THE NATIONAL HORTICULTURE SECTOR STRATEGY – NHSS (2020-2024)

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Foreword

I am pleased to present the National Horticulture Strategy of The Gambia, which was developed to realize the great potential of the sub-sector and enhance its contribution to the socio-economic development of the country. The strategy is in line with the National Development Plan (2018-2021) goal to modernize agriculture, and thus contribute to raising incomes, particularly of small holders most of whom are women, improve nutritional wellbeing, and diversify and transform the Gambian economy as a whole. It builds upon and serves as an instrument for achieving the vision of the Horticulture Master Plan (2015-2035).

Among the main constraints that the sector faces and which the strategy aims to address include: limited resources of most horticulture growers; the mismatch between production and market needs; limited private sector participation and of youth; weak research and extension capacity and availability of improved production technologies; availability of quality inputs at affordable prices; access to markets – domestic and export; poor infrastructure; limited access to finance; insufficiently developed quality infrastructure and certification; fragmentation and poor coordination; weak farmer organizations; and a weak policy environment to foster growth and competitiveness.

The strategy therefore envisages a competitive, dynamic and market-oriented sector, which places key emphasis on fostering innovation and ensuring strong private sector participation, while not leaving behind the small resource-poor rural farmers who form the backbone of our agriculture, as well as our young people and women. The strategy is also timely, in that it positions the sector to tap into the myriad of opportunities that have opened up in the "new Gambia", since the historic transition to democratic rule brought on by the December 2016 elections that ended two decades of dictatorship.

With its six strategic objectives, related outcomes and interventions, the strategy provides a comprehensive framework that should guide government, value chain actors, our development partners and all stakeholders, who must now all work together. The novel institutional framework proposed – i.e. setting up of a Horticulture Development Board – will therefore play a vital role in ensuring that a robust coordination framework is place, which will energize, involve and capacitate all actors to work together to implement the strategy and develop the sector to its full potential. Government will therefore ensure that the proposed Board is established and fully functional as soon as possible. Measures will also be taken to address the policy constraints identified and implement the proposed interventions, including in particular measures to render the sector more attractive to the youth.

We commend FAO for assisting government to develop this important strategy document, which has resulted from an inclusive and participatory process that has involved all value chain actors and other stakeholders, country-wide. We also sincerely thank all those who participated in the process – as institutions or as individuals.

We take this opportunity to express the sincere thanks and appreciation of government to all development partners, Non-governmental organizations and other actors who have and continue to provide strong support for the development of horticulture in The Gambia and improving the livelihoods of rural households.

Finally, it is our hope and expectation that all stakeholders will now focus on implementation, and ensuring that there is a strong accountability for results so that the transformation of the sector happens sooner rather than later. We therefore urge all stakeholders to act with a renewed sense of urgency so that we together realize our goal for national development and for an improved and vibrant horticulture in The Gambia.

Amie Fabureh-Njie
Minister of Agriculture

Acknowledgement

The Ministry of Agriculture and FAO express sincere thanks and appreciation to all stakeholders and actors in the horticulture value chain who freely gave their time and contributed to the formulation of this strategy. This includes but is not limited to all those who were interviewed and provided their inputs and comments through various channels - Government entities, small-scale communal garden producers, commercial farmers, processors, input suppliers, market agents, marketing federations, NGOs, Donor Agencies, as well as many individuals within and outside the country.

The final validation workshop held on 19 February 2020 was well attended by a wide cross-section of key representatives from the horticulture sector. The debates and contributions were of high quality and contributed to enriching the strategy. All participants therefore have our sincere thanks and appreciation.

Finally, we take this opportunity to express our thanks and appreciation to the Dr. Ahmad Tijan Jallow for his diligent work in putting together this strategy.

Executive Summary

Horticulture has good potential in The Gambia and prospects for its further development are bright. It is a key driver of incomes, jobs and poverty reduction, especially among women, and government through many project interventions supported by partners, is making serious efforts to develop the sector.

Despite its good potential and bright prospects, many challenges are faced all along the horticulture value chain. Specifically, constraints can be grouped under six clusters, namely:

a) Quality and quantity of production and responsiveness to domestic and export market requirements and needs;
b) Availability of infrastructure and processing of horticulture produce;
c) Supply of quality inputs, research and extension capacity to support development of the sector;
d) Market access, business development services and access to financing;
e) Support services, farmer organizations and networks; and
f) Policy support, coordination and planning.

As a result, Gambia continues to import large quantities of horticulture produce that can be grown locally, while the growth of exports lags significantly behind neighboring countries such as Senegal, although growing conditions are similar. A major challenge is how to transform horticulture in The Gambia to a modern, competitive and market-oriented sector, in order to boost incomes, raise export earnings and contribute to the socio-economic development of the country.

To realize the potential of horticulture, Government formulated a long-term (25-year) Horticulture Master Plan (2015-2035). Furthermore, The Gambia National Development Plan (2018-2021) under implementation targets horticulture as a key sub-sector for value chain development and envisages the promotion of fruits and vegetables whose potential for import substitution will be harnessed and promoted to expand their export and marketing, which in turn will provide the opportunity to broaden and accelerate agro-industries, and maximize agriculture value addition.

The National Horticulture Sector Strategy (NHSS 2020-2024) presented in this document has been developed to support the realization of Gambia's National Development Plan objectives of modernizing agriculture, particularly with regards to the promotion of value chain development in horticulture, in a coordinated and sustained manner. The strategy also builds upon the National Horticulture Master plan (2015-2035), focusing on a shorter time span of five years - 2020-2024.

The National Horticulture Master Plan (2015-2035) sets a vision to transform the sector to become sustainable, modernized, diversified, and export oriented. In line with this vision, the goal of the National Horticulture Sector Strategy (NHSS) is to accelerate and sustain the development of the horticulture in The Gambia, by rendering it more modern and competitive, in order to achieve food security, reduce poverty, create employment, generate wealth through domestic and external trade, and thereby contribute to the socio-economic development and transformation of the country.

The five specific objectives of the strategy are to:

1. Facilitate market-led production of high-quality horticultural produce to meet domestic and export needs, as well as contribute to the nutritional wellbeing of Gambians.
2. Promote agro-processing and value addition for the domestic and export markets.
3. Strengthen support services for the horticulture sector in the areas of research, technical advisory services, and the supply of quality inputs.
4. Improve market information, business development and access to finance to support development of the horticulture sector.
5. Build and strengthen the organizational capacities of farmers' associations and cooperatives engaged in horticulture.
6. Put in place a supportive policy environment, establish and/or strengthen the institutional framework for more effective coordination, and facilitate the availability of quality data to support planning and policy development for the horticulture sector.

The goal identified and the objectives of the strategy are aimed at unlocking the untapped potential of horticulture, and ensure that it becomes a leading contributor to the economy and people of the country. The strategy is premised on the fact that the Horticulture can be an important vehicle for food and nutrition security, job creation, income generation and wealth creation. A well organized and funded horticulture sector is one of the fastest routes to poverty reduction and horticulture development can provide quick wins for the country.

The matrix below summarizes the key elements of the strategy in terms of the strategic objectives and the outcomes sought. The key interventions to achieve each strategic objective and related outcomes are presented in the document.

Strategic Objective	Outcomes
Facilitate market-led production of high-quality horticultural produce to meet domestic and export needs, as well as contribute to the nutritional wellbeing of Gambians.	• Production of vegetables for import substitution - onions, tomatoes and potatoes – enhanced • Local supply of fresh vegetables and fruit for high end domestic markets increased • Value chains for Fresh vegetables and Fruits identified, developed and supported for the export market, and the role of the private sector and investment by entrepreneurs – local and external - enhanced • Nutritional wellbeing of Gambians enhanced

	• A quality assurance and certification system in place
Promote agro-processing and value addition for the domestic and export markets.	• Processing capacity of vegetables and fruits increased • Export of processed fruits increased and export markets diversified
Strengthen support services for the horticulture sector in the areas of research, technical advisory services, and the supply of quality inputs.	• Horticulture research capacity enhanced • Technical Advisory services for horticulture scaled up and strengthened • Availability and use of quality inputs (seeds, fertilizers, pesticides, etc) for the horticulture sector improved • Adequate infrastructure in place for enhanced horticulture production and marketing for domestic and export trade
Improve market information, business development and access to finance to support development of the horticulture sector.	• Reliable Market Information Services for the horticulture sector in place • Business Development Services for horticulture farmers improved • Access to Finance for horticulture farmers, processors and exporters enhanced
Build and strengthen the organizational capacities of farmers' associations and cooperatives engaged in horticulture.	• Capacities of horticulture marketing federations strengthened
Put in place a supportive policy environment, establish and/or strengthen the institutional framework for more effective coordination, and facilitate the availability of quality data to support planning and policy development for the horticulture sector.	• A supportive policy environment in place for a market-led horticulture • An enhanced institutional framework for improved coordination of the horticulture sector in place • Quality and relevant Data for enhanced policy and planning available

To ensure successful implementation of the strategy, the document identifies and proposes the following:

- Guiding principles that will govern how the various stakeholders will relate to each other;
- Institutional arrangements for coordination, as well as clarity with respect to the roles and responsibilities of key actors;
- A monitoring and evaluation system; and
- An implementation plan for the roll out of the strategy.

Given the need for a robust institutional framework to coordinate the diverse number of stakeholders operating in the horticulture value chains, the strategy proposes in the short-term, the setting up of a National Horticulture Sector Steering Committee to be chaired by the Permanent Secretary Ministry of Agriculture. The NHSSC will bring together Government, producers, processors, development partners, private sector, famers' associations and other

actors in the horticulture value chain to oversee strategy implementation, and its review and monitoring.

In the medium term, the strategy proposes the setting up of a National Horticulture Development Board (NHDB) to provide sustained focus of all national efforts to transform the horticulture sector and contribute to the socio-economic development of the country. The Board shall have six core interlinked functions as follows:

1. Policy Setting and Coordination: the NHDB will be the main government instrument to oversee the design and implementation of national policies, strategies and programmes to facilitate growth of the horticulture sector, modernize it and render it more competitive. It shall in that regard maintain up to date and quality data to facilitate more effective planning and shall provide a robust platform for the coordination of all stakeholders. It shall monitor, analyze and disseminate the latest global and regional market and technology trends in the field of horticulture for the benefit of the industry. The Board shall also lead resource mobilization efforts for the sector, sourcing both donor and private sector funding.
2. Certification and Applying Market Standards: The Board will assist value chain actors, especially producers, uphold high and consistent product quality, due to the stringent standards set by export markets, especially the European Union. The NHDB will adopt a strategy of consistently emphasizing the testing for horticultural product quality by liaising with other bodies such as DoA/PPS, FSQA, NARI, to ensure that chemical, pest and disease requirements and other standards stipulated by export markets are adhered to. This way the Board will be able to facilitate a large volume of horticultural exports which respond to market demands.
3. Capacity Building of Stakeholders: As part of its functions, NHDB will, working closely with structures such as DoA and UTG, promote capacity building of various value chain actors, especially producers and exporters with the aim of ensuring that such stakeholders have the right techniques, knowledge and skills to grow their produce and engage in export. To reliably produce high quality horticultural produce in consistent quantities requires optimum production management based on GAP, and use of modern, cost cutting techniques.
4. Encouraging Horticulture as a Business: NHDB will undertake campaigns to encourage farmers to take up horticultural farming as a business by demonstrating its potential as an income earner and job creator. Business development services and initiatives to enhance access to finance will also be provided on a more integrated and consistent basis.
5. Promotional Activities at National and International Levels: NHDB will launch initiatives to market Gambia as a key player in the export of horticultural products while linking buyers and sellers of horticultural crops. The promotional activities will be undertaken both locally and internationally. Local exhibitions will provide an opportunity for stakeholders to market themselves to potential exporting firms and also facilitate the promotion of horticultural export. By attending international exhibitions, the country can gain knowledge on new horticultural production methods, marketing standards and techniques. Information can then be further disseminated in-country through trainings and workshops.
6. Harnessing diplomacy to expand exports: working closely with the Ministry of Foreign Affairs, International Cooperation and Gambians Abroad and GIEPA, the Board will use Gambia's diplomatic representations to connect Gambia's horticulture stakeholders with business and

investment partners and opportunities abroad.

By creating such a Board that brings together the core functions listed above under a single authority, government will endeavor to move away from its current fragmented and poorly coordinated project approach to supporting horticulture development to a more focused and sustained strategy to develop this most important sector for Gambia's economy. The Board will also act as a good mechanism to bring together agriculture and the private sector.

To roll out the strategy, an official launch by the Minister of Agriculture is proposed, to be followed by the speedy establishment and operationalization of the National Steering Committee and other related structures.

Acronyms

ADWAC:	Agency for the Development of Women and Children
ALVs:	African Leafy Vegetables
APFS:	Agro-Pastoral Field Schools
ASPUNA:	Commodities Trading Group
AVRDC:	Asian Vegetable Research and Development Center
BDS:	Business Development Services
CPCU:	Central Projects Coordination Unit (Ministry of Agriculture)
CRR –S:	Central River Region – South
CRR-N:	Central River Region - North
CSR:	Corporate Social Responsibility
DG:	Director General
DLS:	Department of Livestock Services
DoA:	Department of Agriculture
ECOWAS:	Economic Community of West African States
EU:	European Union
FAO:	Food and Agricultural Organization
FAOSTAT:	FAO Statistics
FASDEP:	Food and Agriculture Sector Development Project
FFS:	Farmer Field Schools
FFHC:	Freedom from Hunger Campaign
FSQA:	Food Safety and Quality Authority
GACH:	Gambia Angola China Mining Company
GAP:	Good Agricultural Practices
GBoS:	Gambia Bureau of Statistics
GCVA:	Gambia Agricultural Commercialization and Value Chain Management Project
GDP:	Gross Development Project
GHE:	Gambia Horticulture Enterprise
GIEPA:	Gambia Investment and export Promotion Agency
GIZ:	The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH or GIZ in short is a German development agency
GMD:	Gambian Dalasi
GoTG:	Government of The Gambia
GRA:	Gambia Revenue Authority
Ha:	Hectare
HTS:	Horticulture Technical Services
IDH:	The Sustainable Trade Initiative
LRR:	Lower River Region
M&E:	Monitoring and Evaluation
MoA:	Ministry of Agriculture
MoFEA:	Ministry of Finance and Economic Affairs
MOI:	Ministry of Information

MOYS:	Ministry of Youths and Sports
MSME:	Medium and Small
MT:	Metric Tons
NARI:	National Agricultural Research Institute
NATC:	Njawara Agricultural Training Center
NBR:	North Bank Region
NDP:	National Development Plan
NEMA:	National Land and Water Management Development Project
NGOs:	Non-Governmental Organizations
NHSS:	National Horticulture Sector Strategy
NHSSC:	National Horticulture Strategy Steering Committee
NPK:	Nitrogen, Phosphorus and Potassium Fertilizer
OFSP:	Orange Flesh Sweet Potato
RASCA:	Rapid Agric-Food Supply Chain Appraisal Report
SDF:	Social Development Fund
SME:	Small and Medium Enterprises
SMETA:	Sedex Members Ethical Trade Audits
SWOT:	Strength, Weakness, Opportunities and Threats
ToRs:	Terms of Reference
ToT:	Transfer of Technology
UK:	United Kingdom
UNDP:	United Nations Development Programme
UP:	United Purpose
URR:	Upper River Region
USA:	United States of America
UTG:	University of The Gambia
WASDU:	Wulli and Sandu Development
WCR:	West Coast Region
YEP:	Youth Empowerment Project

1. Introduction

1.1. Background

Agriculture occupies a prime place in Gambia's economy and is a key driver of economic growth. Traditionally, agriculture has accounted for approximately 30% of GDP, although recent data puts agriculture's contribution to GDP at 18% with services rising to 20%[1]. The sector employs nearly half (46.4%) of the working population and over 80% of the rural working population. With a total arable land area estimated at 558,000ha of which about 58% is cropped annually, and the River Gambia that offers a reliable source of fresh water for irrigation, the agricultural potential of the country is good. It is estimated that growth in the agriculture sector is many times more beneficial than similar growth rates in other sectors.

However, Gambia's agriculture is relatively undiversified, is mainly small-holder based and characterized by rain-fed subsistence farming of cereals (millet, maize, rice, sorghum) and a limited range of cash crops (mainly groundnuts and cotton), as well as livestock production. Estimates put the proportion of land under irrigation at 3%. Unsurprisingly, the average agricultural production growth rate per annum was estimated at 2.5% during the period 2007-2016, which is below the annual population growth rate of 3.1%[2].

Consequently, approximately 55% of the population is food insecure, and 36% of the population could not meet their daily food requirements of 2400 calories even if they allocated all their consumption to food[3]. This situation has led to not only a burgeoning food import bill but also has direct adverse consequences on the health and wellbeing of the population.

The weak and inconsistent performance of the agriculture sector is linked to several factors, among which are[4]: a weak policy and institutional framework; inadequate budgets and access to finance; difficult access to quality inputs; weak and ineffective research and advisory services; rainfall variability and climate change impacts; poor rural infrastructure, transport and storage facilities which results in high post-harvest losses; high levels of aflatoxin contamination, low levels of application of food safety management along the value chains, as well as poor adherence to standards of export markets.

The Gambia National Development Plan (2018-2021) has therefore prioritized the modernization of agriculture and fisheries for sustained economic growth, food and nutritional security and poverty reduction[5]. Under the plan's outcome that focuses on value chain development and

[1] Ministry of Finance and Economic Affairs, Gambia 2019
[2] The Gambia National Development Plan (2018-2021)
[3] IHS 2015/16
[4] Ibid
[5] The goal for agriculture under the plan is a modern, sustainable and market-oriented agriculture and livestock sector for increased food and nutritional security, income and employment generation, poverty reduction and economic transformation.

agricultural commercialization, emphasis will be given to: identifying priority value chains in agriculture; identifying and strengthening the capacities of value chain actors; promoting agribusiness and agro-processing, including access to finance and a viable agricultural marketing system; and adopting and implementing quality assurances framework in line with national, regional and international standards.

The NDP identifies horticulture as a key sector for value chain development and envisages the promotion of fruits and vegetables whose potential for import substitution will be harnessed and promoted to expand their export and marketing, which in turn will provide the opportunity to broaden and accelerate agro-industries, and maximize agriculture value addition[6].

1.2. Need for a Strategy

The National Horticulture Sector Strategy (NHSS) presented in this document has been developed to support the realization of Gambia's National Development Plan objectives of modernizing agriculture, particularly with regards to the promotion of value chain development in horticulture, in a coordinated and sustained manner.

Sustained horticultural production is essential to realize the goals and targets of the National Development Plan of The Gambia. Despite the significant opportunities and the increasingly important role horticulture plays in the socio-economic development of the country, there is no strategy in place. The Horticulture Master Plan developed in 2015 provides a long-term roadmap, but a strategy is needed to factor in new developments, and accelerate the growth of the sector by focusing on the medium term of five years (2020-2024).

