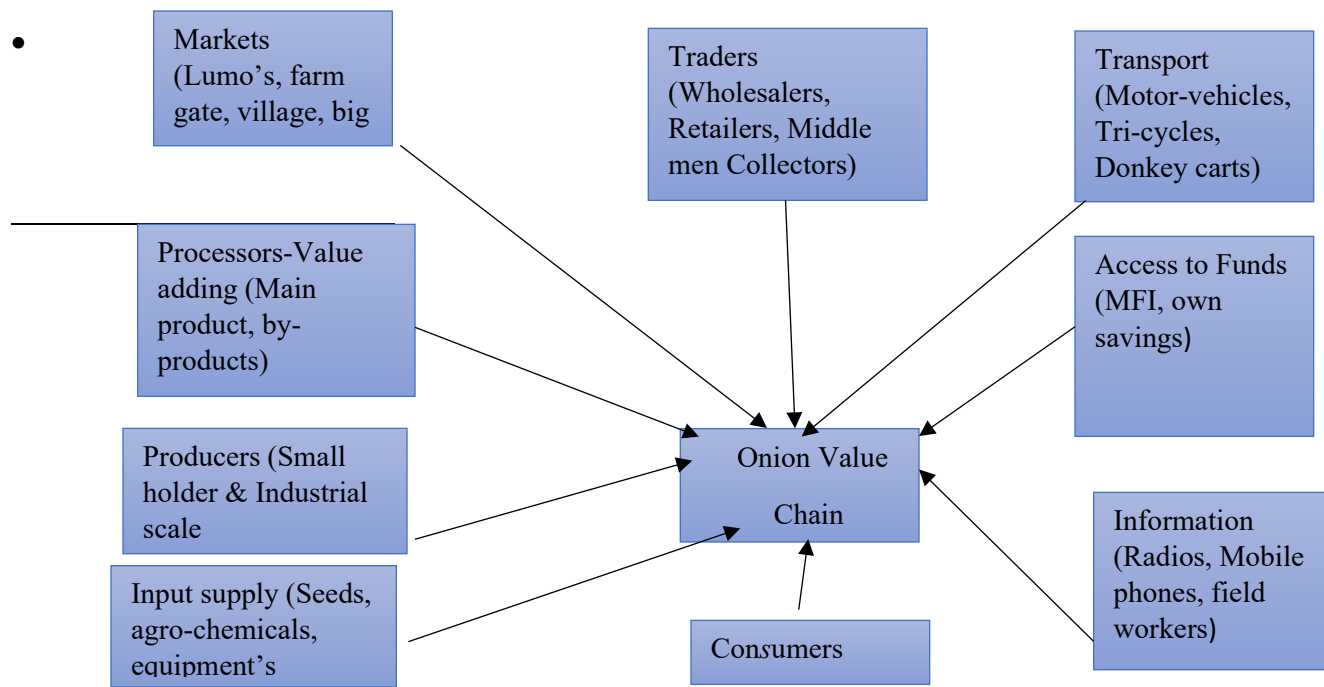


Figure 1: Vegetables Value Chain linkages

## 2.0 RESULTS OF MARKET ANALYSIS

### 2.1 Onion production and Marketing

The RMA has established that onion production is remunerative and can create wealth for poor rural women who are the members of the farmer cooperatives or SMEs. However, it was observed that the level of investment in the sub-sector is low and there are many aspects of onion production that need investments along the value chain. It was also observed that the SME members have some knowledge on good agricultural practices as it concerns pre-harvest stages but they have very little knowledge on the post-harvest handling and management of onions. Furthermore, the RMA revealed that the SMEs do not have access to basic tools, technologies and storage facilities to maintain high quality onions.

**Table 3.** Gender segregation of SMEs in the Regions. 2021

Region	Garden	Number	Male	Female	FFS	Male	Female
NBR	Njoffen	78	2	76	30	0	30
	Kerewan	222	3	219	30	0	30
	Njabakunda	375	50	325	30	3	27
	Minteh Kunda	150	0	150	30	10	20
	Kanikunda Suba	300	100	200	30	1	29
CRRN	Kaur Jahawur	175	5	170	30	0	30
	Kaur Touray Kunda	94	2	92	25	0	25
	Kuntaur Wassu	277	20	257	28	2	30
	Jamal Ganyado	207	2	205	30	1	31
CRRS	Dobong Kunda	130	3	127	30	0	30
	Njoben	257	6	251	30	4	26
	Mamutfana 2	129	1	128	25	0	25
	Dankunku	611	38	573	27	2	5
LRR	Buiba	50	45	5	28	6	22
	Gineiri	250	30	220	30	2	28
	Wurokang	64	0	64	28	6	22
WCR	Kalagi	74	4	70	30	2	28
	Wassadou	124	4	120	30	0	30
	Batabut Kantora	165	5	160	30	0	30
	Brefet	280	10	270	30	2	28
TOTAL		4012	330	3682	581	41	526

Table 3 show the sample SMEs visited, their location and a breakdown of their membership. The sample SMEs have 4,012 members of which almost 92% are women. Each SME has a Farmer Field School comprising of 30 members of who 91% are women.

### **2.1.1. Input Suppliers:**

The input suppliers play an important role in the operationalization of onion production and other related vegetables in the value chain approach. In The Gambia, there are many market outlets where farmers can buy quality seeds. There are private enterprises that sell seeds to women farmers, such as Gambia Horticulture Enterprise (GHE), Afric Agro Action (AAA), Farmland, Rayan Farms, and Agriculture Business Enterprise which are located in the GBA. In addition, there are other emerging retailers which sell vegetable seeds to women farmers including Jobe Kunda in Brikama and Sallah & Brothers in Kombo Sanyang. The varieties basically fall in two types: common dry onions (*Allium cepa*) or green onions (shallot). The most common are the red, short-day, round shape and pungent dry onions. The current popular variety is the Violet di Galmi. The other popular variety is white and called Texas Grano. Violet di Galmi variety is widely grown by women producers because of its early maturing and long period of storage according to women producers. Moreover, the demand for onion seeds by women producers are always on high side at the time of production season, however the producers claim that quality seeds are expensive where 500g tin of onion seeds costs D2,200/tin.

The inputs are mostly seeds, fertilizers, agro-chemicals, sprayers, garden tools and recently, smart agriculture irrigation paraphernalia. There are few renown distributors in the Greater Banjul Area (GBA). They receive their supplies mostly from Dakar, even if they do not have exclusive rights, i.e., the suppliers in Dakar sell to various distributors in The Gambia. The distributors have partners in Europe, United States and Asia where the needs of the producers can be supplied. The garden tools, likewise, are sold by these same input dealers and other hardware stores in the GBA. The only issue is the distance the growers must travel to buy inputs, and one of the seed retailers are Sallah and Brothers, Kombo sanyang, Brikama and Brikama Ba shops which is a good sign towards improving accessibility.

Onion varieties are classified according to when they bulb. They can be long-day (14-16 hours), short-day (10- 12 hours) or intermediate day types (12-14 hours), depending on the day length required to initiate bulb formation. Bulbs vary in colour (red, yellow, or white); shape (round or flattened); and flavour (sweet or pungent) and very few varieties are cultivated in the Gambia. The use of inorganic fertilizers and agro-chemicals are discouraged as affects the health conditions of consumers. Instead composting and application of organic manures are encouraged. This is a general standard practice at every SME visited, however, some SMEs do utilize inorganic fertilizer and most of the time is compound fertilizer of NPK. In some SMEs use of inorganic fertilizer and agro-chemicals are prohibited and a fine is levied on clandestine users. In all SMEs, the growers, through the FFS, learn how to prepare a local, organic pesticide<sup>3</sup> to control pests and diseases.

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The locally made pesticide is concoction of neem leaves, hot pepper, garlic, ginger, vinegar, wheat flour and soap.

### **2.1.2 Producers**

Onion is considered as one of the most important vegetables produced on large scale in The Gambia. The area under cultivation for onion increases from season to season due to higher turn-over per unit area of production, small scale irrigation areas. The level of onion production in the rural communities of Gambia for the past years is surmounting because of its economic importance and high turn-over rate against other vegetable crops. In spite of the fact that areas were increased, the productivity of onion is much lower than other African countries. The low productivity may be attributed to limited availability of good quality seeds and inadequate production technologies. The production of onion in The Gambia is categorized into actors or players. They are high tech industry and smallholder farmers. Kharaffi farm is high tech industry that is highly mechanized with modern irrigation facilities cultivates two hundred and eight (208) hectares out of which hundred (100) hectares is set for onion and irish potatoes production. In addition, the second category is the small-scale vegetable producers working as community garden with an average land area of 2.5 to 5.0 hectares. The membership of the vegetable gardens differs from scheme to scheme depending on the size of the groups. Importantly, there are two hundred and twenty-two (222) farmer cooperatives under the apex body of the Market Federation with a total membership of thirty-three thousand, six hundred and eighty-two thousand (33,682). The ownership of the market Federation belongs to women with ninety-five percent (95%).