Furthermore, the context under which the Master Plan was developed has changed significantly since 2016, and there is need for a strategy that capitalizes on this changed context. This National Horticulture Sector Strategy builds upon the Horticulture Master Plan, but takes into account the realities of a "new Gambia" to ensure that the growth and competitiveness of the industry is catalyzed in a new market-led approach and sustained into the future.

1.3. Strategy Development Process

In developing the NHSS, wide-ranging consultations were held with key stakeholders in the horticulture value chain – farmers, government, non-governmental actors and partners supporting horticulture development – see Annex 1, as well as an extensive review of a growing body of recent publications on the sector- Annex 2.

Government is implementing a number of projects targeting horticulture. These include FASDEP, NEMA/CHOSSO, GCVA projects to name a few. To achieve their objectives, the projects cited have developed important partnerships with many NGOs. The strategy development process also

[6] NDP 2018-2021

benefitted from discussions and exchanges with these key players. Other country experiences were also reviewed and the lessons learnt informed the strategy development process. Finally, the draft strategy was subjected to a national validation on 19 February 2020, and based on the inputs received was finalized.

1.4. Structure of the Document

The strategy document is in three core parts, plus an introduction:

- A diagnostic overview of the horticulture sector;
- The Strategy - the goal, objectives, results framework and key interventions; and
- Strategy Implementation - Institutional arrangements, monitoring and evaluation and roll out implementation plan of the strategy.

Detailed profiles of the different actors in the horticulture value chain are presented in the annexes.

2. A Diagnostic Overview of the Horticulture Sub-sector

A sound diagnosis or situational analysis is the starting point of any strategy design process. The chapter therefore examines the potential of horticulture in Gambia's economy, reviews the horticulture value chain, including a bottleneck analysis and identifies key actions to overcome these constraints. This lays the basis for Chapter 3 that presents the proposed strategy.

2.1. A Brief History of Horticulture in The Gambia

The growing of vegetables in The Gambia dates back many centuries, with early explorers reporting that travelers to the region in the 14th century had observed women cultivating vegetables in household gardens and in rotation with rice in the lowland swamps[7]. These practices must have developed alongside the evolution of settled agriculture in the region that occurred millennia earlier.

The first modern vegetable growing scheme in the country was reported to have been established during the colonial period (1951/52)[8], 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 a 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.

According to reports there were up to 11 companies exporting horticulture produce between 1986-94, and there was a large lime plantation, producing lime oil and juices. However, the political coup in 1994 led to the subsequent closure of all but two exporters, Radville Farms and GHE.[9]

2.2. The Potential and Prospects of Horticulture in Gambia's Economy

Horticulture has a tremendous potential for the country. The sector is favored by reasonably good growing conditions and presents high economic value to the country. If the potential of the River Gambia is tapped, this would allow for the spread of horticultural production throughout the year and in all parts of the country. It is estimated that 23% of the total arable land in the Gambia, which is about 117,329 hectares is suitable for horticulture, however only 3,519.9 ha (i.e. less than 3% is currently under production)[10].

[7] The Gambia Horticulture Master Plan (2015-2035)
[8] Ibid
[9] Aided Trade, 2018
[10] RASCA Study, 2018

Estimates put horticulture's contribution to GDP at about 4.2% overall, 24% of agriculture GDP, and employs over 65% of the agricultural labour force. Horticulture has always been and continues to be an important source of rural income, employment and food, and directly contributes locally to food security and poverty alleviation. It also has great potential for import substitution, exports and foreign exchange generation[11].

Moreover, horticulture offers higher economic prospects relative to other agricultural products. It is reported that in 2013, the sector accounted for just 2% of the cultivated land (mostly in the western end of the country) and 8% of the agriculture production by volume, yet it represented 16% of the agriculture production in value, demonstrating that horticulture offers higher economic prospects relative to other agricultural products[12].

Prospects for the further development of horticulture in The Gambia are also bright for the following reasons.

Firstly, the political and democratic transition which the country has been experiencing since December 2016 presents tremendous opportunities for the economy as The Gambia sees the gradually rebuilding of trust and confidence of the international community, including in the area of business and investments. Furthermore, government's macro-economic stabilization measures and reforms have resulted in GDP growth rates increasing from 1.49% in 2016 to 4.8% in 2017 to 6.5% in 2018, and 6.0% for 2019. The reduction in domestic borrowing by government has led to a decline in commercial banks' interest rates, which in turn is gradually improving access to finance for businesses. There has been a remarkable turn-around and improvement in the critical area of energy, which has been a major constraint for businesses. The positive economic growth, improved business and investment climate will likely have a favorable impact on economic activities, incomes and jobs, which in turn will spur consumer spending. In such a context, Horticulture with its untapped potential is a prime candidate for investment opportunities by both foreign and domestic investors, and can benefit from increased purchasing power of citizens.

Secondly, horticulture stands to benefit substantially from the government's drive to diversify exports and boost foreign exchange earnings. According to a recent study, The Gambia has competitive geographic positioning and pre- existing trade links with regional partners and Europe[13] which stands it in good stead with regards to the export of horticultural produce. The study further estimated that by focusing on six high value horticultural crops, namely mango, chili pepper, sweet potato, onion, and tomato, which hold the greatest commercial potential for national and international markets, the market opportunity for these high- priority crops alone represents US$ 64 million between 2019 and 2025, as compared to the horticulture sector current value of US$ 38.5 million. This represents an annual growth rate of 11%, which is way ahead of the current annual agriculture growth rate of 2.5%. This could translate into a positive

[11] Horticultural Value Chain of Six Agricultural Regions of The Gambia (United Purpose, December 2018)
[12] Dalberg Report (2018)
[13] "Market opportunities study for commercial horticulture production in the Gambia Final report" (March 2018)

impact on 36,600 smallholders and create 13,800 new jobs[14] - see table 1. Thus, the prospects for enhanced export opportunities could result in substantial increases in the value of horticulture exports from The Gambia.

Table 1: Potential of the high-priority horticulture crops in The Gambia, 2019-2025 [15]

	Value Creation (US$)	Smallholder Reach	New Jobs created
Chili Pepper	28	15,500	6300
Onion	14	13,200	2100
Mango	7	3,800	4400
Tomato	8	3,500	600
Sweet Potato	7	600	400
Total	64	36,600	13,800

The drive for exports will be greatly facilitated by the recently completed and now operational Trans-Gambia Bridge at Yelli Tenda and the new International Airport at Ndjass in Senegal. These two landmark infrastructure developments if exploited will open the door to Gambian exporters of fruits and vegetables to regional and international markets and overcome current constraints posed by the limited freight capacity out of Banjul International Airport.

Thirdly, local demand for vegetables far outstrips domestic production. Based on estimates of 31 kg per capita consumption of vegetables in Gambia[16], and population figures, Table 2, demonstrates that there is a huge potential in the local market for horticulture.

Table 2: Estimated Demand and Production of Vegetables in Six Agricultural Regions

Region	Estimated Demand (MT)	Estimated Production (MT)	Potential Deficit (MT)
CRR -S	3,851	57.37	> 3,000
CRR-N	7,983	76.3	> 7000
URR	7,347.6	146.48	> 6000
WCR	21,374	108	>20,000
LRR	2,512	72.7	> 2000
NBR	7,983	129	>7000

Consequently, the country imports significant amounts of agricultural produce but exports are limited which makes an import substitution strategy a viable option. For example, it is reported that EU sales to Gambia of Agricultural goods is Euro 55 million while sales to Europe stand at Euro 4 Million[17]. This indicates there is substantial opportunity to stimulate supply for both exports and local markets for import substitution. The gap between demand and supply for key vegetables is wide. Onions and potatoes in particular are imported in large quantities; it is

[14] Ibid
[15] ibid
[16] The WHO recommended rate is 146 kg per capita
[17] Aided Trade: The Gambia Horticulture Evaluation, 2019

reported that 16 containers (40 feet) are imported into the country every 2 weeks by boat from Europe[18]. With local production concentrated mainly during the months of April-June, local demand for the rest of the year is met through imports - see Table 3.

Table 3: Value of Onion and Potato imports into The Gambia [19]

	Value Imported in 2018 (US$)	**Growth in Imports (2014-2018) - %**
Onions	4,494,000	14%
Potatoes	1,049,000	24%

Similarly, taxes imposed on imported fruits makes locally produced fruit competitive although quality of the latter is poorer. A strategy of import substitution for vegetables and fruits can boost domestic production, increase incomes and savings in foreign exchanges.

In the same context, tourism can provide a very good domestic high-end market for local horticulture produce, if the necessary forward and backward linkages are developed. After several years of lackluster growth, the tourism sector is rebounding as evidenced by a growth of 29% in tourism arrivals in 2018, exceeding the international, regional, and sub-regional averages, and surpassing the annual growth target envisaged in the National Development Plan. Furthermore, Tourism value added as a proportion of GDP was approximately 21% in 2018, up from 16% in 2017; direct employment for Gambians was 41,800 from 35,000 in 2017. A significant increase in investments in new and upscale hotels and facilities was registered, and foreign exchange earnings from tourism was approximately $128million (up from $104million in 2017) – an increase of 23%, which demonstrates the vital role of tourism in Gambia's economy. The surge in tourists' arrivals could have significant spillover effects into the horticulture sector as most hotels/tour operators are now offering 'all inclusive' packages where all meals are supplied by the hotel. This means that hotels will require diversity, continuity and freshness in their fruit and vegetable offering in the daily three for their guests. A continued strong performance of the tourism sector can therefore act as a captive domestic market for horticulture farmers[20]. Table 4 shows an estimate of demand for fruits and vegetables from the hospitality sector.

Finally, government, development partners and other players have all recognized the importance of horticulture and have through project interventions and other means matched the policy commitments with many concrete investments. The key horticulture value chain actors in the country are building critical linkages, and capitalizing important knowledge, awareness and experiences. Moreover, a consensus is emerging among policy makers and value chain actors on what is needed to transform the sector. Consequently, the sector is "ripe" for change and transformation.

[18] Aided Trade: The Gambia Horticulture Evaluation, 2019.

[19] Source: Trade Map ITC, cited in Aided Trade – Gambia Horticulture Evaluation, 2019)

[20] The long-term impact of the collapse of the Travel Giant Thomas Cook on Gambia's tourism is yet to be accurately determined, but it is expected to have some adverse consequences in the short-term

Table 4: Example of Horticultural Products Requirement by Hospitality Facilities

Product	Big Hotels Volumes / week	Restaurants Volume/ week	Source
Fleshy Fresh Tomato (salad)	Low – 50kg High – 250-300kg		Imported from Senegal, Morocco/Spain
Local Tomato		3-4kgs/ 2-3 days plus tinned tomato puree and ketchup which are imported	Traders from market deliver to hotel
Cabbage	Low- 15kg High – 50kg		Imported but mostly local
Courgette			Imported from Senegal
Irish Potatoes	35-40bags x 20kg each	20kg pocket	Imported and local but less than 15%
French Fries		5 cartoons/ week	Imported
Onion			Imported by Kiaraba Imports
Hot Pepper	150kg		Local
Chilies			Local
Okra		Buy tin container/ week	Local
Carrots			Mostly imported
Cucumbers	Low 50kg High 200kg	3-4kg/ every 3days	Locally produced and Imported
Lettuce		5-10 heads/ 2 days	Imported from Senegal
Yellow/ Red Peppers			Imported
Green Pepper			Imported
Herbs and Spices	Buy imported		Imported
Cauliflower			Imported
Watermelon	500kg		Imported – 90% from Senegal and Local
Honey melon	300-500		Imported
Pawpaw	300-400kg		Local
Banana	300-400kg		90% Locally and part imported from Senegal and Guinea Conakry

Source: RASCA Study, 2018

The horticulture sector can therefore experience real growth and transformation over the next few years, which in turn, could have substantial and far-reaching positive impacts on economic growth and export diversification, poverty reduction and rural transformation, as well as on women and youth empowerment.

However, the country is not realizing the income and job generating potential offered by its potential. This potential will only be fully realized if a robust strategy based on a modern, competitive and market-led production approach is put in place, and concerted efforts are made to address the many constraints faced.

2.3. Production, Import and Export of Vegetables and Fruit

The availability of sound data is vital for policy and strategy development, as well as sound planning and programming. Unfortunately, this constitutes a major gap for horticulture development as the availability of quality and timely data and information is seriously lacking. The data presented in this section relies on multiple sources, as no single organization provides a comprehensive data set on production, imports and exports of horticulture produce[21].

2.3.1. Horticulture Crops Grown and Estimated Overall Production

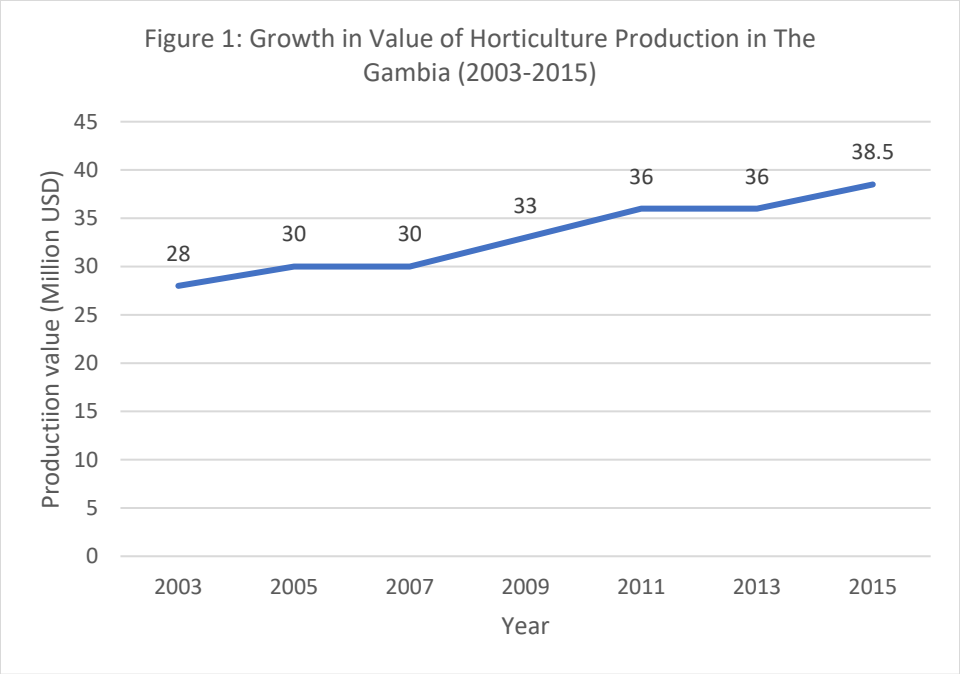
Fruits and vegetables are widely grown in all regions of the country. Horticultural crops grown include tomatoes, onions, cabbage, eggplant, okra, colored and green peppers, lettuce, cucurbits, cucumber, butternut, hot chilies, baby corn, carrots, and fine beans, while fruits grown include: water melon, guavas, citrus fruits, mangoes, papaya, and banana. The bulk of production is carried out by small scale individual producers and individuals in village-based communal gardens with the latter being sponsored mainly by GOTG, Donors, UN Agencies and NGOs.

Crops grown depend on season, and generally are two:

a) Cool Dry Season (October to May): onion, tomatoes, chilies, eggplant, sorrel, cabbage, bitter tomato, lettuce, sweet peppers, hot pepper, okra;
b) Hot Wet Season (June – September): eggplant, chilies, okra, tomatoes, pumpkin, butternut, squash, cucumber, sweet potatoes, Amaranths, etc.

Up to date time series data on local production of fruits and vegetables is difficult to obtain. Between 2003 and 2015, the value of horticulture production grew from US$28 million to US$38 million (see Figure 1), representing a growth rate per annum of 3%, which is higher than the 2.5% growth rate for agriculture sector.

[21] The key sources are: FAOSTAT; GBoS; The Gambia Horticulture Master Plan (2015-2035);



The predominant horticultural crops grown in the six agricultural regions of the country and the estimated production and revenues earned in 2018 are presented in Table 5[22]. Onions, Okra, Hot Pepper, Tomato, Egg Plant and Cabbage are grown in all regions. Production ranges from 56 MT in CRR-South to 146 MT in URR.

A survey conducted by United Purpose showed that total production of five selected vegetables in 2018 amounted to 520mt, of which three vegetables accounted for 69.29%; onions top the list with 37%, tomatoes and cabbage followed with 19% and 14% respectively. National per capita vegetable production is estimated at 1.11mt of assorted vegetable valued at GMD 19,215.00. Total revenue from selected vegetable production is valued at 10.18million Dalasis. Onion, cabbage and hot pepper contributed 73% of the total revenue; each contributing over 20%. Onions top the list with 27%, cabbage and hot pepper followed with 24% and 22% respectively.

Table 5: Vegetable Production and Revenue in Six Agricultural Regions of The Gambia (United Purpose 2018)

Agricultural Region	Predominant horticulture crops grown	Estimated Gross Production (MT)	Estimated Gross Earnings (GMD)
West Coast	19 varieties grown with most popular being: Bell Pepper (80%), Okra (73%), Onion (66%), Bitter Tomato (46%) and Egg Plant (40%)	108	1.71 million
North Bank	17 varieties grown with most popular being: Okra (63%), Hot	129	2.0 million

[22] Source: Horticultural Value Chain Study in Six Agricultural Regions, United Purpose, 2018

	Pepper (49%), Tomato and E/Plant (46%0, Onion and Bitter Tomato (45%)		
Lower River	16 varieties grown with the most popular being: onion (94%), H/Pepper (83%), Cabbage (68%) and Tomato and E/Plant (54%)	72.7	1.42 million
Central River-North	16 varieties grown but most popular were: Onions (76%), Tomato (51%), Hot Pepper (45%), Egg Plant (40%) and Cabbage (38%)	76.3	1.65 million
Central River - South	16 varieties grown but 5 most popular are: onion, hot pepper, okra, tomato and Egg Plant. 71% and 70% of farmers respectively grew onions and hot pepper	56.37	995,570 with 60% coming from onions and tomato
Upper River	Many varieties grown but the most predominant crops are: Hot Pepper (93%), Onion (77%), Cabbage (71%) and Egg Plant (^%%)	146.48	2,3 million
Total		520	10.18 Million

2.3.2. Import of Fruits and Vegetables

The Gambia imports a wide array of fruits and vegetables and the imports have grown significantly over the years. Figure 2 shows imports of the top ten vegetables over the ten-year period 2008-2018 in cif value. Over the period, some 50 different categories of vegetables in various states (raw, processed, frozen, etc) have been imported and the monetary values have increased as the total imports of the top 10 produce over the period show.

The data shows that the country is spending significant amounts of foreign exchange when there are favorable conditions for producing most these vegetables. This makes a strong case for an import substitution strategy.