### **2.1.3 Processing and Processors**

In The Gambia, processing or transforming raw agricultural commodities into finished production through value-addition is vital in onion and other vegetable production. Onion can be processed into onion paste and dried or dehydrated products like powder, flakes and grits. Notably, the food processors transform vegetables into different finished products such as tomato-ketch-up, pepper sauce, and other products. However, the findings from the respondents revealed that there is no empirical evidence showing that onions are processed into finished products or value added.

### **2.1.4. Sorting and Grading**

Storing onions is important because it allows the producers to sell their onions later, when the prices are a bit higher. Unfortunately, there is not guarantee that the prices will indeed increase. The producers lack modern facilities to store their onion rather use traditional method of storage. Women participation in onion value chain development activities were anticipated to help in with other upstream chain actors. In addition, farmers follow different practices for marketing of onion once it is harvested. It was realized that some farmers do the preliminary sorting immediately after harvesting at field level to remove pest and infested damaged bulbs.

However, most farmers do not undertake grading based on size (small/medium /large) at field level. End-consumers prefer well-dried, medium sized onion, while the demand from restaurants and canteens is for large-sized onions. Also, export requirements differ depending upon the country of export in terms of size, colour and packing lot. Traders/ wholesalers carry out the sorting / grading activity and add a mark up to the price. The value addition process is very ideal for the producers to undertake in order to maintain the shelf life of onions produced at field level. The best agricultural practice for curing is to allow the onion to dry at field level with a minimal content of five (5%). In this case, the onion can be stored for a period of six (6) months and beyond.

On average, the onions are heaped in 3 categories (Grade A, Grade B and Grade C). Grading is done according to size, weight, firmness and wholesomeness. When it comes to marketing, often Grades A&B are pooled and sold as one. The Grade C, comprising the small and blemished bulbs are either kept for home consumption and some are used for seeds.

#### 2.1.4. Markets and marketing

The issues of market and marketing are daunting challenges for women farmers engaged in vegetable production in the rural communities of The Gambia. The domestic market space is small with fewer consumer capacity as compared to other markets within the sub-region. The export market over the years is declining in The Gambia due to standard requirements of international markets. There are six (6) market federations organized under the umbrella apex body of Sosalaso with negotiating power of arranging market with She-Trade project under the Ministry of Trade, Regional Integration, Industry and Employment. However, there was no official signing of formal contract with the vegetable producers but funds were paid into Sosalaso accounts for final payments to the members. Furthermore, there are market outlets where vegetable producers transport their produce from farm gate, weekly *lumos*, village, or big cities. Importantly, onion producers need massive sensitization to go in for collective marketing as this will bring more dividends in terms of bulk buying, reduce transport cost and negotiations for better price. Therefore, the most successful strategy is collective marketing with the task of selling the goods throughout the production season. However, to achieve the principles of economic of scale would be difficult using individual marketing method. Therefore, to be successful in the market place, rural communities particularly onion producers need to adopt new technologies, access new types of information and again new enterprise skills so that they can be in a position to evaluate and invest in new opportunities as they arise.

**Table 4. Marketing Federations in NBR, CRRN, CRRS, LRR & WCR in 2021**

Region	MF	Head Office	Groups	Total Membership	Male	Female
NBR	Solicita	Njawara	53	13,250	150	13,100
CRRN	Hewal	Nyangen	40	3,772	276	3,496
CRRS	Fankaso	Brikamaba	44	6,326	439	5,887
LRR	Sofanyama	Kiang Nema	40	5,244	414	4,830
WCR	Fangsoto	Mandinaba	45	5,090	300	4,790
TOTAL			222	33,682	1,579	32,103

#### **2.1.4.1 Access market**

Reliable market access boosts productivity, increases incomes and strengthens food security. It can contribute to reducing poverty and hunger for producing families and their communities, if appropriate measures are taken to reduce market risks and unequal market power. The women vegetable producers often face serious difficulties in accessing markets to sell their goods in readily available markets. In addition, She-Trade roughly purchased 171 tons of onion with a monetary value of D4,407,957 million from women vegetable producers in 2019/2020 production season. However, they are constrained by their remote location, high transportation costs, limited knowledge, and lack of business skills and an organization that could give them the bargaining power they require to interact on equal terms with other market intermediaries.

#### **2.1.4.2 Intermediaries (Traders/Collectors/Wholesalers)**

The movement of agricultural produce from location to location is important in the production and promotion of onions. The distribution of onions to the market can either be direct or indirect marketing of the respondents used “Bana-banas” middle men, collectors, whole sellers and retailers as their gate way to sell their onions. Furthermore, intermediaries called “*Banabanas*” who are actors usually buy smaller quantities of onion on retail in the villages or the weekly markets. “*Banabanas*” are known to collect products from the growers on credit with intention to pay after selling the onions but failed to pay resulting to loss of revenue. However, these intermediaries are not organized and therefore it is difficult to track down their numbers and locations. As a result, the traders move on a weekly market to buy onions in bulk. In return, supply retailers and consumers in the regional towns and urban centers including the Greater Banjul Area (GBA). Generally, women producers rarely sell their produce directly to the consumer, instead, their produce tends to change hands several times through different stages of value chains before being consumed. The market intermediaries operate in a range of market outlets of different market outlets or locations.

#### **2.1.4.3 Market information**

Market information is essential for decision making, reducing transaction costs and risks enabling efficient storage and facilitating the flow of goods from production to consumption areas. Access to information reduces business risk and allows market participant to explore profitable opportunities to meet consumer needs. The major source of information to onion producers would be from their own women producers, as more reliable information than other agents. The implementing partner of WACOMP-GM, United Purpose (UP), supported the Marketing Federations (MF) to establish a Price Market Information System (PMIS) during erstwhile NEMA project and this will continue under the current partnership with the follow-up of Roots project. The MF has two members whose responsibility is to collect price data from weekly markets or *lumos*. They collect average prices of commodities and post the figures on a WhatsApp or through mobile phone communication. The information is on prices and available stock so that members would know where to sell and how much to expect for their products. However, traders will even collude with each other so that all the traders offer the farmer the same low price. In other words, farmers lose money because they lack information about the market. The implication of the study

is that more effort is needed to strengthen, improve and co-ordinate the provision of market information in the six agricultural region of The Gambia.

**Table 5. Visited SMEs Average Estimated Production, 2021**

Village	Membership	M	F	Prod '20 (kg)	Prod 21 (kg)	
Kerewan	222	3		219	4,573	4,750
Njaba Kunda	375	25		350	3,020	3,337
Minteh Kunda	150		-	150	1,987	1,734
Kani Kunda Suba	300	100		200	3,660	4,860
Kaur Jahawur	174	4		170	22,361	20,364
Kaur Touray Kunda	150	10		140	21,361	13,300
Jamali Ganyado	202	5		197	-	7,710
Wassu	285	21		261	43,222	13,520
Dobong Kunda	130	3		127	8,479	5,731
Njoben	518	14		504	64,750	85,470
Mamutfana	350	30		320	21,906	18,308
Dankunku	25	3		22	-	2,164
Buiba	90	10		80	-	2,005
Brumen (Kalagi)	30	2		28	-	428
Wassadu	136	2		134	14,231	13,464
Batabut Kantora	165	5		160	-	14,249
Brefet	260	5		250	70,569	138,840
TOTAL	3,562	242		3,312	280,119	350,234



The total onion production from the study area is estimated at 2,510.72 MT (Table 6). The bulk of the onions is coming from NBR followed by CRRN. These two regions produced almost 40% of the onion production at 1173.96 MT and 838.25 MT, respectively. The regions, CRRS and WCR show modest production of 185 MT and 191 MT, and LRR produced 121.51 MT respectively

**Table 6. Estimated Regional Onion Production, 2021**

REGION	DISTRICT		PRODUCTION (MT)
NBR	Lower Niumi		56.12
	Upper Niumi		81.75
	Jokadu		632.09
	Lower Baddibu		97.18
	Central Baddibu		99.16
	Upper Baddibu		135.87
	Sabach Sanjal		71.79
		TOTAL	<b>1,173.96</b>
CRRN	Sami		431.41
	Upper Saloum		149.08
	Niani		110.99
	Nianija		115.59
	Lower Saloum		31.18
		TOTAL	<b>838.25</b>
CRRS	Lower Fulladu		79.02
	Dankunku		23.89
	Niamina East		12.96
	Upper Fulladu		32.89
	Niamina West		36.26
		TOTAL	<b>185.02</b>
LRR	Jarra East		2.01
	Jarra Central		1.84
	Jarra West		8.10
	Kiang East		0.65
	Kiang Central		42.71
	Kiang West		66.20
		TOTAL	<b>121.51</b>
WCR	Kombo East		57.00
	Kombo South		16.38
	Foni Bintang		37.00
	Foni Jarrol		39.00
	Foni Kansala		24.00
	Foni Brefet		18.60
		TOTAL	<b>191.98</b>
<b>GRAND TOTAL</b>			<b>2,510.72</b>

(Source: Ministry of Trade and Department of Agriculture, 2021)

## **2.2. M4P Component of Vegetables**

The SMEs have membership between 100 and 300 persons and the majority (95%) are women. They work as individuals but they occasionally work in groups when they have to buy inputs or when they approach service providers. They produce and sell their products individually. However, they combine their resources to buy seed and distribute among themselves. In the event the joint purchase is not adequate for everybody, individuals can buy their own seed. No SME has a business plan, and they are not familiar with it. The Illiassa SME has a document written on their garden but it is not a real business plan. Service Providers such as FAO, DOA, WACOMP, UP, NARI Horticulture, TARUD, NATC & FFHC, i.e., the government and non-governmental organizations are the most important partners supporting them directly. The production (kg) levels attained for onions, tomatoes, chilli peppers and sweet potato is shown in Table 7 below. Seven SMEs, Illiassa, Kiang Nema, Mamudfana, Jamali Ganyado, Buniadu, Njoben and Brefet have complete data on the crops under study (Table 7). Six SMEs, Gui Jahanka, Marakissa, Kiang Nema, Mamudfana, Brefet and Buniadu did not cultivate chilli peppers and sweet potatoes, or data is not collected/completed on these crops (Table 7).

In Gouye Jahanka, onions are cultivated for the first time and tomatoes are in the process of being harvested which explains the lack of data for tomatoes. In Marakissa, the book keeper was not available and therefore the data on production could not be accessed. The focus is on onions and tomatoes; the chilli production is limited due to lack of adequate market access and low prices and the sweet potato production is mostly for home consumption. We also remarked that tomatoes give significantly higher yields than the other vegetables. The biggest SME producers of onions are Buniadu and Illiassa both NBR of 600 MT and 300 MT, respectively. The biggest SME producers of tomatoes are Buniadu, Illiassa, Brefet and Njoben who are producing over 100 MT/ha and Buniadu exceptionally produced 1,400 MT. The biggest SME producers of chilli peppers are Njoben, Illiassa and Jamali Ganyado with 20 MT, 10 MT and 10 MT, respectively. The biggest SME producers of sweet potatoes are Buiba, Kiang Nema and Njoben with production levels of 60 MT, 30 MT and 20 MT, respectively. We observed that the SME members basically understand good practices needed in pre-production, production and post-production stages. However, none of them have access to processing/transformation equipment neither did they receive training on the operation of processing equipment, e.g., Blender, Food Processor, etc. It was only Njoben garden which has a blender but it was never utilized due to absence of electricity and also lack of training.

**Table 7. Vegetable Data Estimates of 10 SMEs, 2022**

SME	Crop	# of beds	Size of bed	Area (m <sup>2</sup> )	Production (kg)	Yield (t/ha)
Buniadu	Onion	30	3	90	180	20
	Tomato	10	3	30	4,200	1,400
	Chilli Pepper	0	0	-	-	-
	Sweet Potato	0	0	-	-	-
Illiassa	Onion	286	8.495	2,430	5,232	22
	Tomato	63	10	630	15,750	250
	Chilli Pepper	60	10	600	600	10
	Sweet Potato	0	0	-	-	-
Gui Jahanka	Onion	354	20	7,080	24,780	35
	Tomato	70	20	1,400	21,000	150
	Chilli Pepper	0	0	-	-	-
	Sweet Potato	0	0	-	-	-
Jamali Ganyado	Onion	792	16	12,672	41,134	32
	Tomato	152	16	2,432	3,300	14
	Chilli Pepper	792	16	12,672	18,612	15
	Sweet Potato	0	0	-	-	-
Njoben	Onion	925	10	9,250	55,500	60
	Tomato	515	10	5,150	61,800	120
	Chilli Pepper	102	10	1,020	2,448	24
	Sweet Potato	57	10	570	1,425	25
Mamudfana	Onion	390	10	3,900	10,140	26
	Tomato	23	10	230	1,564	68
	Chilli Pepper	0	0	-	-	-
	Sweet Potato	0	0	-	-	-
Buiba	Onion	478	10	4,780	14,340	30
	Tomato	150	10	1,500	11,400	76
	Chilli Pepper	25	10	250	240	10
	Sweet Potato	8	10	80	480	60
Kiang Nema	Onion	1150	10	11,500	23,000	20
	Tomato	60	10	600	4,560	76
	Chilli Pepper	120	10	1,200	480	4
	Sweet Potato	16	10	160	512	32
Brefet	Onion	3724	10	37,240	160,132	43
	Tomato	3194	10	31,940	415,220	130
	Chilli Pepper	1330	10	13,300	-	-
	Sweet Potato	36	10	360	-	-
Marakissa	Onion	773	9.912	7,662	9,080	12
	Tomato	16	10	160	960	60
	Chilli Pepper	0	0	-	-	-
	Sweet Potato	5	7	35	140	40

Onions, tomatoes, and chilli peppers are profitable enterprises and members earn some money or earn money from their production. Sweet potatoes are grown mostly for consumption and its nutritional value. The members' perspective is that they sell and make money, but they eat part of the produce which reduces their household expenses and increase their food insecurity. Unfortunately, most places visited, the members are not aware of agricultural policies and hence they feel that government policies have no impact on their production. On contrary, half of members knew about the government moratorium in place between 2010 and 2020, against importation of onions during the period that onions are harvested in The Gambia. They expressed interest for government to re-instate the moratorium when their onions are ready for marketing between March and June of the year. They find it difficult to sell their onions when the markets are flooded at the same time with onions from Holland and Senegal. Market Sales Tax has a big, negative impact on the SME members. The pay duty at the lumos and regional markets, sometimes two or three times. They pay duty in the morning which goes to government coffers, and they pay another duty in the afternoon which goes to the coffers of the Area Councils.

The producers sometimes they do not make enough sales to recover their costs. Government licenses, collaterals for credit and standards/quality of products are not known or experienced. They do not think existing policies/laws/regulations are favorable. When asked to make suggestions as to how policies can be better to favor them, some suggest (1) imposition of a moratorium against onion importation during the time of the harvest, (2) creating platform to sell onions and vegetables, (3) fertilizer subsidy, (4) better diffusion of Good Agricultural Practices (GAP), (5) provide standards to allow competition with imported onions, and (6) provision of curing/storage facilities. The risks they face to produce and sell their produce, the members mentioned (1) lack of curing/storage facilities, (2) lack of primary processing at the farm level, (3) un-regulated markets, (4) lack of adequate water, and (6) influx of onions from Holland and Senegal. The SMEs sell their produce in bulk at the village level to itinerant traders (Banabanas), at the weekly (lumos) markets and the regional (big town) markets. Basically, all the produce is sold on an individual basis, i.e., each member is responsible for the marketing of her produce; no marketing is done in the name of groups.

However, at Buiba, Buniadu and Nema Kiang Farmer Field School's (FFS) plots of chilli peppers, onions, and sweet potatoes were marketed in the name of the FFS<sup>4</sup>. Three SMEs - Brefet, Buniadu and Njoben - sold produce at a National Trade Fair organized by the Gambia Chamber of Commerce and Industry in March 2022. Only one SME sold to a processor, i.e., Brefet SME is under contract farming with Heritage Company Limited for growing of chilli peppers. It appears that the onions, tomatoes, and chilli peppers are commercialized, but the sweet potatoes are grown for human consumption to improve nutrition. The production was promoted under a program for the Mothers' Club called *Balu Timaring* (BTM) of United Purpose, FAO, and the WFP. Six (6) out of the ten (10) SMEs have not received loans or credit, at all, neither from Micro-Finance Institutions (MFIs), nor banks, nor local money lenders either as individuals or groups. The SMEs that never access loans or credit include: (1) Jamali Ganyado, (2) Njoben, (3) Mamudfana (4) Kiang Nema, (5) Marakissa, and (6) Illiassa. The reason given in each case is that they are risk-adverse and therefore they do not attempt to access loans or credit. One SME, Illiassa, is the only one that expressed willingness to take loan or credit if available. When probed further as to how they manage to advance their work when they need funds, the response always was that they borrow from own funds in times of need, and they refund the monies after selling their produce. Individual members can approach the local village money lenders for their personal loans or credit

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<sup>4</sup> The FFS are plots for training purposes only. The membership is 30 in each SME.

for their domestic needs but never to invest in the garden. Four (4) SMEs have ever taken a loan or credit from micro-finance institutions. These include (1) Brefet, (2) Buniadu, (3) Gouye Janka, and (4) Buiba. These loans or credit were obtained from either Reliance Financial Services (RFS) or Supersonicz or from the Social Development Fund (SDF). In each case, the loans or credit were acquired by individuals and never as loans or credit taken as a group, except, once at Buniadu when they received D75, 000.00 from the government as a group.