Figure 2: Imports of Top Ten Edible Vegetables and Root & Tuber Products from 2008-2018 (Source: GBoS, 2019)

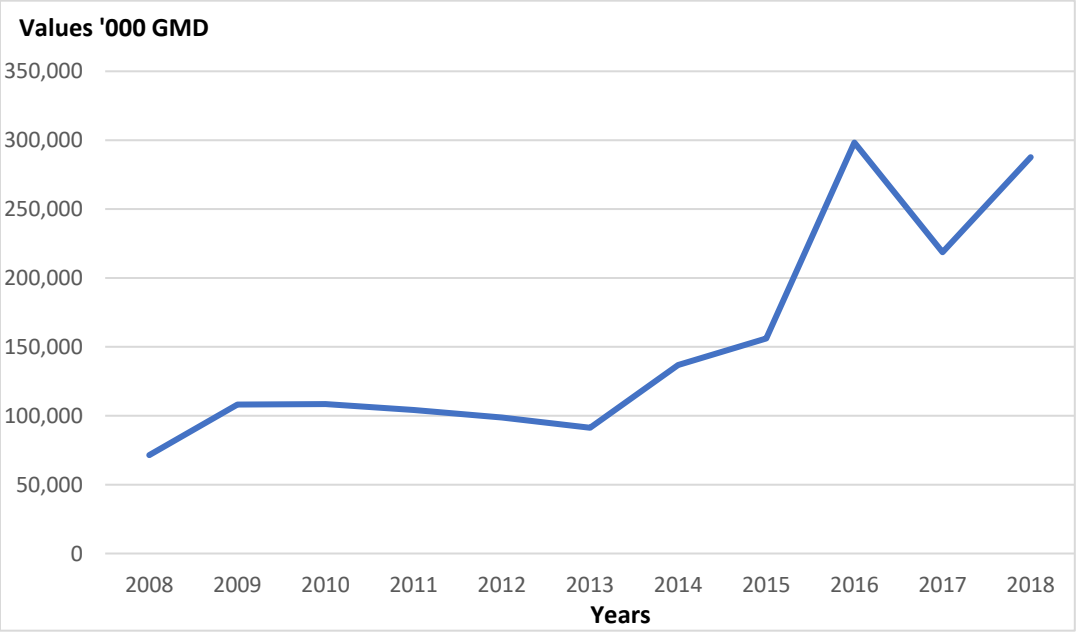
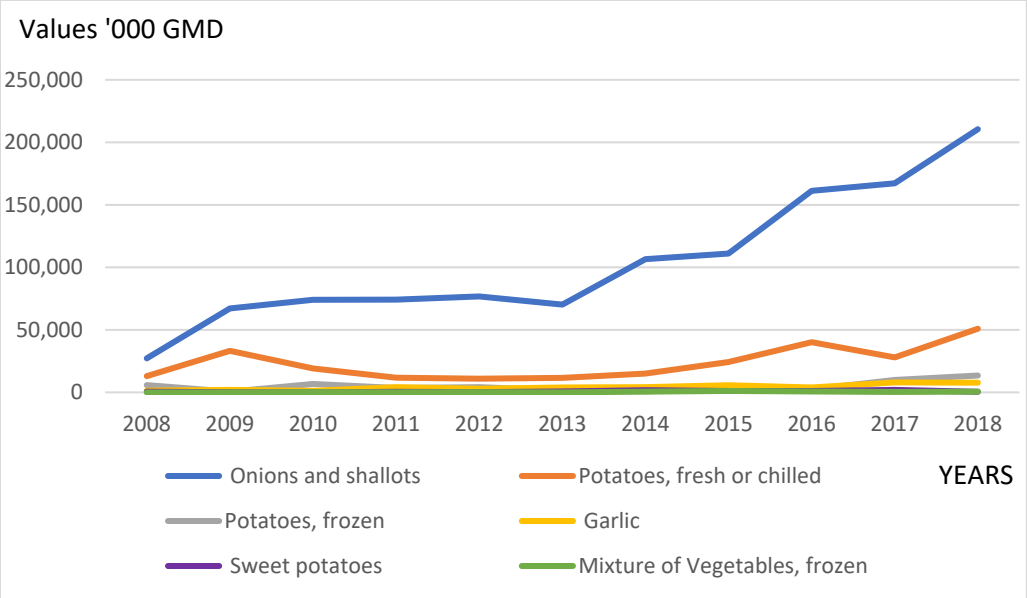


Figure 3: Imports of Selected Vegetables from 2008-2018 (Source: GBoS, 2019)

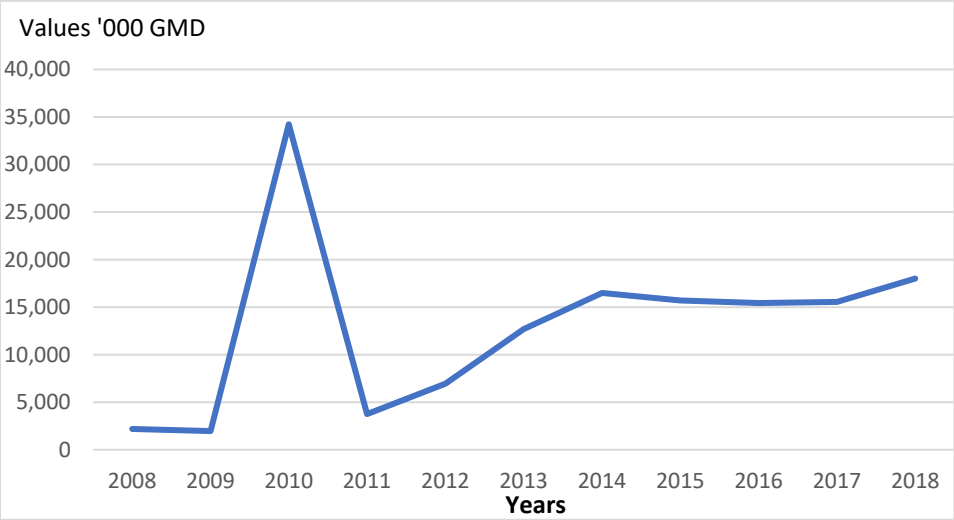


As shown in Figure 3, Onions and Shallots, potatoes, sweet potatoes, garlic and mixed vegetables were the most consistently imported produce, with onions and shallots showing a linear increase over the period. Imports of potatoes show a similar trend although more moderately.

Similarly, a wide range of fruits of different categories (45) were imported over the period. Figure 4 shows the trends with respect to the top ten imported fruits. The fruits that most dominate

are: apples, dates, nuts, bananas and dried fruits. Discounting the anomaly for 2010, imports of fruits also showed a linear increase over the 10 years, although at a less rate as compared to imports of vegetables; the increases in both cases mostly in response to population growth.

Figure 4: Imports of Top Ten Fruit and Nut Products from 2008-2018 (Source: GBoS, 2019)



2.3.3. Export of Fruits and Vegetables

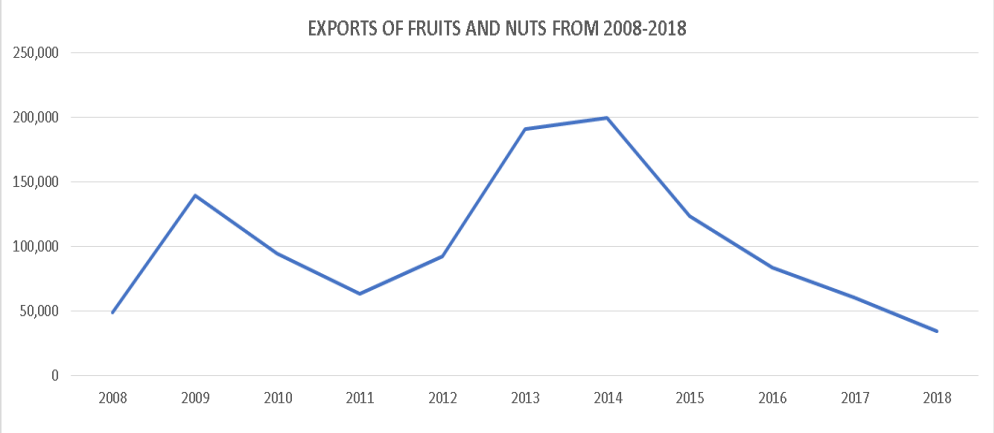
Exports of vegetables and fruits between 2008-2018 are shown in Figures 5 and 6. The observable trends are as follows:

- Exports of vegetables have been flat between 2010 and 2016, but have picked up, with an upward swing since then;
- The main exported vegetables include: Beans (fresh, chilled), mixture of vegetables, Baby corn; and
- Exports of fruits showed a gradual decline from 2014 and include the following produce: cashew nuts and mangoes.

Overall, imports of vegetables and fruits far outstrip exports, resulting in a significant trade deficit. The horticulture strategy aims at closing this trade gap, as well as ensuring that Gambians are well nourished and healthy.

Figure 5: Export of Vegetables 2008-2018 (Source: GBoS, 2019)

Figure 6: Exports of Fruits and Nuts 2008-2018 (Source: GBoS, 2019)



2.4. The Horticulture Value Chain – Actors, Constraints and Recommendations

As noted in section 2.2, horticulture has a good potential and prospects for its further development are bright. However, it is important to determine the strength, weaknesses, opportunities and threats of the sector, as an input into the strategy development process. This should be complemented by a detailed understanding of the key constraints faced by the various actors in the horticulture value chain.

2.4.1. A SWOT Analysis of the Horticulture Sector

The horticulture sector has good potential but faces several bottlenecks: lack of knowledge among growers, traders and distributors, limited response to consumer preferences, limited access to high-end market (linkages), limited access to finance and inadequate support from the government.

The sector however, also has several opportunities for further development including value addition, proximity to export markets, growing domestic demand[23]. A SWOT analysis of the sub-sector is presented in the table 6 below.

Table 6: SWOT Analysis of Horticulture[24]

Strengths	**Weaknesses**
• Land availability • Proximity to the EU • The River Gambia for transportation • Ready availability of labour supply • Availability of underground water • Government commitment to support horticulture • Political stability • Horticulture widely practiced throughout the country • Favorable diverse climatic conditions that allows for cultivation of wide range of horticultural products	• High inputs and logistics costs – seeds, fertilizers, electricity • Inadequate cold storage facilities, market access, packaging, and processing • Inadequate financing opportunities & high interest cost • Inadequate human resources • Limited specialization in extension services • Logistical challenges of ready air and sea freight availability • Lack of transport facilities • Limited use of weights & measures & calibration challenges • Unfavorable land tenure system for financing • High & peculiar incidence of pests & diseases • Periodic Ferry inefficiencies and delays • High transportation cost • Low quality and quantity of produce • Limited shelve life
Opportunities	**Threats**
• Commercialize horticulture for export • Certification of businesses for enhanced market access • Proximity to EU and US Markets • Sector diversification into other horticultural products • Improvement in standards and quality infrastructure • Federations for private sector led cooperative schemes • Agro-processing • Inter-linkage with Tourism industry • The River Gambia for transportation • Commercialized Horticulture for exports • Packaging and processing • Regional projects sponsored by donors – West Africa Competitivity project	• Global Warming and climate change • Pests and disease – also occasional invasion of locusts from the Sahara • Price volatility • Rural-urban migration • Non-tariff barriers on exports – specifically Sanitary & Phytosanitary (SPS) measures • Regional stability • Climate change

The strategy will build upon these strengths, exploit the opportunities, address the weaknesses and put in place mitigation measures for the threats identified.

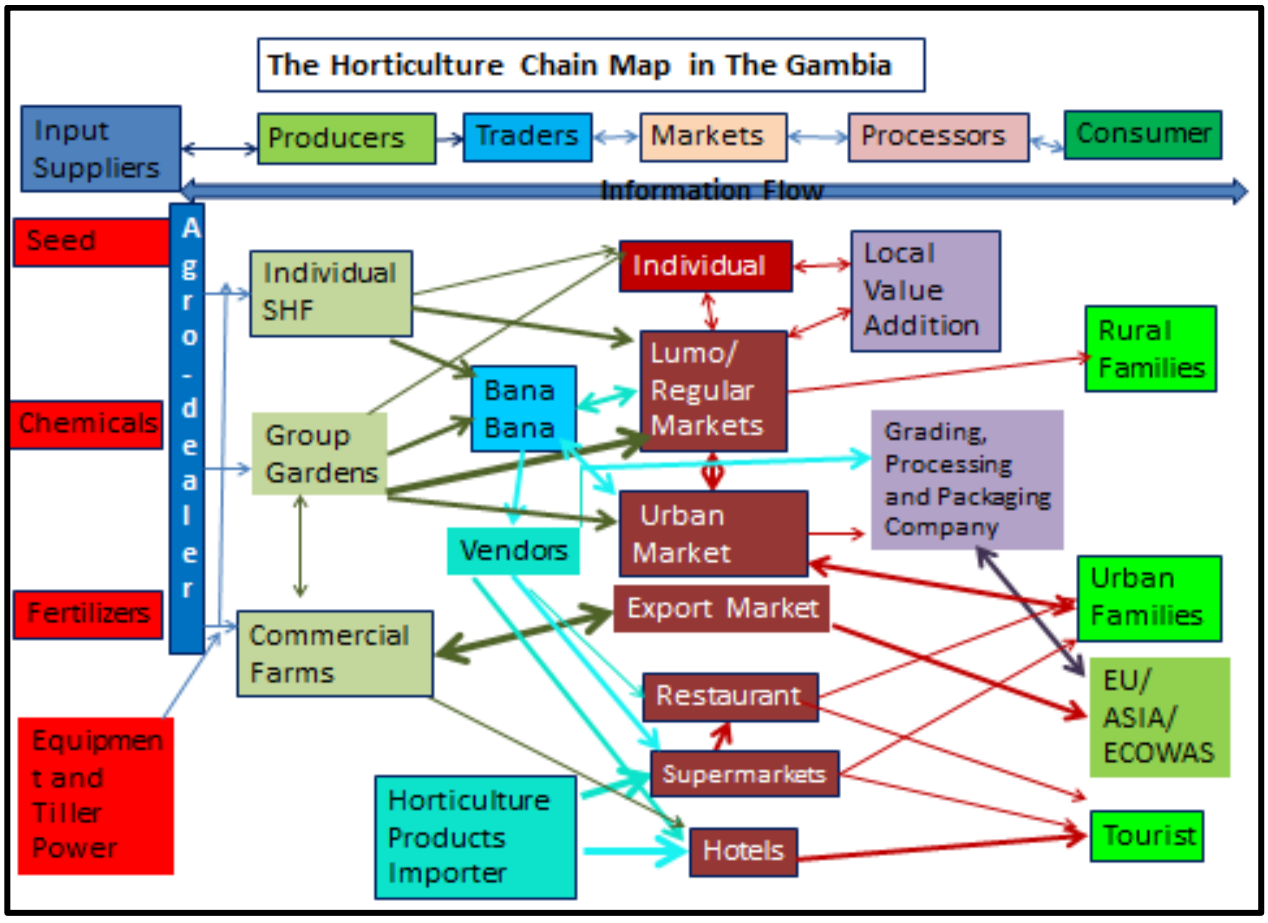
[23] Horticulture Value Chains in Six Agricultural Regions of The Gambia
[24] Gambia Horticulture Master Plan

2.4.2. Overview of Horticulture Value Chain Actors

The horticulture value chain involves many actors and processes, namely:

a) Input suppliers
b) Producers
c) Markets and Marketing
d) Processors
e) Support service providers

An idealized schematic representation of the inter-linkages between these various actors and processes is presented in Figure 7[25].



The sections below briefly present these actors, and for each of them identifies the main constraints and makes recommendations on how to address them. The section draws upon

[25] RASCA, 2018

existing studies on the sector, as well as information gathered from the stakeholder consultations.

2.4.3 Profile of Input suppliers, Key Constraints and Recommended Actions

Inputs such as fertilizers, seeds, pesticides and fungicides are key to enhanced productivity. In Gambia, there are four categories of inputs suppliers for horticulture, namely:

- Commercial suppliers such as GHE: One stop shop for all agricultural inputs for farmers (seeds, farming implements, garden equipment, milling machines, irrigation equipment, fencing materials);
- Small scale suppliers in urban centers, selling vegetable seeds (tomato, cabbage, onion, cucumber etc); fertilizers (N.P.K & Urea); chemicals (pesticides, fungicides, nematicides, insecticides, herbicides etc), and garden equipment (watering can, spade, hand fork, knapsack sprayer etc);
- Village shops: often stock a limited range of pesticides and other garden materials; and
- Loumos: weekly markets in various locations throughout the country and neighboring regions in Senegal where farmers can also access inputs.

The supply and use of improved inputs such as seeds, pesticides and fertilizers are low among small horticultural farmers due to high prices, limited range and inadequate knowledge[26]**.** The majority of seeds are imported from Senegal and Asia (Technosem, GSN, Twisem and Green Seed). Seed quality and varieties used are often not the most productive, and hybrid seeds are not common or widespread. There is no seed breeding done in the country, although there is local multiplication and propagation of sweet potato vines in sites such as Abuko, and planting material is also sourced from IITA (roots and tubers). Commercial farms in contrast generally buy their seeds directly from the international market, in contrast to smallholder farmers who rely on middlemen, and consequently have to pay higher prices for inputs.

Government is the main supplier of subsidized fertilizer. However, access by farmers is a challenge due to high demand and budgetary constraints. Thus, fertilizers are not always readily available or used in adequate quantities and in a timely manner, contributing to low yields. However, a partnership between NEMA and a private company, PAT-ENT is making compost available to communal gardens and training them on compost making.

Some of the constraints faced by input suppliers and recommended actions are summarized in table 8 below.

Table 8: Key Constraints for Processors and Recommended Actions

Key Constraints	Recommended Actions
• Logistics for importing materials • Finance (bank interest rates are high)	• Single market with Senegal • Ordering of long duration inputs

[26] Aided Trade

• The purchasing power of farmers is low • Durability of vegetable seeds (expiry date) • Price of the products • Production variation (rainy season and dry season) • Late supply from the manufacturers	• Timely supply of inputs • Proper storage facility

2.4.4 Profile of Horticulture Producers, Key Constraints and Recommended Actions

Horticultural production in the Gambia is undertaken by three distinct groups of growers[27]: individual small-scale vegetable gardens; small-scale village-based communal gardens; and commercial farms. According to estimates, 44% of horticulture farmers fall in the small-scale category, 52% in the communal gardens and only 4% under commercial – see table 9. Another important but poorly structured category are flowers and ornamental gardeners, mostly concentrated in the Greater Banjul Area.

Table 9: Proportion of farmers under the different categories of horticulture producers in The Gambia[28]

Category of producer	Number of Farmers	Percentage of total
Small-scale	46,200	44%
Communal gardens	54,900	52%
Commercial	4,000	4%

The main features of each of these horticulture production systems are summarized below.