However, they were misled because at the moment of receiving the amount, they assumed it was a grant but were informed later that the money was actually a loan. In Buiba, 10 members of the SME accessed loans from Supersonicz and 30 members from RFS. The members who took the RFS loan expressed satisfaction/confidence in working with RFS. The SME has an account at the Trust Bank Limited (TBL) but the members informed us that they cannot access their own funds. This is bizarre and does not make sense; they may need assistance to interface with TBL. In Brefet, 33 members accessed loans or credit to SDF for use in supporting their onion, tomato, and chilli pepper work in the garden. None of the loan or credit was utilized to support the sweet potato work. Furthermore, Gouye Jahanka, 30 members accessed loans and credit from RFS while Buniadu, 10 members accessed loans or credit of between D5,000.00 to D10,000.00 from RFS.

### **3.0. CONCLUSION AND RECOMMENDATIONS**

#### **3.1. Conclusion**

The Gambia is a small country that depends heavily on agriculture as a main source of economic growth. The production of onion is attracting attention to women producers and commercial growers across the country. Onion production and productivity is a lucrative business enterprise as it creates employment and provides income for smallholder farmers especially women and youth. The Market Analysis revealed information on vegetable production through the value chain approach including quality market infrastructure. Importantly, onions remain the main focus of the SMEs and is the most remunerative crop among other vegetables. The production of tomatoes surpasses that of onions because of its perishability, it cannot be stored nor traded in an open market as onions. Chilli peppers have a potential to become a major crop, but its market is not big as compared to tomatoes and onions while sweet potato is produced for nutritional purposes. Furthermore, standards and regulations do not exist in the country for onions and the allied vegetables in rural communities of The Gambia. However, there are no precision instruments with the SMEs, that is appropriate equipment, tools and supplies to ensure compliance to mandatory regulations to national, regional and international standards. There is no national entity/organization that would be in charge of the accreditation activity and assessment bodies are weak in terms of human resources.

#### **3.2. Recommendations**

- WACOMP-GM should promote and contribute to the doubling of onion production per year in the next 3 years. The country consumption is estimated at 17,000 MT per annum (importation is 12,500 MT; production by Kharaffi Farms is 2000 MT and production by farmer cooperatives is 2,500). Thus, the country production is 25% of the consumption requirements which will require doubling production in the 3 remaining years of the project to close the gap.

- WACOMP-GM should invest in training and capacity building on onion and vegetable production best practices. The expertise required to accompany the SMEs is limited compared to the coverage.
- WACOMP-GM should provide secured infrastructure for curing and drying at the farm level and to provide basic precision instruments and tools that will allow weighing and measuring at the farm level. The quality of the local onion and vegetables are below international standards; curing and drying is not done properly; measurements and weighing at the production site are not conducted because of lack of proper instruments; and the culture of weighing is absent. Provision of these instruments will necessarily be accompanied by training on the use and maintenance of these instruments.
- WACOMP-GM should appoint a full-time or half-time resource person be with the responsibility to supervise the steps involved in the envisaged bespoke (tailor-made) technical guidance program that will build capacities of the onion value chain actors in standards and quality parameters. National onion standards and quality requirements should be developed in collaboration with UNIDO and TGSB. A selected number of SMEs should be identified and have their capacities built with a goal to have them certificated. These SMEs should be trained in GHP, GMP and HACCP for handling fresh onions and vegetables. The various steps will lead to certification and therefore will require a lot of mentoring and counselling.
- WACOMP-GM should support the DOP to ensure that onion data is collected nationwide.
- WACOMP-GM should establish market linkages between vegetable buyers from urban and growth centers and Marketing Federations and SMEs.
- WACOMP-GM should lobby for the re-instatement of the moratorium against importation during harvest months of onion and marketing (March, April, May & June).
- WACOMP-GM should support construction of a tomato processing plant for The Gambia. It is recommended to have an industry to absorb surplus production and transform it into processed by-products such tomato paste, ketchup or juice.
- UNIDO should train SMEs in artisanal processing of tomatoes to tomato paste and tomato jam.
- UNIDO should support the SMEs to easily access packaging materials.
- UNIDO should support the SMEs to produce dried tomatoes using the osmotic dehydration method.
- UNIDO should support the private sector to have industries that can transform the peppers into by-products. Chillies can be processed to make sauce, dried powder, and oil (e.g., the *akabanga* made in Rwanda with UNIDO support).
- UNIDO should support a diagnostic assessment of the Nyangen pepper processing plant in Nyangen, CRRN with a view to revive it.
- UNIDO should support the private sector to have industries than can transform sweet potatoes into by-products. Sweet potatoes can be processed to make chips (French fries) and powder which can serve the baby food and pastry industries.

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## 5.0 ANNEXES

### 5.1 *Market Analysis Questionnaire*

#### **WACOMP-GM PROJECT THE GAMBIA**

#### **MARKET ANALYSIS QUESTIONNAIRE**

VILLAGE	DISTRICT	REGION	NAME OF RESPONDENT	MEMBERSHIP	GENDER	AGE
				MF:      FFS:	MALE FEMALE	

#### **SECTION A: ONION VALUE CHAIN ACTORS**

##### ***A. PROPERTY:***

1. How much land do you cultivate?.....
2. Do you own the land? If yes, how did you acquire the land?

.....  
.....

If no, who owns the land?

.....  
.....

3. Is access to land easily available?

.....  
.....

##### ***B. LABOUR:***

1. What kind of labor participates in the production? a) Family..... b) Paid.....  
c) Unpaid ..... d) Men ..... e) Women .....

##### ***C. ONION VARIETIES:***

1. What onion varieties are you cultivating? Specify: .....  
.....
2. Which one(s) do you prefer most?.....  
.....
3. What other horticultural crops do you cultivate?.....  
.....

4. How did you learn how to cultivate onions? .....
- .....
- a) When to plant?.....
- b) How to transplant?.....
- c) Spacing?.....
- d) How to control pest and diseases?.....
- .....

***D. PRIMARY PROCESSING:***

1. What are the main challenges you face at pre-harvest level?.....
- .....
- .....
2. What do you do to address these challenges?.....
- .....
- .....
- .....
3. How do you know the onion is ready for harvesting?.....
- .....

***E. PRIMARY PRODUCTION LEVEL VALUE ADDITION (e.g., sizing/grading etc.)***

1. Do you conduct primary handling/processing? If yes what are the steps you take.....
- .....
- .....
- .....
- .....
2. Do you cooperate with others producers? If so, what kind of cooperation and why? (e.g., economies of scale for large contracts, price setting etc.) .....
- .....
- .....

**F. QUALITY PARAMETERS (e.g., GAP.)**

1. Do you apply GAP in you production?.....  
.....
2. Have you ever received training on GAP? If so, from which organization?.....  
.....
3. Do you know about the existing national/international standards and regulations affecting your business?.....  
.....  
.....
4. Do you grade your products according to quality? If yes what are these grades?.....  
.....  
.....
5. What are the selection criteria?.....  
.....
6. Do you sell your products according to food safety and quality requirements?.....  
.....
7. What specific problem do you face in complying with the requirements?.....  
.....  
.....
8. Have you faced any rejection of your onion produce?.....  
.....
9. Where do you obtain information or technical assistance on standards and regulations?  
.....  
.....
10. Are you certified under any certification scheme (e.g., ISO norms, GAP/GMP, organic, Fair Trade)?.....  
.....

**G. PRICES (e.g., farm gate/grade).**

1. How do you set the price for your produce?.....  
.....
2. How many grades of onion do you have, and what is the differences in pricing across the grades? .....

.....  
3. What is the price of your onion compared to the imported one?.....

**H. INPUTS (seeds, fertilizer, agro- chemicals, etc.)**

1. What are the inputs you need to grow onion? Name them? a) .....

b) ..... c) ..... d) ..... e) .....

2. What kind of fertilizer do you use? Is it Organic? .....

3. Do you use any agro-chemicals? If yes, Name them.....  
.....

4. Have you noticed any changes in the natural resources as a result of production (e.g., damage to bio – diversity, soil fertility depletion/erosion etc.)?.....  
.....

5. What are the challenges you face in acquiring inputs? .....  
.....  
.....

6. Where do you source your inputs, especially seeds?.....  
.....  
.....

7. Do you purchase your seeds at an affordable price?.....

**I. SUPPORTING FUNCTIONS:**

1. What kind of support do you receive from various actors (e.g., government operated agricultural extension programs, I/NGO / Projects, marketing federations, producer associations)?.....  
.....

2. Is the support useful? .....

3. Are you a member of any associations or collaborative initiatives, if so which one(s) do you belong to?.....

4. What activities do you do together?.....  
.....

5. What are the benefits of being a member? .....  
.....

6. What are the common challenges you face?

.....  
.....

7. Are you satisfied with the support you receive?

.....

***J. POLICIES:***

1. Are there any policies/regulations that are helpful or detrimental to your enterprise (e.g., at municipal / national level)?.....

2. What would you like to see change? .....  
.....

***K. FINANCIAL PERFORMANCE:***

1. Are you in any position to discuss your financial report? (e.g., annual income, profitability etc.) .....

2. Do you produce or have access to an annual financial report?.....  
.....

3. Is horticultural products your main source of income? If yes, what are the main Horticultural crops? If no, what are the other sources?.....  
.....  
.....

***L. CHALLENGES:***

1. What are your immediate to mid-term needs? (e.g., equipment, technology transfer, technical expertise, training)? .....

.....

2. Do you have any additional observations / comments that have not been discussed?.....

.....

3. Who are some of the other stakeholders in this Value chain that we should talk to? Could you give referrals? .....

***M. SALES CHANNELS (direct / indirect)***

1. What are your sales channels? a) Weekly markets / Lumos b) Municipal markets

c) Corner shops d) Agri – business (e.g., Kharafi) e) Banabana

**N. BUYER REQUIREMENTS** (Quality parameter) e.g., absence of leaves/soil, weights, value addition, packaging, season/frequency (e.g., festive season), standard)?

1. What are the main buyer requirements (e.g., quality, price, reliability, standard)? .....  
.....
2. How do you learn about buyer preference (e.g., order, quantities, standards, quality, delivery dates)?.....  
.....
3. Have you notice any changes in preference over time? .....
- 4., a. What are the steps you take to ensure you meet client specifications, e.g., delivery date and quantity?.....  
.....
- 4., b. Is it difficult to meet the requirement?.....
5. Do your client monitor your activities? If so, how?.....

**O. FINANCE** (access to finance, cost/marginal/net returns, price)

1. Do you have a contract agreement with client/buyer? If so, what do these contracts/agreements specify?.....  
.....
2. Do you receive any assistance or collaboration from your client/buyer? a) advance, b) credit, c) inputs, d) information, e) technical assistance

**P. STORAGE FACILITY** (location, size, capacity)

1. Do you have access to a storage facility for your onion produce? if yes, what is the size?...
2. How many bags or tons of onion can the store hold when full?.....
3. What is the distance from your farm/garden?.....
4. Which organization built the storage facility?.....
5. If no, how do you manage to store your onion produce?.....
6. What type of material is your storage facility built from?.....

## **5.2 Making Markets Work for the Poor – M4P Questionnaire**

**UNIDO-WACOMP GAMBIA PROJECT**

**UPDATE OF RAPID MARKET ANALYSIS QUESTIONNAIRE (PRODUCERS INFORMATION)**

**1**

**Current Structure and Characteristics of the Market?**

Name of Products	No. of Members in the	Garden		Ratio of Individual & Group members Producing the Crop		Input Procurement: # of members linked with input supplier		Service Providers: # of members linked with Service Providers		Business Planning: # of members implementing activities through	
		F	M	Individual	Group	Individual	Group	Individual	Group	Individual	Group
Onions											
Tomato											
Chilli Pepper											
Sweet Potato											



2      When members need loans or credit, where do they go to get it?

Name of Product	# of individuals received loan from MFI	# of group members received loan from MFI	Access to finance				# of individual members received loans from local money lenders	# of group members received loans from local money lenders
			# of individual members received loan from banks	# of group members received loan from Banks	# of individual members received loans from local money lenders	# of group members received loans from local money lenders		
Onions								
Tomato								
Chilli Pepper								
Sweet Potato								

3 Where do members sell their products?

Name of Products	# of members selling at local market (small trader)		# of members selling at "Lumo" market		# of members selling at regional market (big traders)		# of members selling at national market (exporters)		# of members selling directly to processors	
	Individual	Group	Individual	Group	Individual	Group	Individual	Group	Individual	Group
Onions										
Tomato										
Chilli Pepper										
Sweet Potato										

4      Profitability and contribution to livelihoods: We would like to understand the profitability of each of you

Name of product	How much roughly do you earn from this product each year? (profitability)				How much of your livelihood does this product support?			
	None	Very Little	Some	Plenty	None	Very Little	Some	Plenty
Onion								
Tomato								
Chilli Pepper								
Sweet Peppers								

**5 What do you know about the existing Government Policies/Laws/Regulations regarding leasing systems/tr**

SL No	Name of policies/laws/regulations	What is the impact on producers?			
		Extremely poor	Poor	Sufficient	Better than sufficient
1	Agriculture and Natural Resource Policy				
2	Moratorium on imports during harvest				
3	Market Sales Tax (VAT)				
4	Licensing				
5	Collateral for credit				
6	Standards/quality on products				

5a Do you think that the existing policies/laws/regulations are favourable to you?

5b What are your suggestions for improving the policies/laws and regulations?

5c What are the major risks you are facing to produce and sell products?

## 6.0 Technical Characteristics

6.1 What is the existing volume of production? (you may describe by season or yearly)

Name of product	# of beds (bed sizes)	Production		
		Dry season	Wet Season	Annual production
Onions				
Tomato				
Chilli Pepper				
Sweet Potato				

6.2 What are the existing agricultural materials or ideas which are being used by you?

6.2a Pre-production materials or ideas:

6.2b Production materials or ideas:

6.2c Post-production materials or ideas:

6.2d What are the new processing equipment that could be operated by you?

6.2e Do you have any new material or ideas which could be used by you?

7 What quantity of your produce do you use for your food or give as gift?

Name of product	Quantity used for food	Quantity given away as gift
Onion		
Tomato		
Chilli Peppers		
Sweet Potato		

8a What is your recommendation for improving the income from your product?

8b What is your future plan of this business/gardening?

### 5.3 Selection Criteria for Beneficiaries

Criteria 1: a target region where the project is intervening.

The WACOMP-GM\_GM is intervening in 5 agricultural regions; namely, NBR, CRRN, CRRS, LRR and WCR. The SME to be selected must be a registered Farmer Cooperative/SME in any of these regions.

Criteria 2: Existence of a local NGO Partner with who United Purpose (UP) is partnering.

United Purpose is the Strategic Partner of UNIDO in the implementation of WACOMP-GM, therefore, any SME to benefit from support from this project, it must be in a region UP is active. UP is active in NBR, CRRN, CRRS, LRR and WCR.

Criteria 3: Marketing Federation must exist in the region.

In each of the agricultural regions there is Marketing Federation. Any SME to benefit from WACOMP-GM must be registered with the MF in the region where they are situated. In NBR the MF is Solicita; in CRRN the MF is Hewal; in CRRS the MF is Fankaso; in LRR the MF is Sofanyama; and, in WCR the MF is Fangsoto.

Criteria 4: At least 1 major local market (*loumo*) must exist in the region.

In every region there are several Sunday markets (Lumoss). It is not imperative, but, to understand the market dynamics at the local level, it is important that the SME is close to one of these markets.

Criteria 5: Farmer Cooperatives or SMEs must be registered to the MF in the region.

An SME is defined as any business entity registered as a cooperative with the Agriculture Business Service of the Department of Agriculture and with a Marketing Federation for sale of onions. In The Gambia an SME is defined as having of 6-9 employed staff and an investment of more than GMD150,000. An SME can be a sole proprietor.

6: The SME must have the size, absorptive capacity and readiness to receive quality and standards support.

An SME shall have a membership of at least one hundred onion growers and have access to at least 5 ha of garden and be ready to dedicate at least 1 ha to onion production and shall possess a strong management of the cooperative.

Criteria 7: Potential for Growth

An SME that will be selected to benefit from the WACOMP-GM shall have potential for growth and sustainability, in terms of its turnover and sales. The selected SME shall be identified by the estimated production of onions in 2020 and/or 2021 and the estimated income from the sales of onions. The dataset collected by DOA for She-Trade (Table 5) will be utilized and where there

are gaps in the data, it will be complemented by the secondary data collected during the Market analysis (Table 6).

#### Criteria 8: Commitment

An SME that will be selected to benefit from the WACOMP-GM shall be committed to the project and its requirements. The SME shall be (1) willing to submit a motivation letter (Agreement/MOU) committing to the ideals and principles of the project and UNIDO; (2) commit to weekly meetings every month over 12 months; (3) attend trainings; (4) participate in trade events; and, (5) sign a Participant Agreement.



## **5.4 Management Model for Use of Equipment in Stores at Community Level.**

It is anticipated that WACOMP-GM will intervene at two levels regarding storage infrastructure.

### **A) Village Curing/Drying Centers**

Nowhere in our visit did the women say that they have any facility, safe and secured, where to cure, process and store onions. The lack of such infra-structure at the growing site explains, partially, why onions are harvested pre-maturely and not cured long enough. The longer the onions stay on the ground the better the chances that they would be stolen. So, the onions are hauled to the safety of the residences. Consequently, the storability of the onions is compromised.

It is therefore necessary to build safe and secured facilities at the women's gardens for curing and drying onions. The proposed facility should be large enough to accommodate the harvest of all onion growers in the garden. The facility should be open aired with either boxes or shelves to place the onions for up to 10 days before they are bagged and stored on pallets at the same facility. Each box or shelf should be large enough to place the harvest of a grower. A system of management will be put in place such that the receipt and retrieval of one's harvest will be easy.