Individual small-scale farmers or backyard gardens

Found all over the country, this category of horticulture producers typically has the following features: farm sizes are less than 0.5 ha in area; use very basic cultural practices with little inputs; and between 70% and 80% of their produce are sold locally.

Communal Gardens

A sizable proportion of the horticultural production in the country is undertaken by this category of producer, and they are the longest established and organized producers of horticulture and are mostly dominated by women. Estimates put the number of such gardens at 480 communal gardens country-wide – see table 10 for distribution. They are mostly sponsored by government and development partners through projects such as FASDEP, NEMA/CHOSSO, GVAC, FAO, United

[27] The school gardens established by government in the context of the "Home-grown School Feeding Programme" are an important category, but have not been singled out.

[28] Market opportunities study for commercial horticulture production in the Gambia Final report" (March 2018)

Purpose, etc – annex 3 presents a summary overview of these projects. It is important to stress that horticulture is often only one component of these projects, and there is as yet no major project entirely dedicated to the horticulture sector.

As reported in the National Horticulture Master Plan, membership in these groups range between 100 and 500 persons, with each allocated an average of twenty or more beds. They benefit from government or donor support that takes the form of technical advice, training, grants of seeds and fertilizer, fencing material, concrete-lined wells, or boreholes.

Table 10: Distribution of Communal Garden Schemes[29]

Region	**Total Number of Communal Garden Schemes**	**Area (Ha)**	**Membership**		
			Male	*Female*	*Total*
West Coast	116	508.9	353	13,550	13,903
North Bank	84	114.9	1043	14,537	15,580
Lower River	82	112.4	592	11,963	12,555
Central River/South	38	25	231	3,610	3,841
Central River/North	48	52.5	242	3,658	3,900
Upper River	86	54.4	277	9,337	9,614
Total	454	868.2	2738	56,655	59,393

Key features of the communal gardens, include:

- They represent much of the irrigated productive capacity of The Gambia, and over half the farmers;
- Although occupying a significant producing area they are not systematically linked formally to any market or larger supply chain. This leads to poor and uncertain returns and limited funds for investment;
- Produce mainly for domestic markets, but are also linked to export markets through commercial growers;
- Limited specialization and professional expertise at their disposal, in particular they generally lack agribusiness skills;

[29] Evaluation of Gambian Fresh Fruit and Vegetable producers and producing/exporting SMEs on Good Agricultural Practices and sustainable production in The Gambia towards meeting local, regional and international markets requirements, Aided Trade, 2018*)*

- Most farm sizes are small, between 2-5 ha and mostly involving groups of women. These smaller sites produce low value vegetables for low value local markets, and therefore require more effort in coordinating a supply for bigger markets;
- Limited production planning, therefore crops ripen and are marketed at the same time, resulting in a cycle of glut and scarcity;
- Use ground water as a source of irrigation water which is either dug up wells, lined - deep wells or drilled boreholes, and watering is done by women and girls mostly using cans or buckets with few trying drip irrigation which is hampered by pumping costs;
- Land preparation is done using hand hoes as well as weeding;
- Producers under this category rarely use modern farm machinery such as tractors, sprinklers for irrigation, harvesters, as most is done manually which laborious; and
- Group formation and dynamics can at times pose a challenge

The profiles of three of the oldest communal gardens in the Gambia – Bakau, Banjulunding and Sukuta – are presented in Annex 4. Table 11 summarizes some of the generic constraints faced by small scale producers and communal gardens, and potential solutions to address these.

Table 11: Principal Constraints and Recommendations for small scale and communal Horticulture Producers

Producer Category	Constraints		Recommended Actions	
	Production	Marketing	Production	Marketing
Small-scale Backyard Gardens	• Stray animals due to poor fencing • High cost of water and inconsistent water bill • Access to quality seeds • Rainy season varieties are not readily available • Cost of land acquisition • Limited training centers for professional vegetable production • Scarcity of water and fencing – most small-scale farmers use valley bottoms for cultivation, • Generally, don't benefit from project support to address water, fencing and other constraints.	• Glut during the peak of the season • Skills in value addition • Lack of storage facilities compels them to sell/dispose of produce quickly hence cannot secure good prices • Mainly serve village markets, sometimes work with middlemen	• Government should pass a law for animal control and production • Government should reduce tariffs on utility charges • Assessment of seeds and inputs imported	• Create centers for training on vegetable value addition • Access to market information
Communal Gardens (Gunjur)	• Women access to land and land tenure system – customary tenure is discriminatory • Inadequate skilled and competent human resource • Pest and diseases especially during rainy season • Scarcity and high cost of inputs	• Lack of storage facilities compels them to sell/dispose of produce quickly hence cannot secure good prices • Transportation of produce to market and access to space at the market is difficult • Price instability making producers vulnerable to wholesalers who find their way to the production sites • Weak village markets	• Provision of storage facility and refrigerated trucks, contract buying & good stable market prices • Construction of roads to ease transportation • Building of storage facilities and good marketing info system • Good marketing MIS and increase production • Market in the village help	• Harvest and sell the very day • Market survey of vegetable prices • Encourage weights and measures in marketing of produce • Building of storage facilities • Processing of vegetables

	• Inadequate water supply due to the use of solar power and most local wells are not functioning • High cost of inputs (fertilizer, seeds, chemicals, garden equipment) • High cost of electricity and maintenance of solar pump • Poor fencing which leads to stray animals' invasion • Ploughing equipment not available and challenges in maintenance of power tillers • Erosion leads to destruction of gardens • Lack of farm to market roads • No farm machinery, especially women-friendly machines.	• High taxes and transportation (cost & Availability) • Inadequate & high cost of storage facilities, leads to cycles of glut and scarcity and high post-harvest losses due to perishable nature of produce • Limited sources of capital & high exchange rates of CFA • Ferry crossing, high losses insufficient supply of vegetables	with transportation and contact with whole sellers to come in the village to buy • Provision of measuring scales, introduce sorting and grading systems and price determination based on production cost were cited as major solutions to production and marketing constrains. • Put in place erosion control and drainage measures • Rehabilitation of wells • The use of electric pump • Collective contribution to buy inputs (vegetable seeds) • Members contribute and purchase cash power • Planting trees for live fencing • Hire power tiller to plough • Target both communal garden members and individual farmers in providing training and capacity building.	

Commercial Farms

These are medium sized to large farms, with farm sizes between 40 to over 100ha. Although, only a limited number of enterprises are under this category - Radville Farms, GHE, Kharafi, Kura's Garden, they are responsible for supplying over 90% of total horticultural exports. Vegetable crops grown include: Hot pepper (Chilies); Green fine beans; Okra; Baby corn; Squash; Butternut; Eggplant.

Typically, they employ capital intensive means of production with modern farming tools, machinery and equipment as their land is big and have sprinkler or drip irrigation systems. These farms are distinguished by the following features[30]:

- They are often vertically integrated with their customers and are close to the market, react to market demand and can organize production accordingly.
- Have a high level of professionalism of production by mastering of the agronomy and post-harvest of all crops of interest
- Will buy from smaller growers through contract farming for export purposes
- Make substantial investment and funds for further investment
- Have good leadership and business management skills.

The commercial growers and exporters are few, although it is reported that the figure amounted to 11 just before the 1994 coup, following which all but two (GHE and Radville)[31] closed down operations. In contrast, Senegal in 2008 had 30 such firms who exported close to 14,000 tonnes[32] annually. Furthermore, it has been reported that Horticulture exports from Senegal have increased from 2,700 tons in 1991 to 51,270 tons in 2011. Detailed profiles of the four main commercial horticulture enterprises are presented in Annex 5.

Although representing the most advanced segment of the horticulture value chain, commercial producers nonetheless, face several constraints. Table 12 summarizes these as well as the proposed remedial actions.

[30] Aided Trade
[31] Aided Trade
[32] Straddling Contract and Estate Farming: Accumulation Strategies of Senegalese Horticultural Exporters **(***Journal of Agrarian Change, Vol. 15 No. 1, January 2015, pp. 17–42.*

Table 12: Constraints faced by Commercial Growers and Recommended Remedial Actions

Constraints		Recommendations	
Production	Marketing	Production	Marketing
• High cost of electricity for pumping water and running cool rooms • Limited technical experts in horticulture production and factory operations • High cost of inputs (packaging materials, preservative, chemicals) • Stray animals • Low productivity • Low quality of produce for exports • Finance (high bank interest rates)	• Limited time for storage because most raw materials are highly perishable • Limited cargo flights for exports • Seaport is congressed and there is no priority for perishable goods • Logistics for export is very expensive • Competition with imported products • The local market is seasonal • High cost and timely availability of certification	• Government should reduce the cost of electricity for Agricultural commercial farmers and industry • Training opportunities should be created for young Gambians in specialized skills in horticulture and industry operations • Train farmers to be more productive and produce quality products that can compete in European markets • Government build cool rooms and warehouses for rent/mortgage • The materials imported for packaging and processing agricultural products should be tax free • Improve productivity through linkage with small holder farmers	• Government impose high tax on imported products that are produced locally • Create a single market with Senegal • Horticultural production should be a market lead approach • Reduce tariffs on export of agricultural products • Awareness campaign for processed local produce • Exploit the existence of Trans-Gambia Bridge and the new airport at Ndjass, Senegal

Ornamental and Flower Producers

Flowers and ornamental plants are a largely ignored branch of horticulture in The Gambia. They do not feature in any development policy, and are scarcely mentioned in the official domain, even though producers pay taxes and employ workers. Several hundred of ornamental plant, tree and grass species are known, including casuarinas, royal palms euphorbia, lemon grass, and morning glory.

There were early attempts at producing flowers for export to Europe through the Makumbaya Farms at Mandinary village. However, due to millibug infestation, and strict regulations in the EU market the enterprise was forced to close down after a few years of operation. Similarly, a Cassava factory was established in Nyambikalla, Brikama, but which also ceased operations after a few years.

Currently, flowers and ornamental production is mainly in the Greater Banjul Area, especially along the Bertil Harding Highway in the Kanifing municipality. Individual or family groups work all year - round. Plot sizes vary from 20m x 50m to 20m x 80m, and inputs include organic manure, chemical fertilizers, pesticides, and seedlings and cutting nursed in plastic polyethylene bags. Sales, which peak during the rainy season, take place directly on-farm with prices varying from D200 to D350 per plant. The unconventional transaction makes it difficult to ascertain production and sales volumes.

Key constraints faced can be summarized as follows: access to water; pests and plant diseases; short growth periods (May to July); lack of attention of decision-makers in government; inadequate technical know-how and assistance from extension agencies; and high taxes.

2.4.5 Markets and Marketing

A strong commercial orientation for the horticulture sector calls for significant improvements in the marketing system for both domestic and international trade. Markets and marketing processes in Gambia can follow a complex web of interconnections and pathways, include many actors, but with three basic destinations – domestic consumption, domestic processing and export markets. The markets for domestic consumption take place in village/roadside sales, weekly markets/loumos, town markets or high-end markets such as hotels and supermarkets

The various marketing pathways for horticulture produce in Gambia can be simplified as follows:

- *Pathway 1:* small scale, individual farmers would sell in village markets, roadsides or to itinerant traders. This pathway also feeds into the weekly loumo markets.
- *Pathway 2:* communal gardens sell to local wholesalers who then market the produce to consumers in towns. Larger wholesalers also market produce to selected hotels. Communal gardens also market their produce to commercial farms with whom they have contracts;
- *Pathway 3:* commercial farms target the export market with their own produce and/or

aggregate produce from out-growers or contract farmers, often from communal gardens
- *Pathway 4:* processors source local produce from communal gardens and other producers and market processed goods locally, regionally and internationally.

Access to domestic markets is challenging. Small holders face a key challenge at the post-harvest stage as storage facilities are scarce, and cold chain facilities are almost nonexistent in The Gambia. Similarly, development of a robust market information system is still in its infancy, although a pilot is being spearheaded by United Purpose.

Horticulture exports from Gambia are limited and mostly destined for Europe due to closeness and longstanding trade links, with the UK as the leading destination and a hub for re-exports to the rest of the continent. Exports to Europe have to contend with high standards and regulations which most small-scale producers find difficult to meet.

Moreover, there are only few flights a week out of Banjul and cargo space is limited and expensive. Sea freight takes approximately 25 days and the current congestion of the Port of Banjul makes this option less attractive. Even if they succeed to get cargo space, most producers do not have connections with big wholesalers in Europe, unlike a commercial producer, such as Radville Farms which is vertically integrated.

It is therefore important for government to take measures to attract and facilitate wholesalers from Europe who can connect Gambian small and medium scale horticulture producers to markets in a more predictable way. GIEPA, Ministry of Trade and Gambian Embassies abroad can play a crucial role.

Europe remains the market destination of choice for obvious reasons of geographic proximity, trade ties and other factors. Other markets are[33]:

- USA – by sea, targeting the diaspora community and products such as cassava and other processed foods are popular;
- Asia - by sea to China, India, Vietnam mainly on nuts; and
- West Africa – by road to Senegal, Mali, Guinea Bissau, Nigeria.

Exports to USA and Asia are hindered by distance, air and sea transport connections and pose several logistical challenges, which limit trade with these countries.

At the regional level, the ECOWAS, and now the Africa Continental Free Trade Agreement, opens up the possibility of exploring regional markets, but the road transport infrastructure is still underdeveloped though improving, and non-trade barriers must be surmounted to tap into these markets.

On a more positive note however, the opening of the Trans-Gambia Bridge and the construction of the International Airport at Ndjass, just 5 hours from Gambia, and a major air hub in close

[33] IDH

proximity offers unique opportunity to overcome logistical challenges to Gambia's horticulture export trade – both internally and regionally. This coupled with the current warm relationship between the two countries since the political transition The Gambia experienced at the end 2016, provides an opportunity for government to tap and vigorously pursue regional cooperation as a key strategy for the development the horticulture sector.

2.4.6 Profile of Processors, Key Constraints and Recommended Actions

Agro-industries are not well developed in Gambia, and processing of horticulture produce is still nascent, with very few large-scale operators. The leading ones include Topingo, GHE, ASPUNA. Their profiles are presented in Annex 6.

With the support from Empretec, many small-scale operators (mostly women) are undertaking small scale processing activities. However, these entrepreneurs have difficulties in up-scaling their businesses. The common challenges faced by horticulture processing actors include the lack of consistent supply (in both quantity and quality) and the high cost of equipment[34]. Table 13 summarizes the constraints and recommended actions to address challenges faced by processors.

Table 13: Key Constraints and Recommended Actions for Processors

Key Constraints	Recommended Actions
• Technical experts in the horticulture sector are inadequate • Farmers' production knowledge for quality produces is limited • Low mechanization • Low productivity • Packaging materials not readily available and only at high cost and imported from outside • Access to finance is poor • High electricity cost • Inadequate trained personnel • Importation of materials used in the factory • Competition with imported tomato paste, ketchup, hot pepper sauce and water	• Market-led approach (government should support farmers to produce quality products for the world market. The farmers should also know what is in the market and what the market needs.) • Support on inputs (packaging materials, cool trucks) • Warehouses should be built • Government should reduce the rate of electricity cost • Training opportunities should be created for young Gambians to specialize industrial areas (Processing of vegetables) • The materials imported for the processing factory should be tax free • The quantity of imported tomato paste, ketchup and hot pepper sauce should be reduced • High tax should be imposed on the imported products

2.4.7 Support Service Providers

Development of horticulture value chains require robust support services, ranging from production, research, extension, market access, certification, etc. In the Gambia, as elsewhere, there are a number of government and other actors engaged in providing such support. This

[34] IDH study

section, maps these various service providers, reviews the gaps in service provision and makes appropriate recommendations.

Ministry of Agriculture

Central Projects Coordination Unit (CPCU)

Established under the Ministry, this is the central entity responsible for coordinating the work of all projects dealing with the agriculture sector, including those providing support to horticulture – FADSEP, NEMA, GCVA, etc.

Department of Agriculture (DoA)

The DoA is the main technical arm of the Ministry of Agriculture dealing with support to farmers through extension and other services. It is organized into seven regional directorates (North Bank; Central River-North; Central River – South; Upper River; Lower River; West Coast; and Urban). DoA has a variety of services that are mandated or are directly relevant to the development of horticulture. With regards to horticulture, the three key ones are: (i) Horticulture Technical Services; (ii) Agricultural Extension Services; and (iii) Plant Protection Services.

<u>Horticultural Technical Services (HTS)</u>

Recently re-established in the 2009 reorganization of the DoA, it has a Director, staff of eight Horticulture officers, four Horticulture Assistants and Gardeners. The unit has no staff in the regional offices of DoA, but operates through designated focal points who not trained horticulturalists.

The main function of the unit is to coordinate all horticulture matters through:

- Capacity building of extension workers and farmers – there is no training budget so the activities are done in collaboration with other partners;
- Outreach programme, mainly through seedling propagation at the Wellingara center;
- Plant/germplasm collection;
- Partnership and collaboration with partners: FAO, NEMA, FASDEP, GCVA, United Purpose, Red Cross.

It appears that many of the projects that are currently supporting horticulture operate independently of the unit and are under the oversight of the Central Projects Coordination Unit (CPCU) of the Ministry of Agriculture. Overall, the unit is in need of capacity strengthening especially for it to be able to render top class technical advisory services to horticulture farmers.

Agricultural Extension Services

Agricultural extension has been a key part of government strategy to develop the sector since the establishment of the Department of Agriculture in 1923. There has since then been an evolution of structures and approaches. These included[35]:

a) Transfer of technology (ToT)
b) Training and visit system
c) Farmer Training Approach
d) Participatory Technology Development and Dissemination
e) Farmer Field School (FFS)/Agropastoral Field School (APFS)
f) Market Oriented Extension.

Many of these approaches have not delivered the needed transformation in Gambia's agriculture sector. Currently, the agricultural extension services are beset with several weaknesses – see box below – and this has necessitated the formulation of a new extension policy.

Box: Main Weaknesses of the Extension services

- Until recently, there was no policy to guide extension delivery – a policy has now been developed and adopted.
- Top-down organizational structure (centralized administration and staff distribution skewed against the field0. These also go with centralization of resources.
- Weak extension activities (planning, interaction with clients, supervision, monitoring and evaluation), although efforts are being made to improve the situation
- Inadequate Staff Capacity and insufficient training to deliver extension in terms of numbers and distribution, resulting in l**ow Extension-Farmer Ratio**
- Poor research-extension linkages, in particular in the field of horticulture
- Inadequate financial resources
- Low participation of private sector. There are very few NGOs and input distributors involved in services delivery. FBO development, on the other hand, appears to be at the embryonic stage
- Inadequate synergy and harmonization of the extension efforts of the various agricultural development projects with those of DOA and DLS.
- Low technical capacity of existing farmer's organizations and their non involvement in extension training activities.

The weaknesses of extension services are even starker with respect to horticulture as field staff are often polyvalent, lacking the specialized knowledge required to support producers. Thus, farmers often do not benefit from cutting edge information, hence productivity is low. Moreover, extension workers are poorly equipped to guide farmers with regards to commercialization and transforming horticulture to a market-oriented one.