To be able to manage the facility, it will require that it be assigned to a committee from the growers, headed by the President of the farmer Cooperative (SME) who should identify literate women to help her take records and report to the members, partners and government, properly. Growers desiring to use the facility will pay a nominal fee for cost recovery and salary for a security guard.

### **B) Regional Collection Centers**

To ease marketing and transportation of onions, it is necessary to have a system or network of temporal storage facilities at the regional level. The villages are dispersed over a wide area and trucks cannot go to every village to collect the produce. Logistically and cost-wise it will be a nightmare. Therefore, it is proposed at least one such temporal storage facilities per region. These facilities should be open-aiored hangars palleted storage facilities. The stock from the villages is received, re-sorted, and re-graded in adherence to international standards. From these centers onions can be supplied to wholesalers in the GBA, hotels, restaurants and big-time traders.

To manage these proposed temporal storage facilities can be owned by the Marketing Federation in the region but they would need to give the management, for a fee, to a concessioner. The management skills required to operate the facilities efficiently is beyond the women of the MF.

We learnt that the IFAD-funded project, ROOTS, will build storage facilities in the rural areas. The VC team will meet the management of the project for collaboration in the design and positioning of the facilities to avoid concentration of stores in an area.

## **5.5 Value Chain Support Institutions & Services**

### **Agricultural Research and Extension Services, particularly post-harvest**

DOA is the government department with the mandate to carry out agricultural extension. They have full coverage of the country with regional agricultural directorates; one in each administrative region except in CRR where they have one for the north and another for the south. DOA, besides the regional offices, also has specialized services under its purview. These allied services include the Plant Protection Services, the Horticulture Technical Services, Food and Technology Services, Urban Agriculture, Agriculture Business Services, Communication and Extension Education Services and the Soil and Water Management Unit.

The onion sector is supported by DOA, Agencies and Services of both International and local NGOs. The quality and post-harvest aspects are supported by regional extension offices and Plant Protection Services (PPS) of DOA through their regional offices and network of village extension workers (VEWs). Notwithstanding, the local NGOs, NATC, FFHC and TARUD, support in the production and pre-harvest aspects.

The Horticulture Unit of the National Agricultural Research Institute (NARI) supports by conducting trials on varieties of onions and their adaptation to various agro-ecological zones of the Gambia. Some of the interesting varieties under study include Red Star F1, Primo F1 and Red Creole.

The trading and marketing aspects will be supported by Ministry of Trade, Regional Integration, Industry and Employment (MOTRIE); Ministry of Gender, Children and Social Welfare; and the International Trade Center (ITC),

UP is an International NGO promoting, throughout the country, production and consumption of the orange-skinned sweet potato, African leafy vegetables, quality maize and bio-fortified millet. UP has strategic local NGO partners in rural regions. These local NGOs: NATC, FFHC and TARUD, provide extension services to the farmers working in their programs. The extension service comprises of trainings and messages/advice on good agricultural practices (GAP). The WACOMP-GM has an MOU with UP to implement the pre-harvest aspects of the project. The trainings revolve around proper nursey preparations, time of planting, spacing, watering regimes, pests and disease management, weed control and harvesting. WACOMP-GM would provide the resource persons/subject matter specialists on crop husbandry and Farmer Field School (FFS) management. The participants are representatives of the FC who after graduation become Master Farmers, and upon return to their respective villages, conduct trainings to the rest of their members. The training at the village garden is in the form of demonstration plots upon which the newly acquired knowledge and skills are put in practice for the members to observe.

Other institutions providing extension include FAO and AVISU. FAO is supporting many vegetable gardens with staff trained at the Songhai Initiative (GSI); provision of inputs and organization of FFS. AVISU is also a local NGO with their own staff but they are only active in the Lower Saloum and Upper Saloum districts of CRRN.

## **Producer Associations/Farmer Cooperatives**

The legal registration of all cooperatives including farmer cooperatives is the responsibility of the Agri-Business Services (ABS) of DOA. However, The Farmer Cooperatives may affiliate to a Marketing Federation, and to Sosolaso, the apex body of the marketing federations.

The SMEs can also register with the GCCI and with the Registrar of Companies at the Department of Justice (DOJ).

Registration fees varies from one organization to the other depending on the type of association. The sum of D500 per SME per year was recorded often for registration of SMEs to the MFs.

## **Access to Finance/Micro-Finance & Grant Funding**

There is no access to finance for the Marketing Federations nor to their affiliates, the Cooperatives (SMEs). All the financial support received so far is coming from projects targeting them as direct beneficiaries. The government projects built and equipped the gardens free of charge. The projects conduct the trainings at no cost to the women and inputs (seeds, garden tools, etc.) are provided by the projects free. The challenge is how the SMEs can provide collateral to access bank loans and writing Business Plans. In relation to that, a challenge is to get the SMEs to use their own resources to buy seeds and other inputs.

The Non-Bank Financial Institutions or Micro Finance institutions are growing very fast. They are present in almost all the big towns in rural areas. There is also the increased use of e-money since the pandemic started in 2020 to effect transfer within the country and from abroad. The most important ones with a strong presence in rural Gambia include Reliance Financial Services (RFS), Supersonicz, Bayba Financial, and Yonna financial services

The erstwhile projects: NEMA, FASDEP and GCAV administered a Matching Grant program that offered partial financing to beneficiaries on an equity participation basis. The ROOTS project, follow-up project to NEMA, will also provide access to financing through a Matching Grant program.

A pipeline World Bank project, GIRAV, will have a Matching Grant/Private Sector Development component.

There are many opportunities to partner with the above-mentioned to increase access to finance for onion growers. The ITC, through the Youth Empowerment Project, had trained experts who are available for hire to do Business Plans.

The GIEPA has a Directorate of Business Support and a Directorate of Export Development both of which are mandated to accompany SMEs and MSMEs in the form of trainings, market linkages and business development services.

There are a few Gambian private sector consulting firms<sup>5</sup> who can provide technical assistance, for a fee, in writing Business Plans.

With ROOTS and the GIRAV projects the Matching Grants will require equity participation by the beneficiary of 40% and the projects will provide 60% on a grant basis. Therefore, there are no service fees or operational costs to the beneficiaries. The ROOTS project will even support the cost of writing of Business Plans just to make access to the matching grants better for the often-illiterate beneficiaries.

The recommended mode of payment for inputs requested by beneficiaries is for the project to pay the suppliers directly.

There is an increase in the use e-money platforms. The COVID-19 has pushed people towards e-money to facilitate transfers, make payments and remittances. The major services include the mobile service providers such as Africell and Qcell and their services, afri-money and q-money, respectively. There is also increase in transfers through MFIs such as Reliance Financial Services, Supersonicz, Yonna and APS.

### **Storage facilities**

The importance of proper storage is recognized everywhere but nowhere does a store facility exist except in Njaba Kunda<sup>6</sup> and Brefet<sup>7</sup>. The growers haul the semi-dried onions from the farm to their homes for security reasons. At home, the onions are spread on the ground covered with sand. In few homes the onions are placed in sacks of 5-10 kilos and hung on rope to dry under watchful eye of the family. At the Brefet SME the curing facility is a used 40-foot freight container modified with shelves and ventilation to cure a limited quantity of onions at the garden. At Njaba Kunda, NBR there we found a dual-purpose building with an air-conditioner cold store on one end and a palletted store at the other end. This building, ironically, was never utilized 3 years after it was completed and handed over to the beneficiaries. We understand the reason is management dispute among the beneficiaries. The structure was a gift from a local NGO called ADWAC and there are 4 of them in the NBR.

UNIDO, the ROOTS project and the EU (Vegetable Center at Yundum and Jenoi (under construction) will support the SMEs with storage facilities. The ROOTS project is planning to build 15 cold stores in the next 5 years. Discussions were initiated to collaborate with them, including MOTRIE and MOGCSW, on the type, design and location of these stores.

The EU is supporting the construction of a Vegetable Center at Yundum and a vegetable holding Center at Jenoi.

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<sup>5</sup> 1) Momodou A Drammeh. [Mdrammeh1@gmail.com](mailto:Mdrammeh1@gmail.com). 996 2911/796 9969

2) Seedy AB Njie. [snjie@masterassociates.net](mailto:snjie@masterassociates.net). 780 8808

<sup>6</sup> The store we saw at Njaba Kunda is one of four such infra-structure in NBR. The structure is about 5m X 10 m. It is partitioned into two equal sections. One section is air-conditioned and the other is well ventilated with pallets. However, the one in Njaba Kunda has never been used to store Onions. The other villages with such type of store are Darsilami, Jokadou District; Illiassa, Badibbu Illiassa and Conteh Kunda Niji, Badibbu Central. They were built by the Agency for Development of Women and Children (ADWAC).

<sup>7</sup> At Foni Brefet the store is an empty 40-foot freight container that has been modified. It has 4 shelves on each side, it has about 7 small windows above the shelves plus the main doors front and back are ventilated by modifying the door.

The erstwhile NEMA, through its matching grants programme, have already supplied a e-marketer, Farm Fresh, with a prefab cold store and a refrigerated truck.

Kharaffi Farms has a store that can cure and keep 1,000 MT of onions.

In Senegal, the erstwhile FSCA project constructed one 200 MT capacity storage center with 4 hangars in open-air area at Louga; and a 30 MT capacity hangar for onion storage at Wack Ngouna; and another 50 MT storage center with office and meeting room in the same village (FSCA Evaluation, 2012). It may be worth the while to visit these installations in Senegal given the proximity and socio-economic similarities between Senegal and Gambia to determine the appropriate type of storage the bespoke project should invest.

### **Pre-harvest & Post-harvest support**

The institutions supporting the onion value chain in the production to pre-harvest aspects include the Regional Agricultural Directorates, UP/WACOMP-GM, FAO, CARITAS and AVISU

The institutions supporting the onion value chain in post-harvest aspects include UNIDO, ITC and TGSB DOA, NATC, FFHC and TARUD.

The Food Technology Service (FTS) of the DOA has a focus on the transformation of food products to secondary products, on packaging and preservation. They have experience in onion storage and production of pickled onions and onion vinegar production.

### **Competitors/Colleagues**

Only in one visit was it revealed that there are private onion growers in the village who were not members of the Farmer Cooperative (SME). Otherwise, all onion growers belong to a Cooperative (SME).

The Ministry of Gender, Children and Social Welfare a funding facility, Women Entrepreneur Fund, financed by the EU through which they support their women. It is not certain the degree of overlap with the MFs we visited because it was not in our scope of work. The Ministry was able to mobilize a buyer to purchase the onion product from ‘their women’.

The Senegalese itinerant traders come into Gambia to purchase the onions and other vegetables, particularly cabbage, during harvest time, January-June, when there is a glut. They take the products to Senegal, store them until there is scarcity, July-December, they bring the produce back in Gambia and sell at exorbitant prices.

The Senegalese have an advantage over the Gambians because they assumingly have better storage, they possess better knowledge of curing and they can handle better the onions.

### **Challenges**

The main challenge, therefore, is how to provide proper storage at the village level. What type of store is need at the village level? The women told us everywhere that a major reason they do not leave the onions long after digging to complete the curing process is because of the risk of theft.

At the village level, electricity is not available so we cannot recommend a cold store. Also, we bear in mind that hundreds of growers live in a village.

Do they need a small store for each grower/household? That can be almost impossible.

Or do they need a big secure place for all growers in a village where all growers can cure their onion with a management system that will ease reception and retrieval? Perhaps. Such a facility can be dual in purpose: a section where the onions are cured, and a section where bagged onions can be kept until the moment of retrieval.

Another main challenge is access to good quality seed. Almost all the seed is received free from development partners. Consequently, the seed would arrive late for nursery preparation and sometimes the gifted seed is of poor quality resulting in low or zero germination. Any delay in transplanting the seedlings, the bigger the chance that bulb formation will be affected by rise in soil temperature.

## **5.6 Gambia Quality Infrastructure Landscape**

The challenges faced by The Gambia's QI landscape include weak capacity in relation to conformity assessment activity (inspection, testing and certification) and lack of national standards and regulations for horticultural products.

In assessing the capacities of the QI institutions gap analyses were carried out against ISO IEC 17020:2012 (requirements for the operation of various types of bodies performing inspection) and ISO/IEC 17025:2017 (requirements for the competence of testing and calibration laboratories).

UNIDO, in consultations with TGSB, agreed upon the following:

- 1) to develop three onion-related national standards: one commodity standard and two best practice standards for onions.
- 2) to strive towards the accreditation of the TGSB Certification Body to certifying horticultural enterprises to the Hazard Analysis Critical Control Point (HACCP) system and Good Hygiene Practices (GHP).

The following activities were agreed upon as part of the action plan to modernize the QI to respond to the service needs of the horticulture sub-sector:

- i) Development of accredited testing services for horticultural products under TGSB). The TGSB laboratory will be developed to ultimately provide testing services per stage of the value chain. (Annex 11.4)

Strengthening the capacity of TGSB certification body to provide accredited certification services for horticultural SMEs.



## **5.7 Food Safety and Quality and Phyto-sanitary Control Institutions**

The main institution responsible for food control is the Food Safety and Quality Authority (FSQA) which is under the Office of the Vice President. The FSQA is responsible for inspection and enforcement of regulations regarding food safety and quality. The FSQA can also enforce compliance with the standards developed by TGSB that are in force and mandatory because of specific legislation.

On the other hand, the main phyto-sanitary control entity in the country is the PPS, which is part of the Ministry of Agriculture. The PPS is responsible for providing phyto-sanitary control, internally and at border posts, ensuring compliance with the respective rules and regulations. All vegetable products, including onions and similar products, are subject to PPS control within the phyto-sanitary domain.

The National Agricultural Research Institute of The Gambia, NARI, is a major public player related with the agricultural research system and operates in several satellite research stations countrywide. At the institute's headquarters in Brikama, several laboratories for pest management, soil analysis, and food safety and quality analysis do exist. The National Aflatoxin Testing Laboratory of the National Agricultural Research Institute provides some food analysis services. These include mainly the analyses of the aflatoxins at the moment, but used to include also other services like oil, free fat acids and moisture content determination.

The following activities were agreed upon as part of the action plan to upgrade the food safety control and phyto-sanitary institutions to respond to the service needs of the horticulture sub-sector:

- i) Upgrading the inspection capacity of FSQA in order to meet the requirements of ISO 17020:2012;
- ii) Upgrading the inspection capacity of PPS in order to meet the requirements of ISO 17020:2012;
- iii) Strengthening the testing capacity of NARI aflatoxin testing laboratory and internal lab of FSQA in order to meet the requirements of ISO 17025:2017.

## **5.8 Enabling Environment**

### **Policies**

Nearly all Gambian products can be exported at preferential duty rates and quota free to (1) ECOWAS markets under the ECOWAS Trade Liberalization Scheme (ETLS); (2) EU markets under the Everything but Arms (EBA) Initiative; (3) US markets under the African Growth and Opportunity Act (AGOA); (4) India, Brazil, and South Korea under preferential duty rates for products from LDCs (GCCl, Voice of Business: July-August 2020). The only challenge is for MOTRIE to exploit all opportunities available in all these protocols and writing appropriate policies that will protect the onion producers. In addition, the moratorium against importation of onions at the time that local onions are ready to enter the market.

### **Taxation (SIC)**

The Special Investment Certificate (SIC) is awarded to investors whose value of investments surpass a certain ceiling, e.g., a USD 250, 000.00 investment by a foreigner will get a duty waiver and tax break for 5 years. Also, with the SIC, one can depreciate one's assets up to 15%. The industrial producer of onions in the Gambia, Kharaffi Farms was awarded the SIC.

A Gambian investment over USD 100,000 will enjoy the same facilities.

There is also what is known as a Domestic Investment Certificate (DIC) for local investments up to D2,000,000. A holder of a DIC will enjoy tax exemption and duty waiver for 5 years.

### **Protections (e.g., import moratorium)**

The Ministry of Trade once imposed a moratorium on the importation of onions. This was done to allow Kharaffi Farms to sell their locally produced onions before onion importers got place their orders. The moratorium was time-bound and has transpired since 2019 and it has not been renewed. Everywhere we visited, the growers know the fact and they are appealing to the government to impose another moratorium.

### **Tariffs (CET)**

Under the Economic Community of West African States (ECOWAS) protocols, Common External Tariffs (CET), member states can choose one industry that could be protected by raising the tariffs against imports of that commodity.

### **Barriers**

The Gambian economy is completely liberalized. There are no barriers for both domestic and foreign direct investments and there is no restriction on repatriation of profits.

### **Quotas**

There are no quotas. The Gambian economy is completely liberalized.

## **5.9 Constraints and Challenges of the Onion Industry**

### **Rejections (e.g., spoilage)**

There have been no rejects anywhere we visited. However, there was an issue last year concerning the modus operandi of She-Trade which culminated in losses due to spoilage in some SMEs, particularly, at Kani Kunda Suba.

She-Trade approached them and graded the onions to their satisfaction. They did not take the onions with them but did not pay either. They promised to return the following week but showed up only after 2 months. When they returned, they sorted the onions again removing the rotten bulbs. They paid for the good ones and refuse to pay for the rotten bulbs. The farmers are bitter about the decision because if they had not made them set the onions aside, they could have sold everything and incur no loss.

### **Cost & Price**

The major cost contribution of onion growers is their labour. Most inputs are provided free except in few cases where gifted seeds get late to arrive or fail to germinate, they are compelled to buy seed from the *lumos*.