[35] Draft National Agricultural Extension Policy, December 2018

The new extension policy aims to establish a pluralistic extension service wherein agricultural extension services will be provided by both public and the private sector in a decentralized system. The new service aims to be demand driven, market oriented and guided by stakeholder participatory learning. Measures will be taken to forge and sustain stakeholder and institutional linkages, create stakeholder associations and platforms, while ensuring quality and equity of services delivery.[36]

The Plant Protection Services (PPS)

The Plant Protection Services plays a key role in the management of pest and diseases and phytosanitary certification for export and import of horticulture produce in The Gambia. The PPS is one of the seven technical services of the DoA; in the past it used to be a full-fledged department. A draft Plant Health Protection (2020) Bill will soon be tabled before parliament "to prevent the introduction, spread and establishment of plant disease or pests; to promote appropriate phytosanitary measures; to facilitate trade in plants and plant products, and to regulate other matters connected".

Under the Act, the following structures will be established:

- A National Plant Protection Organization within the Ministry as required under the International Plant Protection Convention;
- A Plant Protection Advisory Board; and
- The National Plant Protection Directorate

The proposed functions of the National Plant Protection Directorate which are directly relevant to the horticulture sector include the following – for the full list refer to the Act:

a) serve as the contact point of the IPPC;
b) approve and implement phytosanitary measures, and undertake phytosanitary action, when necessary;
c) establish and update a list of quarantine pests, a list of regulated articles and a list of pests of national concern;
d) issue phytosanitary certificates for consignments intended for export, transit and re-export in accordance with the requirements of importing countries;
e) carrying out inspection and surveillance of growing plants, including both areas under cultivation (inter alia in fields, plantations, nurseries, gardens, greenhouses and laboratories) and wild flora, and of plants and plant products in storage or in transportation particularly with the object of reporting the occurrence, outbreak and spread of pests, and of controlling those pests;
f) approve and implement phytosanitary measures for protecting endangered areas from phytosanitary risks, and designating, maintaining and surveying pest free areas and areas of low pest prevalence;
g) disinfect consignment of plants, plant products and regulated articles being brought in and

[36] Draft National Agricultural Extension Policy, 2018

taken out of The Gambia, storage places and other premises, to prevent the introduction and spread of pests;

h) ensure, through appropriate procedures, that the phytosanitary security of consignments after certification regarding composition, substitution and re-infestation is maintained prior to export.
i) Train Plant Protection staff, extension agents (public & private) and farmers
j) Coordinate the management of outbreaks of alien pests such as locust and grasshoppers

The PPS plays a key role in horticulture, especially by facilitating exports, and this is likely to be considerably strengthened once the Act is passed by Parliament.

The PPS supports the horticulture sector through several initiatives, including the following:

1) Promotion of Integrated Pest and Production Management (IPPM) using the Farmer Field School (FFS) approach through the support of Nema Project. Since 2014/2015, some 25 FFS have been set up per season for Communal Vegetable Gardens. The emphasis is on pest management and good production practices that incorporates environmentally friendly options and use of safe products for quality assurance of the products from production to markets, certification and export;
2) Training of producers, exporters (field and pack house staff) and extension workers on pest management practices and implementation of standards for production and export of horticultural produce;
3) Provide pest diagnostic services for growers of horticultural produce for recommended pest management advice and for export requirements;
4) Support to Mango producers through the ECOWAS Fruit Fly Management Project (covering 10 countries) aimed at meeting EU export requirements – the project ended in August 2019 but a new phase is expected to start soon. The project has significant spill-over effects into citrus and cashew growing as well;

Mostly recently, in response to new EU regulations and for the first time, the PPS has managed to develop (with technical assistance of COLEACP) and have approved by the EU, two important dossiers that will ease exports to the EU market if the challenges are met. The two dossiers concerned are:

(a) Mango Dossier for the management strategy to mitigate the risk of introducing fruit flies (Tephritidae) into the EU through the importation of mangoes from the Gambia- A dossier prepared and submitted to the European Union by the NPPO of The Gambia, Plant Protection Services Department of Agriculture, Ministry of Agriculture (February 2020); and
(b) CAPSICUM DOSSIER for the management strategy to mitigate the risk of introducing False Codling Moth (Thaumatotibia leucotreta Meyrick) into the EU through the importation of capsicum fruits from the Gambia - A dossier prepared and submitted to the European Union by the NPPO of The Gambia, Plant Protection Services Department of Agriculture Ministry of Agriculture The Gambia , February 2020

The management of these and other frameworks to be developed will require well trained staff and in sufficient numbers, as well as considerable strengthening of PPS in terms of laboratory facilities, finances and logistics capacity to carry out strengthened functions such as Pest Risk Analysis, Pest Surveillance, Phytosanitary Inspection for field and pack houses and/or exit points and Certification of Imports and Exports of horticultural produce foreseen under the Act.

Other relevant units under the DoA include the Food Technology Services, and the Business Development Support Units.

National Agricultural Research Institute (NARI)

The National Agricultural Research Institute (NARI) is the principal public agricultural research organ in The Gambia. NARI currently has seven programmes: (i) crop research covering grain legumes, horticulture and cereals; (ii) cropping systems and agro-forestry; (iii) Agricultural socio-economics; (iv) livestock and aquaculture; (v) pest management; (vi) agricultural engineering and farm management; (vii) food safety and quality.

A well-staffed and adequately funded NARI can clearly make a strong contribution to spur horticulture development, particularly in terms of modernization and introduction of cutting-edge technologies that will make Gambia's horticulture competitive. Unfortunately, the institute is in a difficult state with inadequate funding and staff; NARI receives a subvention from government that only covers salaries and relies on outside support for its research activities. Consequently, very limited impactful research and technology development and dissemination activities are underway. Facilities at its research stations (e.g. Sapu) are dilapidated and there is a poor linkage with extension and agricultural education establishments.

The Horticulture Research Unit in Yundum is mainly focused on roots and tubers; cassava from IITA, and sweet potato with United Purpose. A small vegetable screening work in collaboration with the World Vegetable Center (formerly AVRDC) is also being undertaken.

The unit is seriously under capacitated and its staff are not specialized in horticulture but are all general agriculture graduates. There are few links with the projects supporting horticulture, the horticulture extension services or with commercial growers; the latter are much ahead in terms of technologies, varieties, management practices and many of the other features that make for a successful horticulture enterprise.

Modernizing horticulture sector as envisaged under the Horticulture Master Plan and the strategy presented in this document and making it more competitive will require a much strengthened and specialized horticulture research capacity to address key production and quality bottlenecks and a strengthened collaboration with private sector.

Food Safety and Quality Authority

This Agency was established by an Act of Parliament in 2011 – its functions are shown in box below.

Functions of FSQA
• The overall official control of food safety and quality • Ensuring that food and feed comply with legal requirements, or where appropriate with approved codes of good practices • Carrying out inspection, sampling and certification of food and feed for import and export when so required • Inspecting establishments, processes and products throughout the production and distribution chain • Assessing laboratory services in terms of technical capacity to carry out food and feed analysis for official control • Delegating food and feed safety and quality responsibilities to competent bodies and persons where appropriate • Participating in activities relating to standards and technical regulations for food and feed at the national, regional and international levels • Promoting the development of frameworks of mutual recognition with foreign food safety authorities • Ensuring that the adopted inspection procedures are based on risk assessment • Developing and enforcing a code of conduct for competent bodies and persons; and • Maintaining well trained and competent staff within the Authority.

The Authority is concerned with safety as well as quality assurance for both imports and exports of food. As European importers are becoming increasingly concerned over food safety, the need for adherence to food safety standards and obtaining appropriate certification has increased.

FSQA is an important player in certification of horticulture exports to ensure access to EU markets. Currently, the certification covers sanitary and phytosanitary issues in foods. A key challenge is that there is no ISO 17025 accredited laboratory in the country for testing, so samples for certification purposes have to be sent to Senegal for a fee of roughly US$100. Thus, the need to establish a national laboratory for testing and support its accreditation to ISO 17025 in order to support local certification of horticultural and other produce.

FSQA has conducted training in collaboration with other actors on food safety issues and with other partners on Sanitary and phytosanitary standards (SPS) for women farmers as well as packaging and other market requirements through Farmer Field Schools (FFS). These activities need to be scaled up.

Specifically, for horticulture, the main certifications are: Global Gap, HACCP, ISO 22000, a CSR audit, such as SMETA, and organic. However, there are significant problems in implementation of these international standards and subsequently obtaining certifications. Major issues are high cost and availability of expert support for implementation of the standards and as well high cost for the certification process. The few companies needing certification and the varied types of the certification keep the unit price high. This is a notable problem in accessing export markets and adds to the costs of export.

Access to Finance

Financial institutions play an important role in facilitating investment in the sector to allow farmers to be able to scale up operations. In the Gambia, access to finance is a key constraint faced by horticulture actors throughout the value chain. This challenge is general to the agriculture sector which receives about only 5% of commercial bank loans. The problem has prevented producers and operators from scaling up operations. To break this fetter, several projects introduced "matching grant" concept for qualifying horticulture operators, especially the communal garden producers, some processors and commercial farmers. While important such initiatives are still too modest to support the investment needs for a transition to a more market-driven and commercial horticulture production. It is urgently necessary to therefore craft more innovative financial tools and mechanisms that will serve the needs of the horticulture sector.

Small Business Development Services

Empretec-Gambia project is an integrated capacity building programme that provides demand-driven training and business development services to existing entrepreneurs and aspiring entrepreneurs, employers and employees of both private sectors firms and civil servants and as well as farmers[37].

The main objective of the programme is to unleash the growth potential of Micro, Small and Medium Size Enterprises (MSMEs) and farmers, inculcate entrepreneurial mind set in key decision makers of private firms, senior government officials and employees of various institutions to improve performance on the job and facilitate expansion and sustainability in their businesses. This is done through an integrated entrepreneurship training workshops and a comprehensive range of business development services.

Among its objective are two key ones that have a direct bearing on the horticulture in terms of substance (capacity building and value addition) and target group:

- Train women and women kafoos to enhance their entrepreneurial skills in order for them manage their businesses to yield high growth, profitability and sustainable businesses.
- Introduce the farmers to the concept of value addition on different lines of products and services that can be created from the main crops grown in the Gambia.

[37] GIEPA Website

Several of the projects supporting Horticulture also integrate Business Development Services. For example, NEMA has a full component dedicated to that, and is assisting many communal gardens it supports, particularly to help them access matching grants through support for development of business plans.

The service providers discussed above are rendering much needed support for the development of horticulture. However, there are serious gaps in service provision, and the coordination between and among them is poor, and further compounded by differences in approach, philosophy, etc. Much of the assistance is also "projectized", lack sustainability, and frequently by-pass existing structures.

In order to implement this strategy, as well as render the Horticulture Master Plan operational, there is need for much stronger coordination mechanisms that can bring together all key actors and stakeholders to streamline support in a more consistent and focused manner.

The establishment of a dedicated structure tasked with spearheading government efforts and coordinating the inputs from various actors in a consistent and sustainable manner is therefore strongly recommended. Such institutions have played a key role which led to the successful development of horticulture in other African countries.

2.4.8 Partners and other Actors

Non-governmental Organizations

United Purpose is a leading NGO which is supporting the horticulture sector, through several interventions:

(i) Balutimaring Project: to address malnutrition in lactating, pregnant women and under 5-year olds. A target of 18,000 households through local NGOs who work with mother clubs, linked to Communal Gardens and marketing federations. This is being done by promoting Bio-fortified varieties and nutritious foods – African Leafy Vegetables (Moringa, Amaranth, Cowpea) and Orange Fleshed Sweet Potato in particular.
(ii) Collaboration with NEMA agricultural value chain project: provide support for production planning, business development and production estimates. UP works with WASDU and the Njawara center;
(iii) Women empowerment project in URR targeting individual women (40); some 20 groups to establish commercial production units through support for fencing, irrigation, business development support, training and grant financing. Other farmers will be supported to operate in value chain as marketers, transporters, processors or input suppliers.
(iv) Horticulture Market Information System: In a pioneering initiative, it is piloting a market information system to assist farmers obtain better prices for their produce;
(v) Building the capacities of marketing federations involved in horticulture; and
(vi) Undertaking studies and surveys aimed at gaining a better understanding of the sector as a basis for planning.

Donor Agencies - FAO

FAO is involved in developing farmer field schools - 375 different schools and each has 30 farmers. It is also assisting farmers by setting up a number of gardens to be used as a training ground. These gardens have a borehole and fencing, solar power, etc at a cost of $150,000. A further 26 gardens are planned of 5 ha each and with fencing, water and a building / office. There are plans also to invest in cold storage.

2.4.9 Farmer organizations in the Horticulture Sector

Farmer organizations in the horticulture sector fall into two broad categories: (i) Organizations serving small scale horticulture producers; and (ii) Organizations serving Commercial horticulture producers.

Small Scale Horticulture Producers' Organizations

With the support of partners, communal garden producers have organized themselves into six marketing federations (one in each agricultural region) and an apex body:

a) Fangsoto (West Coast Region)
b) Khewal (Central River Region – North)
c) Nematulai (Upper River Region)
d) Sofaniama (Lower River Region)
e) Fangkaso (Central River Region – South)
f) Solicita (North Bank Region)
g) Sosolaso (National Apex Body)

A detailed profile of these federations is presented in Annex 7. These federations can potentially play many useful roles such as:

- Generally representing the voice of horticulture farmers in policy circles;
- Assisting farmers collectively bargain to purchase critical inputs such as fertilizers, pesticides, seeds, etc, and collectively market their produce;
- Conducting trainings especially on good agronomic practices, business development;
- Advocating to improve access to finance; and
- Linking producers with exporters and other buyers.

These organizations can also be building blocks for setting of agriculture clusters models as a way to modernize and catalyze production.

Although potentially able to play many useful and important roles, they face many constraints, mainly related to the need to develop their organizational capacities. Table 15 below summarizes their main constraints and recommended actions.

Table 15: Key Constraints faced by Producer Associations and Recommended Actions

Key Constraints	Recommended Actions
• Limited capacities of the executive • Absence of a strategy plan • No reliable and sustainable funding source • Unavailability of an office • No mobility to facilitate routine visits to the general membership • Inadequate skills in financial management and IT • Limited skills in group management • Lack of a permanent place for members in main markets • Poor fencing and garden infrastructure in most member communities • Access to quality seeds and seedlings • Poor access to marketing • Low adaption rate of modern techniques for some community members • Lack of processing materials	• Farm inputs outlets should be constructed at strategic locations in the region. • Refrigerate trucks to transport perishable vegetables • Support the Federation with an office and equip it • Provide mobility [Motor bikes] and its operating cost for the executive. • Support in the drafting of a strategy plan • Capacity building in finance and IT management • Strengthen information system between members • Easy access to quality inputs • Formulation of good market policies and strategies • Capacity building of members on group and financial management on business and entrepreneurship • Support to formulate better marketing strategy • Support to establish office space

Commercial Horticulture Organizations

GAMHOPE

The Association of Gambia Horticultural Producers and Exporters (GAMHOPE) was established in 1990 by 11 large-scale commercial horticultural producers with the intention to provide coordination and foster cooperation among the large number of growers and exporters. GAMHOPE is legally registered as a non-governmental organization (NGO) with the Attorney General's chamber. GAMHOPE was established to advance the interest of its members while ensuring the reputation and growth of the horticultural sector, especially in the export area. GAMHOPE's vision is to foster a robust, competitive, and sustainable commercial horticulture sector which would contribute to the social and economic development and growth of the Gambia, whilst its' mission is to provide leadership in the organization, technical, and commercial development of the GAMBIA'S horticulture sector and vigorously promoting collaborative partnerships among diverse stakeholders engaged in the horticulture sector.

COMMERCIAL FARMERS AGRIBUSINESS NETWORK (CFAN)

Established in 2019, CFAN aims to serve as a civil society organization whose members are linked and committed to being professional commercial actors of diverse agricultural value chains and contributing to the attainment of sustainable food and nutrition security in the Gambia. The objectives of CFAN are in the box below.

Objectives of CFAN
1. CFAN shall bring together agricultural value chains actors to network, partner, coordinate, dialogue, lobby, influence, exchange ideas, information, experiences and come up with initiatives in the interest of and for the advancement of its members. 2. CFAN shall be an information, knowledge and Resources Focal Point where members and other stakeholders can access information and data. 3. CFAN advocate for better national policies, laws, programs and projects that will transform the agri-food system from subsistence to a commercially oriented, productive, competitive, profitable that creates decent work and income for all implicated actors. 4. CFAN shall facilitate the mobilization of members, public, private and donor resources and to contribute to the attainment of its objectives. 5. CFAN shall facilitate its members participation in national, sub-regional, regional and international standards development and certification processes and their application for the enhancement of their farming practices and enterprises. 6. CFAN members shall adopt science, technology and innovation for the continuous improvement of their farming practices and enterprises. 7. CFAN shall promote farm-agribusiness-consumers agri-food development models that are productive, competitive and inclusive, ensuring the participation of rural, peri –urban, women and youth in the implementation of these models. 8. CFAN shall organize different events on behalf of its members including fairs, fora, exhibitions, workshops, conferences, study tours, market days and the facilitation of its members participation in other stakeholders and partners events at the national, regional and international levels. 9. CFAN shall actively to participate and have inputs in the project cycle management of donor funded programs and projects that are relevant to its aims and objectives. **10.** CFAN shall do all such other acts, matters and things as maybe deemed incidental to or conducive to the attainment of CFAN objectives including changing the passive negative image of agriculture and its actors including farmers. Furthermore, CFAN shall engage government in safeguarding the genuine interest of CFAN members, partners and other actors in the agri-food value chains of the Gambia.

2.5 Synthesis of Main Constraints of the Horticulture Value Chain and Actors

The analysis of the horticulture value chain and its principal actors in the preceding sections has revealed a number of challenges which must be overcome if the sector is to realize its potential and promise. This section summarizes the main constraints faced in the sector under six broad clusters as follows:

I. Quality and quantity of production and responsiveness to domestic and export market requirements and needs;
II. Availability of infrastructure and processing of horticulture produce;
III. Supply of quality inputs and research and extension services to support development of the sector;
IV. Market access, business development services and access to financing;
V. Support services, Farmer organizations and Networks; and

VI. Policy, planning and coordination of horticulture development.

Table 16 below highlights the main constraints for each of the six identified clusters. The summary serves to inform the goal, objectives and key interventions of the horticulture strategy presented in section 3 below.

In developing the strategy, an overriding concern is how to render the horticulture sector more modern and competitive in order to fast-track realization of the sector's potential promise in terms contribution to economic growth, diversification and transformation, wealth creation and raising nutritional standards.

Table 16: Cluster of Main Constraints in the Horticulture Value Chain

Quality production responsive to domestic and export market needs	**Infrastructure and Processing of Horticulture Produce**	**Supply of quality inputs and research and extension services to support development of the sector**	**Market access, Business development services and access to financing**	**Support services, Farmer organizations and Networks**	**Policy, planning and coordination**
• Limited competitivity of the horticulture sector • Insufficient organization and production planning • Farmers' production knowledge for quality produce is limited • Difficulty to manage pests and diseases • Little mastery of irrigation and water management techniques • Limited land space and women's access to land	• High cost of energy for farm operations and processing • Limited number of post-harvest storage facilities • Inadequate infrastructure (roads, bridges) • Lack of processing equipment and shared infrastructure • Inconsistent supply of raw materials • Absence of local packaging industry	• Supply and use of improved inputs such as pesticides is low among small horticultural farmers due to high prices, limited range and inadequate knowledge • Seed quality and varieties used are often not the most productive, and hybrid seeds are not common or widespread. • Fertilizers are not always readily available or used in adequate quantities and in a timely manner, contributing to low yields	• Limited cargo flights for exports • Seaport is congested and there is no priority for perishable goods • Logistics for export is very expensive • Competition with imported products • High cost and timely availability of certification • Little access to affordable finance and loans to grow their operations • Financial products that are not adapted to agricultural cycles	• Serious gaps in service provision • Institutional fragmentation and poor coordination between and among service providers. • Much of the assistance is also "projectized", lacks sustainability, and frequently by-passes existing structures. • Farmer organizations have limited finance to scale up activities • As young organizations, they are	• Low national budget allocation to agriculture reflecting less priority accorded to the sector • Land tenure and land reform not adequately addressed in policy • Policy constraints render the sector less competitive • Limited exploitation of public-private partnerships • Poor forward and backward linkages with key sectors such as tourism and communication infrastructure

• inadequate cutting-edge technologies and modern methods to boost production and quality • Low participation of private sector in horticulture • Limited digitalization thus rendering sector less efficient and modern and less attractive to young people • Production to target niche markets such as organic farming not sufficiently developed • Insufficient consumption of vegetables in the diet of Gambians		• Limited delivery of Extension Services due to inadequate well-trained staff • Limited capacity of National Research Institutions • Limited investment in R&D in horticulture • Limited availability of specialists in horticulture resulting in reliance by big commercial farms on outside expertise • No specialized training in horticulture at UTG	• Small scale farmers are not business oriented • Seasonality of production leading to periods of gluts and scarcity • Lack of "aggregators" in the marketing chain to link producers to domestic and external markets – the experience of "Gambia is Good". • Marketing approaches such as ware housing and out grower schemes still not sufficiently developed	constrained by the following - limited capacities of the executive; absence of a strategy plan; inadequate skills in financial management and IT; and limited skills in group management	• Many project interventions but lack of coherence leading to limited impact • Inadequate incentives to motivate youth to engage in the horticulture sector

3. The Horticulture Strategy

3.1. Goal and Strategic Objectives

The National Horticulture Master Plan (2015-2035) sets a vision to transform horticulture to become sustainable, modernized, diversified, and export oriented.

In line with this vision, and taking into account the potential, prospects and key constraints of the sector, the goal of the National Horticulture Sector Strategy (NHSS) is to accelerate and sustain the development of the horticulture sector in The Gambia, by rendering it more modern and competitive, in order to achieve food security, reduce poverty, create employment, generate wealth through domestic and external trade, and thereby contribute to the socio-economic development and transformation of the country.

The specific objectives of the strategy are to:

1) Facilitate market-led production of high-quality horticultural produce to meet domestic and export needs, as well as contribute to the nutritional wellbeing of Gambians.
2) Promote agro-processing and value addition for the domestic and export markets.
3) Strengthen support services for the horticulture sector in the areas of research, technical advisory services, and the supply of quality inputs.
4) Improve market information, business development and access to finance to support development of the horticulture sector.
5) Build and strengthen the organizational capacities of farmers' associations and cooperatives engaged in horticulture.
6) Put in place a supportive policy environment, establish and/or strengthen the institutional framework for more effective coordination, and facilitate the availability of quality data to support policy development and planning for the horticulture sector.

The goal identified and the objectives of the strategy are aimed at unlocking the untapped potential of the horticulture sector, and ensure that it makes a leading contribution to the economy and people of the country.

3.2. Key Results, Outcomes and Interventions

The results framework of the strategy presented in Table 17 translates the strategic objectives into outcomes and the targets to be achieved over the 5-year span 2020-2024. The key interventions to realize each strategic objective and the related outcomes are further elaborated below.

Table 17: Results Matrix for the National Horticultural Sector Strategy (NHSS)

Strategic Objective	Outcomes	Indicators	Means of Verification	Baseline (2019)	Targets (2024)
Facilitate market-led production of high-quality horticultural produce to meet domestic and export needs, as well as contribute to the nutritional wellbeing of Gambians.	Production of vegetables for import substitution - onions, tomatoes and potatoes - enhanced	Volume of production for Onions in MT	DoA, GBoS reports	6,000 MT	19,000 MT
		Volume of Production for Potatoes in MT	DoA, GBoS reports	4,000 MT	15,000 MT
		Volume of production for Tomatoes in MT	DoA, GBoS	4,000 MT	15,000 MT
		Volume of production of fresh vegetables (Cabbage, Hot Pepper, Okra, Lettuce, Egg Plant) In MT	MoA/planning, DoA reports	TBD	5,000 MT
	Local supply of fresh vegetables and fruit for high end domestic markets increased	% of Hotel Vegetable needs supplied locally % of Supermarket Vegetable needs supplied locally % of Restaurant vegetable needs supplied locally	Surveys Surveys Surveys	TBD TBD TBD	50% 50% 100%
	Value chains for Fresh vegetable and Fruits for export identified, developed and supported	Increase in No of Fruit Value chains developed for export	DoA Data, Export Data (GBoS)	1	3
		Increase in No. of vegetables value chains developed for export	DoA Data, Export Data (GBoS)	3	7
		% increase in Value of Exports of Fruits	GBoS, MoA/Planning reports	TBD	50%
		% increase in Value of exports of Vegetables	GBoS reports	TBD	50%
		No of new wholesalers from importing countries (e.g Europe) establishing operations in Gambia to connect producers with European markets	MoA reports GIEPA Reports	0	3

Strategic Objective	Outcomes	Indicators	Means of Verification	Baseline (2019)	Targets (2024)
		% Increase in private sector investment in horticulture	GCCI reports MoFEA Report	TBD	50%
	Nutritional wellbeing of Gambians improved, especially pregnant and lactating women and children under 5 years old	Per Capita Consumption of fruits and vegetables	MoA reports NaNa reports	31kg	140kg
		% Decreases in malnutrition among pregnant and lactating women, and under 5-year olds	NaNa reports	TBD	50%
		% Increases in production of Bio-fortified crops and ALVs	Production of OFPV Production of ALV	TBD	50%
	A quality assurance and certification system in place	Availability of Legislation on Plant Health	MoA reports	No	Yes
		No. of Dossiers to promote horticulture exports to EU developed and approved	MoA reports	2	6
		Existence of an operational National Produce Testing Laboratory	MoA/FSQA reports	No	Yes
		Mini-quality laboratories built in all regions	MoA/FSQA reports	0	6
		No of Trainings/year of farmers on IPM/FFS	MoA	25	100
		% annual increase in farmers obtaining international certification (GAP, etc)	DoA reports	0	25%
Promote agro-processing and value addition for domestic and export markets	Processing capacity of vegetables and fruits increased	Volume of processed vegetables MT	MoA/Planning, DoA, GBoS reports	500 Mt	1000 MT
		Volume of processed fruits MT	MoA/Planning, DoA, GBoS reports	TBD	5000 MT
	Export of processed fruits increased and export markets diversified	Volume of exported processed fruits MT	MoA/Planning, DoA, GBoS reports	TBD	1500 MT
		No. of new markets for exports	MoA/Planning, DoA, GBoS reports	2	6
Strengthen support services and infrastructure for horticulture in the	Horticulture research capacity enhanced	No of graduates in horticulture with MSc and PhD	NARI, MoA reports	0 MSc 0 PhD	6 MSc 2 PhD
		No of improved varieties of vegetables, including for rainy season production of	NARI, DoA reports	0	5

Strategic Objective	Outcomes	Indicators	Means of Verification	Baseline (2019)	Targets (2024)
areas of research, technical advisory services, and supply of quality inputs		onions and tomatoes, identified, tested and released			
		No of GAP protocols for key vegetable and fruit varieties developed, tested and rolled out	NARI, DoA reports	0	6
	Technical Advisory services for horticulture scaled up and strengthened	No of staff in the Horticulture Technical Services /DoA with Msc Horticulture increased	DoA reports	0	10
		No of Horticulture extension specialists trained and deployed in regional agriculture offices	DoA reports	0	7
		Availability of enhanced logistics facilities for horticulture extension workers	DoA reports	No	yes
		Availability of revised Curriculum at UTG and Gambia College incorporating Horticulture	UTG, Gambia College reports	No	yes
		Existence of a Department of Horticulture in UTG and Gambia College	UTG, Gambia College reports	No	Yes
	Availability and use of quality inputs (seeds, fertilizers, pesticides, etc) for the horticulture sector improved	% of farmers using improved varieties and seeds % of farmers using Pesticides % of farmers using fertilizers or organic products	DoA reports DoA reports DoA reports	40% 10% 25%	75% 50% 75%
	Adequate infrastructure in place for enhanced horticulture production and marketing for domestic and export trade	No of regional Cold Storage facilities built and operational	DoA reports	0	6
		No of Market infrastructure/stalls built to facilitate marketing of horticulture produce	MoA reports	TBD	50
		% of Communal gardens with storage and drying sheds and processing facilities	DoA reports	TBD	100%
		% of communal gardens with improved irrigation systems	DoA reports	TBD	100%

Strategic Objective	Outcomes	Indicators	Means of Verification	Baseline (2019)	Targets (2024)
Enhance market information, Business Development and Access to Finance to support development of the horticulture sector	Reliable Market Information Services for the horticulture sector in place	Availability of a functional country-wide Market Information System	DoA reports	No	Yes
	Business Development Services for horticulture farmers improved	% of farmers who received training in Business development	DoA reports	TBD	50%
	Access to Finance for horticulture farmers, processors and exporters enhanced	% of Farmers with access to finance	MoA/DoA reports	0	50%
		No of new financing mechanisms developed to support farmers	MoA reports	1	3
Build and strengthen the organizational capacities of farmers' associations engaged in horticulture.	Capacities of horticulture marketing federations strengthened	No of trainings provided to marketing federations annually, including on business skills and production planning and financial management	DoA reports	0	3
		No of marketing federations with strategic and business plans	DoA/MoA reports	0	7
		No of marketing arrangements or purchase agreements, negotiated and concluded by federations on behalf of their members annually	DoA reports Federation reports	0	12
Put in place a supportive policy environment, establish and strengthen the institutional framework for more effective	A supportive policy environment in place for a market-led horticulture	The National Horticulture Strategy Adopted and launched	MoA reports	No	Yes
		No. of youth horticulture enterprises established and supported	MoA/MOYS reports	0	25
		Existence of fiscal policy measures to promote import substitution	MoA/MoFEA reports	No	Yes
		Existence of new measures to attract more airlines to use BIA	MoA/MOI reports	No	Yes

Strategic Objective	Outcomes	Indicators	Means of Verification	Baseline (2019)	Targets (2024)
coordination, and facilitate the availability of quality data to support policy development and planning for the horticulture sector.		No of new funding agreements to support the horticulture sector negotiated and signed by government	MoA reports	0	3
	An enhanced institutional framework for coordination of horticulture in place	Establishment of the NHDB	MoA reports	No	Yes
		National Steering Committee established and functional	MoA reports	No	Yes
	Quality and relevant Data for enhanced policy and planning available	Availability of an annual statistical Report on horticulture	MoA/Planning, DoA reports	No	Yes

3.2.1. Strategic Objective 1: Facilitate market-led production of high-quality horticultural produce to meet domestic and export needs, as well as contribute to the nutritional wellbeing of Gambians.

As demonstrated in the previous sections, horticulture has a tremendous potential and prospects for its further development are bright. However, production needs to be modernized and rendered more competitive to respond to both domestic and external market needs. This will represent a shift away from the current almost exclusive focus on increasing production per se. The result will be higher incomes for the various producers, particularly women farmers, continuity of supplies when most needed in the market, meeting of local demand, reduced foreign exchange spent on imports and increased contribution of agriculture/horticulture to GDP.

Scaled up production of horticultural production can significantly boost incomes of farmer by targeting export and high-end domestic markets linked to hotels and restaurants. However, increased local consumption of horticulture products will also increase local production and productivity. Measures for increasing domestic consumption beyond the hotels and restaurants are therefore also urgently needed.

Seasonality of production is a major bottleneck to achieving this strategic objective as farmers tend to see vegetable production as an off-season activity or part-time and not as a business that needs to run year - round[38]. The seasonal production means that at some point during the rainy season the production of certain crops is limited, and as a consequence, high value markets have to source products from elsewhere. Consistency of supply – for both domestic and export markets - can only be achieved if farmers are able to produce throughout the year. Production to meet market needs in terms of both quantity and quality requires modernization of production methods and exploiting of niche markets such as organic produce. It also calls for massive investment in infrastructure, hence the need for expanded role of the private sector and government intervention.

Furthermore, there is limited planning of the production of fruits or vegetables at a national level and as a result, farmers tend to grow the same crops at the same time—leading to market gluts during a limited harvest period, high local competition, and spoilage of produce.

A key requirement for the successful realization of this strategic objective is the need to provide sustained support to ensure the full participation of the private sector and entrepreneurs. Large scale commercial farmers are few, and unless efforts are made to support and nurture more commercial growers, it will be difficult to fully commercialize and develop the sector and make it more competitive.

Equally important is the need to put in place adequate quality and certification infrastructure and processes that will guarantee access to external markets, and ensure that adequate and effective

[38] RASCA study, 2018

food safety standards for the local population are in place.

Finally, Gambians in general consume inadequate quantities of fruits and vegetables, contributing to poor nutritional status especially among pregnant and lactating women and children under 5 years. Hence improving the nutritional well-being of Gambians is of key concern of the strategy.

This strategic objective focuses on five outcomes during the period 2020-2024, namely:

- Production of vegetables for import substitution of onions, tomatoes and potatoes enhanced;
- Local supply of fresh vegetables and fruit for high - end domestic markets –supermarkets, hotels and restaurants –improved;
- Fresh vegetable and Fruits Value chains for the export market identified, developed and supported, and the role of the private sector and investment by entrepreneurs – local and external - enhanced;
- Nutritional wellbeing of Gambians, especially pregnant and lactating women and under 5-year-old children improved; and
- A quality assurance and certification system to meet export standards and ensure safe local consumption of foods, in place.

The key interventions to achieve each of these outcomes are detailed below.

Outcome: Production of vegetables for import substitution of onions, tomatoes and potatoes enhanced

As indicated earlier, The Gambia imports large quantities of onions, potatoes and Gambians consume great quantities of tomatoes in both fresh and paste form. While onions are extensively grown, production is insufficient and the seasonality of production means that significant amounts have to be imported which places a pressure on foreign exchange and contributes to the external trade imbalance. It is also reported that Gambian producers currently find themselves exporting their onions to Senegal at a low price at harvest, and then buying their produce back at higher prices when the national stocks run low at the beginning of the wet season[39]. Increased production of these vegetables could substitute current imports and meet rising future demand.

Furthermore, it is reported[40] that some vegetables such as onion and fruits are imported from governments such as Netherlands that subsidize their producers hence making the products cheaper than local produce whose inputs are all imported and expensive. There is need to find ways to make local produce more competitive if the smallholder farmers are going to be able to make a decent living out of horticulture. Measures to protect local products need to be looked at and best that ensure full participation and supply of local producers implemented. Continued

[39] IDH 2018
[40] RASCA Study 2018

importation benefits the importers but will distort the potential for local production and supply to all the markets by Gambian farmers.

Under this outcome, measures will therefore be taken to ensure that the good growing conditions that favor the local production of onions, potatoes and tomatoes are vigorously harnessed to meet domestic demand for these vegetables.

Onions are grown by most farmers for household consumption and excess for sale. The demand for onion is ever there and increasing as population is growing annually. Currently there is no curing and nor suitable storage facilities hence local onions have high post-harvest losses because of the glut on the market during harvest time. This has led to the market being flooded by imports once the local onion is no longer available. There is potential for onion curing, drying and then storage in cold chain facilities for supply in the high demand periods thereby replacing imports as well as reducing post-harvest losses[41].

Tomatoes are always on demand as they are used by consumers daily. The local tomato is produced at the same time and this causes glut on the market and post-harvest losses are quite high as these are also highly perishable. On the other hand, there are imports of fresh tomatoes and tomato paste, puree and sauces which are also on high demand. There is an opportunity to develop the tomato value chain to include processing and cold chain storage especially if suitable tomatoes are produced for the different processing and fresh markets[42].

Potatoes are currently grown on a large scale by only Kharaffi Farms. However, as the import data shows, large quantities of frozen and seed potatoes are imported annually in Gambia and demand continuous to grow (see Figure 3).

The NDP has set targets on onion and tomato production in a quest to ensure self-sufficiency in these horticulture crops. The interventions proposed below are aimed at reaching these NDP targets.

Key Interventions to Achieve Outcome
• Invest in irrigation facilities to meet year-round demand for onions, tomatoes and potatoes and reduce post-harvest loss for fresh produce - develop drip irrigation in the Western region, and access to water in the Eastern region by exploiting the fresh water of the River Gambia in CRR and URR; • Develop capacities of small holders to plan their production to suit market demands and overcome the cycle of glut and scarcity for these key produce • Put in place measures to ensure that small holders in particular, growers of these produce, access supply of improved inputs at affordable prices and quality by encouraging and providing incentives to local input suppliers to provide larger ranges of seed and inputs • Provide training to develop agronomic skills (pest management, varieties, fertilization) to

[41] Ibid
[42] Ibid

capacitate farmer-entrepreneurs to plan and implement a supply scheme for onions, tomatoes and potatoes.

- Develop infrastructure and techniques in potato and onion seed production, to allow for a steady supply of high performing varieties.
- Identify, multiply and disseminate better onion varieties, especially rainy season varieties
- Provide infrastructure for the intermediaries such as drying, cooling and collections points in appropriate places
- Invest in shared storage facilities both for fresh and processed products (including cold storage)
- Provide incentives for the private sector and young people to go into large scale production, processing and marketing of these vegetable crops

Outcome: Local supply of fresh vegetables and fruit for high end domestic markets – supermarkets, hotels and restaurants –improved

The relative political stability Gambia enjoys since the 2016 elections, has resulted in a revitalized tourism sector which will drive the demand for high-quality fresh horticultural products by hotels. Spillover effects are also expected in increased demands from restaurants and supermarkets. However, at present, the hospitality industry has to mostly rely on imported horticulture products as local producers are not able to supply during the peak tourism periods with the right products and right quantities.