The price they get for onions is much better than what they get from other commodities. Ten bags of onion can fetch minimum D20,000.00. The next crop that can yield that much from the same area is tomatoes and 10 bags of tomatoes equivalent will fetch D10.000.

The price of local onions is relatively lower than the imported onions. However, it is higher than the onions produced locally by Kharafi Farm.

The challenge, therefore, is to determine the real cost of production of onions by the SMEs and to have a price determining mechanism with participation of the Marketing Federations.

### **Complaints**

Most times, the complaints are against the buyers: the *banabanas* and the *Jendanjies*. These stakeholders try to exploit the women growers by bidding down prices; cheating by taking the women produce from them under false pretext; and ganging up against the women when the later would show up at a *lumos* to sell their own produce.

Some SMEs are bitter with She-Trade because of their failure to keep their promises last year.

### **Consumers / Buyers**

In general, no complaints have been recorded from consumers. The Gambian onions is found to be nutritive and acceptable. This gives credence to the fact that the local onion, when cured, sorted and graded can be sold anywhere.

## **Pests and Diseases.**

Pests and diseases constitute a major threat to onion production. Three major insect pests include onion maggots, onion thrips, and Aster Leafhoppers. Four major diseases include Neck rot, Onion smut, Fusarium basal rot, and the pink rot. The loss due to these menaces can be devastating leading to total crop loss in some circumstances. The Pink Rot was mentioned almost everywhere. In few places the smut and leaf miner were mentioned.

## **Weather condition**

Onions are a cold season crop. The optimal time to grow onions in Gambia is October to January during the time when cold dry harmattan winds are the prevailing winds. Most SMEs start their nursery preparations late because they start late to clear their fields and prepare the nurseries after the rains end in mid-October. Late planting results in poor bulb formation because after January the soil temperatures start to rise and prohibit expansion of the bulbs. There is a strong correlation between soil temperatures and poor bulb formation.

## **Technology**

All operations in the gardens are manual. This is time-consuming and inefficient. Some processes can be mechanized, or better technologies can be introduced to reduce risks and save time. Nursery preparation usually suffers from damp-off or soil-borne pathogens which cause death of seedlings. A greenhouse nursery with sterilized soils/substrate can mitigate this.

After digging out the onions, curing, weighing, measuring and storage of the bulbs are major constraints. Some types of technology to ease up post-harvest handling can be useful, e.g., mechanized digging, a dry floor/hangar for curing and weighing and measuring equipment can be useful to ensure the quality of the onions.

## **Expertise**

The FFS have done a great job building capacities of the onion growers. The women understand best recommended practices and they are applying these in their production, as much as they can. However, around post-harvest there is still a lot of knowledge gap and adherence to recommended practices.

The expertise can be found at the level of the Department of Agriculture but it's often on general vegetables production with some knowledge on onions. It may be necessary to give further training to DOA staff who would become onion experts and who would become resource persons in the Training of Trainers programme of the bespoke project.

## **Price fluctuations**

The price of onions at the farm ranges from D450 to D500 per bag of 22 kgs. If the onions are sold by kilo, the price often ranges on average from D25 to D50 per kilo. The price fluctuates depending on availability: immediately after harvesting, the prices are at the lower end and during the rainy season when onions are scarce the price increases.

During the harvest period when there is often a glut in the onion market, prices would be as low as D350-D400 per bag of 22 kg.

In the dry season when onions would be scarce in the market the price of onion can rise as much as D650-D700 per bag of 22 kg.

### **Customer base (Local/export)**

There are however many wholesalers in GBA who import from Europe and distribute onions within the Gambia and the West Africa sub-region. Kharaffi Farms market their onions through two of these importers. The She-Trade project of MOTRIE was buying from the SMEs and selling through these same wholesalers. These include Fouta Enterprises, Atta Jallow, Mahmoud Gaffa and others.

The customer bases at regional market level or *lumos* are the itinerant traders who at the end of the market day would gather their purchases, load them onto trucks and transport them to the GBA. Since the country is not exporting for now, there is no customer base for exports.

### **Re-instating a moratorium on importation**

One of the biggest challenges to growth of the onion industry is the threat of cheap imports from Senegal and Europe. In the past, the government would pass a moratorium on onion imports until the local production is marketed. Recently, 2019 this moratorium was lifted, and the market is glutted with cheap imports. The effect on local onions is that marketing is slow. The onions remain longer in the hands of the producers who do not have the capacity nor the infra-structure to maintain quality of the onions.

The solution is to convince the government to restore the moratorium another few years to buy time until the construction of vegetable centers at Yundum Airport Junction and Jenoi are completed.

### **Processors/Value-Addition**

In The Gambia onions are not processed into secondary products and there are no by-products. But we know it can be dried and processed into powder and that vinegar can be extracted from it. Therefore, a major challenge is to introduce the appropriate technology for such transformation and to claim a market share for derivatives of onions imported.

When the onions are dug up, the first thing the growers do is to leave it to dry for 3-4 days. After the onion is sufficiently dry, they would sort it out by separating the small, deformed, blemished bulbs from the lot. This includes debris, dried leaves, sticks, stones, and sand. The good ones are weighed at the farm and hauled to the house for storage and grading.

The grading is based on size, weight, firmness, and wholesomeness of the bulb. The different grades are A, B and C. They different grades are sold at different prices. After grading, the poor grade C is kept for home consumption or for seed.

The best grade (A) is bagged is packed in 22 kg bags and stored or taken to the market. The intermediate grade (B) is either sold separately or it is mixed with the grade A and sold. The bags

utilized are used rice or sugar bags recycled to store onions. There is no known service provider for new bags suitable to store onions.

The main challenge is access to equipment (scales, moisture meters and hygrometers), implements (forklift and pallets)) and supplies (bags, sewing machine, boxes, baskets, crates, etc.)

### **Quality Parameters**

The key quality concerns are size, firmness, wholesomeness, and weight. Moisture content is not considered because they would not know how to measure it. It has never been done. The biggest challenge is the proper curing of the onions. The better the curing the longer the storability on the onions. At the farm level, the space of the curing place and its security against theft.

### **Price (Farm gate/wholesale)**

The Farmgate price for onions of 22 kg bag is D450-D500 at harvest in February till the beginning of the rains in July. At this time there is usually a glut in the onion market. When the rains begin till the end of December there is often scarcity of onions in the market. The 22 kg bag can sell for up to D700. The challenge is how to properly store the onions during the glut period and release them during the scarcity period. This cannot be achieved at the village level. However, if a system of collection centers (one in each region) can be established where onions from all over a region are collected, stored and readied for transporting to the big urban/consumption centers. These centers, five in number, can handle between 500 to 1000 tons of onions (20,000 to 40,000 bags).

## **5.10 Market Survey**

### **Retail**

The onions are retailed at the village and weekly markets (*lumos*). They are sold in heaps of 3-4 onions for D10 or they are sold in buckets of 5 L at D200. The retailing takes place at the village market or at a corner shop.

### **Hotels/Restaurants**

The hotels and restaurants prefer buying the grade A, however, since most of them are in the GBA, they are out of reach of the women growers. Therefore, they only make direct purchases from the urban markets or they get supplied by middlemen.

### **Consumers**

With onions, everyone is a consumer in Gambia. Onions are part of every dish, sauce, garniture, or grill.

### **Weekly markets/*lumos***

The weekly markets are first port of call in the sale of onions produced by women growers. There is at least one *lumos* almost in every region. The women who sell to the *lumos* make a little bit more money than selling at the village or selling to middlemen who come to the village. At the *lumos* the women can retail their onions and reap the maximum benefit.

The bulk though is sold in bags which fetch often D450-D500 per bag at the farm level. The bulk of the onion, Grade A & B are sold to traders.

### **Municipal markets**

The municipal markets are the big provincial towns that often are capitals of the regions. There live salaried or wealthier customers who normally buy bigger quantities and pay slightly more than in the villages or *lumos*. The women growers hardly travel that far so they don't capitalize on the existence of municipal markets. The middlemen and itinerant traders are the one who benefit from these market outlets.

### **Agri-business (e.g., Kharaffi Farms)**

Kharaffi Farms (KF) is a modern industrial farm of European standard. The Farm has over 200 ha but dedicates just 100 ha to onion production. They are highly mechanized and use central-pivot irrigation to grow onions, irish potatoes, maize, sweet potatoes, tomatoes and aubergines. In 2021, onion total production was 2000 MT. All the onions produced by them was marketed within the country through their recognized distributors. They grow the same variety as the SMEs, i.e., Violet di Gami.



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REPORT ON THE RAPID  
ASSESSMENT OF THE UNION  
& ALLIED VALUE CHAINS IN  
THE GAMBIA

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Department of Digitalization, Technology and Innovation (DTI)  
Vienna International Centre,  
P.O. Box 300, 1400 Vienna, Austria  
[tti@unido.org](mailto:tti@unido.org) / [www.unido.org](http://www.unido.org)

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