There are key requirements to be met if the smallholder farmers are to supply directly in a contract arrangement for hotels, such as[43]: (i) ability to supply the requested quantities; (ii) ability to supply traceable right kind of products with best quality according to the product standard; (iii) ability to supply consistently year - round. Unfortunately, currently, most production group gardens are unable to meet these three requirements hence need to be supported to enable them to be organized and technically capacitated so that they can be able to increase their production and management in order to supply the high value markets. Entry of private sector investors and operators would also be vital to this quest.

Studies have shown that the following vegetables are in greatest demand in local hotels:

- RASCA study, 2018: Fleshy Fresh Tomatoes; Cabbage; Irish Potatoes; Hot Pepper; Cucumbers; Water Mellon; Honey Mellon; Pawpaw; and Bananas.
- Aided Trade, 2018: (a) not locally available – Cauliflower; Broccoli; Tomatoes; Bell Pepper; Brussels Sprouts; Asparagus; (b)Fresh Herbs – Tarragon; Dill; Mint; Sarge; Origano; Chives; Parsley; (c) Leafy Vegetables – Iceberg; Romaine; Radicchio and other leaf lettuce.

Several interventions will be undertaken to assist producers, especially the medium scale producers targeting the local high-end markets. The goal is to ensure an increased uptake of locally grown vegetables by hotels, supermarkets and restaurants.

[43] RASCA Study, 2018

Key Interventions to Achieve Outcome
• Assist farmers plan their production of key horticulture varieties preferred by the hotel industry (i.e. based on market demand), and connect them to large local buyers (such as hotels and schools). This can be done through the marketing federations and the apex body already in place. The experiences of 'Gambia is Good' will be capitalized and up-scaled. • Invest in irrigation facilities to meet year-round demand for fresh and processed fruits and vegetables, and reduce post-harvest loss for fresh produce to ensure that hotels can count upon a steady supply of produce – introduce water harvesting in the inland valleys and develop farms in the CRR and URR where fresh water potential is high. • Put in place measures to ensure that small holders in particular access supply of improved inputs at affordable prices and quality; encourage local input suppliers to provide larger ranges of seed and inputs • Develop techniques that can encourage production in the October to January period • Provide infrastructure for the intermediaries such as cooling and collections points in appropriate places • Develop a Gambia based food assurance system, a formal protocol to ensure that produce from the many suppliers is grown to a standard and safe to eat. • Support marketing federations and hotel owners through The Gambia Hotel Association to agree on a Memorandum of Understanding (MoU) on how to significantly boost use of local produce in the hotel industry – upscale the experience of "Gambia is Good" • Train and equip the youth to be wholesalers in partnership with the Vegetable Federations to supply high-end markets such as hotels • Provide incentives to private sector to participate in the development of horticulture subsector especially with short cycle high value crops for high value domestic and overseas markets • Establish specialized or professional service provider companies run by youths or agriculture graduates in areas such as: land preparation, fertigation, disease and pest control at a cheaper rate thereby removing the burden from the farmer as well as reducing key production costs leading to increased production or quality produce for the market leading to increased incomes to farmers.

Outcome: Fresh vegetable and Fruits Value chains for the export market identified, developed and supported and the role of the private sector and investment by entrepreneurs – local and external - enhanced

Exports of vegetables from Gambia are currently low and only a few commercial growers are engaged in this activity. But opportunities for boosting exports are numerous despite the current constraints related to quality, certification, logistics/air freight and other factors. A major constraint is the fact that standards for accessing export markets are getting tighter. Many small-scale producers lack support to connect them to external wholesalers in Europe and other destinations. Although vertically integrated commercial growers such as Radville Farms do source their produce from such growers, the majority of farmers are not involved in such arrangements.

Recent studies have identified several value chains considered to be most profitable for export, given current international demand, addressable markets and potential for production under local conditions in Gambia:

a) Dalberg: Chili; Onion; Mango; Tomato; and Sweet Potato;
b) Aided Trade: Mango, Moringa; Medicinal Plants & Health Products (Aloe Vera, Baobab, Capsicum, Tumeric and Seaweed); and
c) RASCA study, 2018: Hot Chilies; Okra; Baby Corn; Fine Beans; Butternut; Egg Plant; Mangoes.

Key Interventions to Achieve Outcome
• Identify and vigorously support existing and potential vegetable and fruit value chains that offer high growth opportunities for Gambian growers/producers and exporters, and the exploitation of which would stimulate sustainable growth in the horticulture sector and reduce food insecurity and malnutrition • Develop and implement protocols for the production of key vegetables and fruit that meet international GAP and other standards • Encourage smallholder producers to participate in production of organic products for the niche markets in Europe and UK which can enable them to earn premium prices as well as have competitive advantage. • Encourage the creation of Gambian companies and enterprises dedicated to aggregation, sorting, packaging and export of vegetables and fruits, especially involving the youth • Encourage existing export companies to increase their sourcing from small scale producers through out-grower schemes; • Provide incentives to encourage European wholesale companies to assist in connecting small and medium enterprises with markets in Europe • Take measures (e.g. through discussions with Government of Senegal) to facilitate Gambian exporters to use the air and logistics hub at the new international airport at Ndjass to export Gambian produce. • Ease the current congestion at Banjul Ports • Provide incentives to private sector to participate in the development of horticulture subsector especially with short cycle high value crops for high value domestic and overseas markets • Address issue of air transportation through reviewing of landing fees and aviation fuel prices compared to neighboring Senegal so as to attract more planes to Banjul International Airport and put in place related infrastructure – e.g. proposed GIETAF facilities.

Outcome: Nutritional wellbeing of Gambians, especially pregnant and lactating women and under 5-year-old children improved

Vegetable and fruit consumption in the diet of Gambians is generally low, and estimated at 31kg per capita, whereas WHO estimates put the requirement at 146kg per capita. The impact of this deficit is particularly acute among pregnant and lactating women, as well as among children. Although production of fruits and vegetables for domestic and export markets is important to

boost incomes and reduce poverty, especially among women, ensuring that horticulture contributes to the nutritional wellbeing of Gambians should also be a top priority for government.

Fortunately, the country has witnessed in recent years a major effort, spearheaded by actors such as United Purpose, FAO, NARI and NaNa to promote the production and consumption of African Leafy Vegetables (Amaranth, Cowpeas, Pearl Millet) and Orange Flesh Sweet Potatoes, as well as outreach to vulnerable groups. Through these efforts, a number of improved varieties have been tested and introduced into the horticulture production systems, mainly communal gardens. These efforts need to be intensified. Also important are nutrition education programmes at community level and to the general public. The importance of good nutrition for sound health is now particularly important given the explosion in diabetes and coronary heart diseases.

Similarly, the Ministry of Basic and Secondary Education (MoBSE), in collaboration with WFP is spearheading the Home-grown School Feeding Programme (HGSFP), which is ensuring that Gambian children in the school system are well nourished and learning outcomes are improved.

Key Interventions to achieve Outcome
• Enhance efforts to identify improved varieties of Bio-fortified vegetables and ALVs and ensure their widespread adoption in all regions of the country; • Develop and train farmers on improved production practices for these crops; • Expand awareness and sensitization of Gambians through public education and other outreach activities on the importance of vegetables for improved nutritional wellbeing in order to boost local consumption but also address public concerns linked to diabetes and other non-communicable diseases. • Promote the processing and packaging of fruits and vegetables for the local domestic market to ensure that Gambian households access affordable and quality fresh produce**.** • Develop and expand programmes to reach pregnant and lactating women, as well as children under 5 years • Expand and strengthen the Home-grown school feeding programme spearheaded by Ministry of Basic and Secondary Education and the World Food Programme.

Outcome: A quality assurance and certification system for improved exports in place

For Gambia to capture a higher share of the international addressable market for horticulture, the country will need a robust National Quality Infrastructure. Currently, the implementation of management system standards in both quality and food safety and certification to these standards is very limited. There is no ISO 17025 accredited laboratory to test products for compliance with international standards on issues such as pesticide residues, preservatives and expiry date, leading to lack of confidence on the products by the global market. Samples have to be sent to Senegal at a cost of approximately US$ 100/sample, which is expensive and time

consuming. Poor quality assurance reduces confidence in local products in hospitality industry and the export markets thereby reducing uptake or supply of local horticultural products.

As export standards grow more stringent, it is important that appropriate domestic legislation is in place and institutions such as the Plant Protection Services and the Food Safety and Quality Authority are appropriately strengthened.

Key Interventions to Achieve Outcome
• Educate/train producers, exporters and extension staff on IPM with a focus on maintaining quality from production to markets; • Sensitize policy makers, government officials, National Assembly and general public on food safety and quality issues; • Strengthen surveillance of vegetables pests and diseases • Strengthen capacity of PPS for inspection and certification, starting with implementation of the EU dossiers on Mangoes and Chillies • Build a state-of-the-art testing laboratory and support its accreditation to ISO 17025 to assure quality control for both exports and domestic markets • Establish mini laboratory centers across the country to facilitate quick product testing for product quality assurance • Provide continuous training to farmers and processors on certification standards for exports of fruits and vegetables – GAP, HACCP, CSR audit, etc – particularly for the value chains identified for export promotion, as well as the crops targeting domestic high-end markets (Hotels). • Enhance the capacity of FSQA to strengthen the discharge of its mandate.

3.2.2. Strategic Objective 2: Promote agro-processing and value addition for domestic and export markets

Horticulture value addition can make an important contribution to the growth and development of agro-processing industries, create employment, increase incomes and help diversify the country's economy. Agro-processing is still at an infant stage in the country and faces many challenges. For example, local processed products face severe competition from imported products due partly to less attractive packaging and a lax import policy. Enhanced processing capacity can act as a pull factor to spur domestic production, and create alternative markets to exports and reduce post-harvest losses. Moreover, there are many opportunities to explore in terms of regional and international trade in processed products.

To achieve the strategic objective, one outcome will be pursued, namely: Processing capacity of vegetables and fruits increased and export markets for processed fruits diversified. The key interventions to achieve each for this outcome are detailed below.

Outcome: Processing capacity of vegetables and fruits increased and export markets for processed fruits diversified

Processing capacity is limited as there are only a few actors that operate on a large scale by Gambian standards. Support needs to be provided to them to enable them to grow their businesses to scale.

Furthermore, the many small-scale processors who supply the local market with processed goods are hindered by lack of organization, capital, modern packaging and business skills. Moreover, they face competition with imported tomato paste, ketchup, hot pepper sauce from countries where production is subsidized. Agro-processing at large scale would ensure off take of large volumes of products thereby boost local production and supply.

Key Interventions to Achieve Outcome
• Create training opportunities for the young Gambians to specialize in agro-processing (processing of fruits and vegetables) - establish agribusiness training center to address the skill demand and attract more youth in the processing and marketing activities of the horticulture value chain. • Develop a local packaging industry to support small-scale processors and reduce imported packaging costs. • Develop agronomic skills to capacitate entrepreneurs or growers to plan and implement a supply scheme. • Provide infrastructure for the intermediaries such as cooling and collections points in appropriate places • Lower and/or eliminate taxes on imported packaging materials • Develop a Gambia based food assurance system, a formal protocol to ensure that produce from the many suppliers is grown to a standard and safe to eat. • Regulate the quantity of imported tomato paste, ketchup and hot pepper sauce • Diversify export markets for processed fruits regionally and internationally • Establish a well-equipped vegetable and fruit processing factory through viable Public Private Partnerships (PPP) or Joint Venture Partnerships (JVP). • Promote and facilitate establishment of well-equipped Value Addition Centers across the nation which would allow production of home- made specialty products such as chutneys, hot sauces, jams, pickles and ready-to-eat mixed vegetables as well as dried fruits and vegetables • Invest in training SMEs in the following areas: technical aspects of Product Processing; Food Safety, Handling and Hygiene; Food Processing as a Business; Food Packaging and Labelling; Record Keeping.

3.2.3. Strategic Objective 3: Strengthen the provision of support services and infrastructure for horticulture in the areas of research, technical advisory services, and supply of quality inputs

Achieving a modern, market-led production of high-quality horticulture to meet both domestic and export needs will require significant improvements in current research, technical advisory services and infrastructure, all of which are woefully inadequate. Thus, productivity and quality are adversely affected. The sector continues to be dominated by low yields and productivity, low incomes and limited adoption of cutting-edge technologies to render Gambia's horticulture sector competitive.

Under this strategic objective, government will enhance research and extension capacity, improve the quality and availability of inputs in a timely manner and at affordable prices. Promoting year-round vegetable and fruit production requires substantial investments on the part of Government to stimulate private sector entry into and engagement in the horticulture sector. Government must therefore invest in infrastructure in the horticulture value chain from production, marketing, processing and storage.

The four outcomes under this strategic objective and the key interventions are detailed below.

Outcome: Horticulture research capacity enhanced

Access by farmers to cutting-edge technologies is vital if the untapped potential of the horticulture sector is to be realized. But as stated previously, the public research system is seriously underfunded and lacks the appropriate skills mix of researchers to generate the innovations required to enhance productivity. The capacity of the horticultural research unit in particular is of concern.

The productivity levels for horticulture crops in Gambia is generally below that of global averages as well as those of neighboring countries such as Senegal which has a vibrant horticultural research capacity. Commercial growers are often ahead of the public research system in systematically identifying technologies needed to boost production and productivity. A particular gap is lack of modern and innovative approaches such as the introduction of tissue culture to ensure that farmers have access to disease-free and high yielding varieties.

As most production is currently undertaken by small scale farmers, it is vital that they access cutting edge technologies and innovations to address production and productivity bottlenecks. Several measures will be taken to ensure that the sector benefits from appropriate technologies, especially targeting small scale farmers.

Key Interventions to Achieve Outcome
• Strengthen the human/technical capacity of NARI in horticultural research, by providing specialized higher degree training to current staff and bolster it in the short-term through TA • Build stronger links between research, extension, private sector and farmers through well organized and systematic on-farm screening of varieties, developing agronomic practices based on Global GAP, to ensure that farmers can access latest technologies, including use of tissue culture to enable farmers access disease-free and high yielding varieties • Involve farmer associations in extension training to strengthen their capacity to assist their members • Provide sustainable funding to enable NARI to undertake the necessary adaptive research especially focusing on seeds, pests and diseases to support year-round production • Develop standard agronomic packages and recommendations based on adaptive research to boost production of Onions, Tomatoes and Potatoes targeted for import substitution • Develop standard agronomic packages and recommendations based on adaptive research to boost production of crops targeted for high-end domestic markets • Develop standard agronomic packages and recommendations based on adaptive research to boost production of value chain crops targeted for the export markets.

Outcome: Technical Advisory services for horticulture scaled up and strengthened

Horticulture producers, often small scale, are found scattered all over the country, and difficult to reach even though the Department of Agriculture has offices in all six regions. The ratio of farmers to extension workers is low and the horticultural services unit is severely undermanned and under-skilled. This results in not only poor advisory services, but also poor training of farmers. The shortage of skilled workers has resulted in big commercial farms such as Radville sourcing expertise from East Africa.

The problem is further compounded by the fact that the curriculum of both UTG and Gambia College which are responsible for producing agriculture graduates are ill-adapted to the needs of a modern market-led horticulture. Measures will be taken to ensure that horticulture farmers have access to the needed horticulture advisory services.

Key Interventions to Achieve Outcome
• Strengthen the agriculture training institutions to ensure that graduates can provide the necessary high-quality advisory services to farmers by establishing a horticulture department within the Faculty of Agriculture at University of the Gambia and within Gambia college. This will ensure these establishments produce more local extension staff and experts to develop and technically support the horticulture subsector based on professional knowledge and understanding • Strengthen the capacity of DoA in horticulture extension service delivery by ensuring that regional DoA offices have trained horticulture specialists in place; • Use DoA structures to deliver projects, rather than creating parallel implementation structures

- Establish stronger links between research, extension services and private commercial growers to strengthen the Gambian agricultural innovation system
- Undertake systematic training of producers covering areas such as: Farming as a business; targeted Horticulture Production Course linked to market needs; Disease and Pest Control; tissue culture; Fertility management (Organic or chemical fertilizers); Harvesting and Post-Harvest Handling of Specific Horticulture Crops; Standardization, Grading and Sorting Systems in Horticulture; Value Addition and Processing; Packaging and Labelling; Costing and Pricing; Marketing; Group Dynamics; Communication and Negotiation Skills.

Outcome: Supply of quality inputs (seeds, fertilizers, pesticides, etc) for the horticulture sector improved

The supply and use of inputs in horticulture is currently inadequate to meet the needs for a market-led expanded production to meet domestic and export needs. The supplies are limited both in quality and range, and farmers access these inputs at high cost - the whole sector relies on imported inputs such as seeds, fertilizers and chemicals which limits in choice and suitable chemicals or fertilizers ordered by agro-dealer.

Input suppliers themselves face several constraints. There is no structured collaboration between input suppliers, agricultural advisory services and research to ensure that the most appropriate inputs are on the market for small farmers to access. Thus, the input market is in most cases flooded by outdated and often unsafe products, especially at village level.

The absence of a Seed Technology center obliges farmers to imports. Setting up a local center would help in the development of locally adapted varieties for producers to be able to produce varieties that can survive in hot rainy seasons of the Gambia, resistant to local diseases and pests and can last a long time (durable) for producers to maximize harvest time and production.

Key Interventions to Achieve Outcome

- Encourage close collaboration between agricultural extension services, research and input suppliers to ensure that quality seeds and inputs are made available to farmers
- Encourage local production of seeds to assure steady, reliable and cheaper input for farmers
- Provide farmer education on the types and use of different pesticides and other inputs
- Encourage and support enterprises to import high quality inputs and to set up distribution points country-wide to improve access to quality inputs
- Encourage marketing federations to engage in bulk purchasing of inputs on behalf of their membership in order to ensure timely availability at affordable cost, and improve quality

Outcome: Adequate infrastructure in place for enhanced horticulture production for domestic and export trade

Horticulture produce is highly perishable and production in Gambia is generally seasonal leading to gluts and scarcity. The lack of adequate infrastructure in terms of storage, markets, good road network in many areas of the country which are the sites of production means that post-harvest loses are high and farmers do not command prices that can enhance their incomes. Often, middlemen make much higher margins than farmers themselves. There is no appropriate infrastructure to handle vegetables and fruits after harvesting from the field such as cleaning, grading, sorting sheds and drying up to packaging and uploading.

Key Interventions to Achieve Outcome
• Invest in storage facilities to meet year-round demand for fresh and processed fruits and vegetables, and reduce post-harvest loss for fresh produce • Provide incentives to private investors to put up Horticulture Cold Chain Storage Centers in key fruit and vegetables producing areas • Encourage and support youth to establish cold transport companies which would help farmers access the appropriate markets for their goods and facilitate the aggregation of scattered production. • Improve rural roads to enhance market access • Build communal storage and processing facilities in all regions to be operated by private sector actors to ensure sustainability • Improve market infrastructure in town and villages to stimulate local markets, especially women farmers.

3.3.4. Strategic Objective 4: Enhance market information, Business Development Services and access to Finance

The horticulture sector is currently constrained by inadequate market information as well as access to finance. Furthermore, the business skills, particularly of the women farmers who constitute the majority of growers is poor. These weaknesses have resulted in many of them being trapped into a cycle of low yields and incomes, which in turn limits their investments.

To bring about a transformational approach to horticulture, government will strengthen the market information system, facilitate the development of business skills among the farmers and enhance their access to finance. The three outcomes under this strategic objective and the key interventions are detailed below.

Outcome: Reliable Market Information Services for the horticulture sector in place

Most smallholder producers have limited access to horticulture market information and often rely mostly on traders/ middlemen to get market news on prices and demand. A functioning

market information system that will enable farmers command better prices for their produce is still in its infancy in the country. Well informed farmers will make informed decisions about their crop choice, target production volumes and frequency of supply.

The NGO United Purpose is piloting an MIS in collaboration with several marketing federation. Positive experience is being gained but this activity needs to be significantly scaled up. Many opportunities exist for young people to engage in marketing activities, if modernization and innovation, such as online shopping, is encouraged and developed.

Key Interventions to Achieve Outcome
• Strengthen the Ministry of Agriculture Directorate of planning to consolidate and scale up the current MIS being piloted by UP • Broaden channels for farmers to access market information by exploiting radio, TV, and other traditional information channels • Encourage the use of new technologies such as digital social media to empower farmers access to information, and encourage young people's entry the sector through for example online shopping, etc. • Encourage warehousing as a business by helping create the needed infrastructure

Outcome: Business Development Services for horticulture farmers improved

The vast numbers of small-scale horticulture producers estimated to number over 58,000, most of whom are women, depend on farming for their livelihoods. However, they are handicapped by poor business skills which hinders their abilities to grow to scale and enhance their incomes. Building their skills and providing them with a proper orientation to have a business approach to production and marketing of their produce is of therefor of vital importance

Key Interventions to Achieve Outcome
• Strengthen the business skills of small-scale farmers with a focus on financial management and support for accessing loans. • Explore partnership with the EMPRETEC program, which also provides support to entrepreneurs. • Set up a dedicated entity to provide business and marketing skills training and facilitation to complement current efforts • Train all producer groups on marketing, product standardization, business management and negotiation skills development

Outcome: Access to Finance for horticulture farmers, processors and exporters enhanced

The current bottleneck in access to finance because of limited lending from commercial banks to the agriculture sector in general due to perceived high risks is hindering the growth of many horticulture enterprises. Both small-scale and commercial growers are affected. Although

government through several projects is facilitating access to finance through a system of matching grants, the scale and scope of this effort falls far short of current needs. More needs to be done to significantly enhance access to finance. In this context, much innovation will be required, especially if the needs of small-scale farmers are to be met and young people encouraged and drawn to the sector.

Key Interventions to Achieve Outcome
• Establish an agricultural fund for to facilitate access to finance by both small-scale producers and commercial growers. • Encourage micro-finance institutions to improve access to finance to growers by government providing guarantees • Significantly expand the current matching grants mechanisms of FASDEP and NEMA by expanding the quota dedicated to horticulture. • Design and implement financial access mechanisms for young people engaged in horticulture • Review the current interest rates on loans to facilitate increased uptake and increased lending in agriculture

3.2.5. Strategic Objective 5: Build and strengthen the organizational capacities of farmers' associations and cooperatives to facilitate up scaling.

The growth in horticulture marketing federations in all the six agricultural regions of the country is a positive development, and these structures are playing a crucial interface role between farmers and other stakeholders in the value chain. However, their capacities need to be strengthened to render them more effective. Under this strategic objective, government will focus on strengthening the organizational capacities of these marketing federations through the interventions detailed below.

Outcome: Capacities of horticulture marketing federations enhanced

Key Interventions to Achieve Outcome
• Support the organizational development of the six regional marketing federations and their apex body to play a more effective role in addressing the needs to their members, by ensuring they have clear strategic and business plans. • Strengthen producers and their federations by: a) reviewing the current farmer groups and organizations including their leadership b) taking all the producers in communal gardens through a participatory self-group formation processes , and c) conducting needs based hands-on trainings covering technical, business and institutional development issues so as to ensure that the producers/farmers are better organized FBOs able to mobilize group input purchases when needed and timeously aggregate products for group marketing or export.

• Developing agriculture cluster models building upon current farmer organizations to streamline operations

3.2.6. Strategic Objective 6: Put in place a supportive policy environment, establish and strengthen the institutional framework for more effective coordination, and facilitate the availability of quality data to support planning and policy development for the horticulture sector.

The horticulture sector currently benefits from assistance of government through its various agencies, development partner interventions and through the support of NGOs. While positive, the policy environment to develop and sustain a market-led competitive horticulture sector is lacking. There is also a considerable degree of fragmentation and differences in approach from the various government interventions. Moreover, such assistance has a characteristic of stop-go dynamics. Coordination among the various actors is poor and often ad hoc, with government not adequately playing its leadership role, and responsibilities are scattered across several agencies.

To ensure the development of the sector as envisaged under this strategy, it is crucial that there is a dedicated structure that can focus on bringing together all the stakeholders in order to ensure that consistent efforts are deployed. Thus, there is a need for a National Horticulture Development Agency.

Currently, due to unavailability of sound data, policy development, planning and programming are difficult to achieve.

This strategic objective therefore focuses on three outcomes related to putting in place an enabling policy environment, the establishment of a National Horticulture Development Board and improvements in data for policy and planning. The key interventions associated with these outcomes are detailed below.

Outcome: A supportive policy environment in place for a market-led horticulture

A favorable policy environment is vital for a market-led horticulture development strategy to work. Areas relating to incentives for private sector and youth engagement in agriculture, putting in place public goods such as roads, fiscal measures relating to taxation are just a few to mention.

Key Interventions to Achieve Outcome
• Lower taxes and provide other fiscal incentives to encourage the development of a local packaging industry

- Introduce tax incentives to attract European wholesale entities into the country in order to connect with local producers and processors for external export markets
- Put in place appropriate policies to stimulate local processing by taking appropriate restrictions on targeted produce.
- While maintaining support for the communal gardens that constitute the backbone of horticulture production, employing many female farmers, government should encourage the emergence of individual medium scale commercial farmers by targeting them with support through an appropriate incentive mix.
- Set up training centers in agri-business, tailored the needs of commercial actors, especially the youth
- Develop a horticulture export zone at the Banjul International Airport and/or environs;
- Provide assistance to young entrepreneurs, with reference to the various relevant business licenses.
- Review the current energy tariff rates for agriculture and agro processing so that they are friendly and promote industrialization.
- Promote and incentivize companies which are generating or using alternative renewable energy sources and not depending on the grid
- Tap into emerging opportunities by donors to support development of agriculture in general and horticulture in particular through regional projects – e.g. West Africa Agricultural Competitivity Project (supported by World Bank and ECOWAS).

Outcome: An enhanced institutional framework for coordination of horticulture in place

Government interventions in horticulture are numerous and cut across many entities. Their coordination is ineffective. Value chain actors do not have a single agency with which to liaise and work with. Coordination is therefore difficult. in the short-term, it is important set up a National Steering Committee which will spearhead implementation of the strategy by creating a platform for bringing all relevant stakeholders.

In the medium and longer term, given the growing importance of horticulture to Gambia's economy and government's development strategy, it is important that a dedicated body is set up to provide the advocacy required, the technical services and liaison point around which value chain actors can collectively coalesce and identify with. The setting up of a National Horticulture Development Board can fill such a void and discharge such functions.

Key Interventions to Achieve Outcome
• Set up a fully functional National Steering Committee to oversee implementation of the horticulture strategy • Undertake a feasibility study to determine the need for and mandate, role, functions, organization structure of the National Horticulture Development Board • Draft the necessary legal framework to establish the Board by an Act of the National Assembly • Launch and render functional the Board

Outcome: Quality and relevant Data for enhanced policy and planning available

The lack of statistical capacity limits the availability of accurate data on the number of farmers and their production and productivity, prices, imports, exports and other important variables hinders the planning of actions at government and farmer levels. Data on the sector is scattered among several ministries, agencies and projects, which further complicates planning.

Key Interventions to Achieve Outcome
• Strengthen the Ministry of Agriculture directorate of planning for the regular collection, analysis and dissemination of data on horticulture production; • Strengthen GBoS, Ministry of Trade and GRA to collect, analyze and disseminate timely data on trade statistics for horticulture produce. • Encourage digitalization and web-based reporting of information and data

4. Strategy Implementation

Stakeholders and Actors in the Horticulture Value chain are numerous and diverse. All of them have a binding interest but also have different roles to play in the implementation of the strategy. Successful implementation of the strategy requires the following:

- Guiding principles that will govern how the various stakeholders relate to each other;
- Sequencing and prioritization of actions
- Institutional arrangements for coordination, as well as clarity with respect the roles and responsibilities of key actors;
- A monitoring and evaluation system; and
- An implementation plan for the roll out of the strategy.

This section deals with these various aspects.

4.1. Guiding Principles

Three core principles will guide the strategy implementation process, as follows:

1. Accountability and transparency: to ensure that all stakeholders are aware of their roles and responsibilities, and information on strategy implementation are shared and each stakeholder is given the opportunity to contribute ideas and inputs. This will strengthen ownership and collective responsibility for the strategy;
2. Horizontal and vertical coherence: Actors in the value chain comprise on the one hand, government line ministries and agencies, development partners and NGOs at national level, and on the other hand, producers, and other value chain actors at regional and village levels. All these actors must act in a coherent manner; otherwise strategy implementation will be difficult. A binding factor for coherence is a shared vision and understanding of the strategic direction needed to develop the horticulture industry.
3. Efficacy: all actors and stakeholders need to work together to enhance operational efficiency and effectiveness towards the achievement of desired results.

These principles will be fully translated into the design of the institutional arrangements, the monitoring and evaluation mechanisms and the implementation plan outlined below.

4.2. Sequencing and Prioritization of Actions

The strategy proposes a number of interventions to realize its objectives and outcomes. Although all are necessary, it will be important to prioritize and sequence the actions in order to achieve visible impact over a short space of time. It is recommended that one of the first steps to take to make operational the strategy following the validation exercise is to set up under the auspices of the National Horticulture Steering Committee, a strong technical team to engage in such a prioritization and sequencing exercise.

4.3. Institutional Arrangements

The Ministry of Agriculture will play the leading role and work with other stakeholders, particularly in the private sector to implement the strategy. Its primary functions would be to:

- Ensure that it works with other government entities to put in place a favorable policy environment for horticulture and be the chief advocate for the sector, when it interacts with the rest of government and development partners.
- Take the necessary steps to strengthen key units under its responsibility tasked with delivering extension advisory services to horticulture farmers (HTS), Research (NARI) and availability of sound data for planning and market information (MoA Planning Directorate);
- Act as the Secretariat for the Steering Committee described below;
- Take measures to ensure that the National Horticulture Development Board is established as expeditiously as possible; and
- Ensure coherence between projects and promote use of established structures for implementation.

To bring together all stakeholders for information sharing, planning, monitoring and collective decision-making, a National Horticulture Steering Committee (NHSC) will be established. The NHSC shall be chaired by the Permanent Secretary Ministry of Agriculture. The membership of the Steering Committee is presented in the box below

Membership of the National Steering Committee
• Ministry of Agriculture (Central Projects Unit; Planning Directorate; Department of Agriculture (PPS and HTS) and NARI); • Ministry of Trade • Ministry of Finance • GIEPA • FSQA • Donor Representatives: FAO • Representative from Farmers Organizations (Apex Marketing Federation, and Commercial Farmers Organization • Representative of Processors • Representative from the Gambia Hotel Association • Representative from Youth and Women's groups

The Committee shall meet twice yearly to review progress and adjust strategies. It shall also review the half yearly and yearly monitoring reports.

The work of the Steering Committee will be supported by a Technical sub-committee selected from among its members. The sub-committee shall co-opt other members it deems necessary for its work – all projects operating in the sector will take part in the work of the technical sub-committee. The technical committee shall meet quarterly.

In the medium, the strategy proposes the setting up of the National Horticulture Development Board (NHDB) which will bring under one roof, key functions currently scattered among several organizations and projects. The NHDB's principal functions, among others shall be as follows:

1) Policy Setting and Coordination: the NHDB will be the main government instrument to oversee the design and implementation of national policies, strategies and programmes to facilitate growth of the horticulture sub-sector. It shall in that regard maintain up to date and quality data to facilitate more effective planning and shall provide a robust platform for the coordination of all stakeholders. It shall monitor, analyze and disseminate the latest information on global and regional market and technology trends in the field of horticulture for the benefit of the industry. The Board shall also lead resource mobilization efforts for the sector, sourcing both donor and private sector funding.
2) Certification and Applying Market Standards: The Board will assist value chain actors, especially producers, uphold high and consistent product quality, due to the stringent standards set by export markets, especially the European markets. One of the most important reasons why horticultural products lose part of their value is due to lack of product quality. The NHDB will adopt a strategy of consistently emphasizing the testing for horticultural product quality by liaising with other bodies such as FSQA, NARI, to ensure that chemical, pest and disease requirements stipulated by export markets are adhered to. This way the Board will be able to facilitate a large volume of horticultural exports which respond to market demands. Superior quality will be ensured through optimal produce grading, excellent post-harvest management and other measures to preserve products in the best conditions.
3) Capacity Building of Stakeholders: As part of its functions, NHDB shall promote capacity building of various value chain actors, especially producers and exporters with the aim of ensuring that such stakeholders have the right techniques, knowledge and skills to grow their produce and engage in international export. To reliably produce high quality horticultural produce in consistent quantities requires optimum production management and use of modern, cost cutting techniques. The Board working with DoA, NARI and the private sector will undertake activities to raise awareness of the importance of best production practices and quality control among producers, while providing support to exporters attract and sustain linkages with wholesalers from export destination countries.
4) Encouraging Horticultural Export as a Business: NHDB will undertake campaigns to encourage farmers to take up horticultural farming as a business by demonstrating its potential as an income earner and job creator. The potential in both the domestic and export markets will be emphasized. Furthermore, the Board will provide Business Development services and facilitate value chain actors access finance on favorable terms.
5) Promotional Activities Nationally and Internationally: NHDB will launch initiatives to market Gambia as a key player in the export of horticultural products while linking the buyers and sellers of horticultural crops. The promotional activities will be undertaken both locally and internationally. Locally, horticultural exhibitions will be organized bringing together horticultural industry stakeholders, international exporting firms and other stakeholders. Such exhibitions will provide an opportunity for stakeholders to market themselves to potential exporting firms and also plays a part in the promotion of horticultural export.

Externally, support will be provided to enable various value chain actors to attend various horticultural exhibitions all over the world to enhance the visibility of Gambia as a horticulture hub. By attending these international exhibitions, the country can gain knowledge on new horticultural produce, marketing standards and techniques. Information can then be further disseminated in-country through trainings and workshops.

6) Harnessing diplomacy to expand exports: working closely with the Ministry of Foreign Affairs, International Cooperation and Gambians Abroad and GIEPA, the Board will use Gambia's diplomatic representations to connect Gambia's horticulture stakeholders with business and investment partners and opportunities abroad. It is due to such commercial diplomacies that Kenya has been able maintain the UK as one of that country's leading export destinations for vegetables and flowers[44].

The Board can be financed through a variety of innovative approaches that include taxes, levies and subventions such that it does become a burden on public finances.

Creating such a Board will bring together the two streams of stakeholders in the horticulture sector that have so far operated in isolation, namely- agriculture sector and the private sector - to work more closely and in partnership and synergy for development and transformation of horticulture. Bringing together the core functions listed above under a single authority, will also strengthen coordination and assist government to move away from its current fragmented project approach to supporting horticulture development. This will result in a more focused and sustained strategy to develop this most important sector for Gambia's economy. Finally, the Board should be led by Private sector stakeholders as this will ensure a strong focus on ensuring a market-led and competitive sector and strengthen Public-Private Partnership for the benefit of the sector.

Finally, the institutional model to promote and further propel horticulture development through the establishment of the NHDB will contribute significantly to assuring the sustainability of actions and ensure that the sector is economically vibrant and profitable into the future.

4.4. Monitoring and Evaluation

The core of the strategy is the results framework in Table 17, as it determines what is to be achieved over the span of the period 2020-2024. The attainment of the results/ milestones has to be monitored, evaluated and reported on.

This sub-section outlines the framework for carrying out those functions. It covers the purpose, hierarchical levels and responsibilities, the monitoring tools, the monitoring cycle and evaluation.

[44] Mwai Lillian Wanjiku: Strategies that are used by the Horticultural Crops Directorate (HCD) in Kenya to increase Exports. *A Research Project submitted in Partial Fulfillment of the requirement for the Award of the Degree of Master of Business Administration School of Business, University of Nairobi October, 2015*

Purpose

The Monitoring and Evaluation (M&E) Framework of the strategy is to serve four main purposes:

- To provide information on semi-annual and annual basis to the National Horticulture Steering Committee on progress towards the level of attainment of the targets/milestones;
- To serve as the platform for revisions/updates for the targets/milestones;
- To enhance evidenced-based decision making and lastly;
- To link the attained results/to resources expended – to ascertain the operational efficiency.

The level of achievement of the targets/milestones will be monitored on a semi-annual and annual basis.

Responsibilities for M&E

A summary of the roles in the monitoring and evaluation of the plan implementation are tabulated below.

Table 18: Institutions/Structures and Assigned Responsibilities in the M&E Framework

Institution/Structure	Assigned responsibilities
National Horticulture Steering Committee	1. Reviews the annual / semi-annual M&E Plans 2. Reviews semi-annual / annual M&E reports 3. Receives / reviews / provides feedback on these monitoring reports
Central Projects Unit/Ministry of Agriculture	1. Acts as the Secretariat for the Steering Committee • Prepares/integrates semi/annual M&E plans for validation by the Steering Committee • Prepares/integrates semi-annual/annual monitoring reports for validation by the Steering Committee 2. Manage the monitoring and evaluation cycle • Issues guidelines and timelines • Organizes coordinating meetings 3. Prepares annual monitoring and evaluation reports
Department of Agriculture	1. Work with Central Project Unit, other stakeholders to coordinate field monitoring process 2. Support the Central Unit in preparing meetings of the Steering Committee 3. Follow up on implementations of the recommendations of the Steering Committee Meetings
Department of Planning (MoA)	1. Collects and analyses production, consumption and trade data on yearly basis and provides information to the steering committee; 2. Maintains a market information system 3. Maintains a data base on all actors in the horticulture value chain.

The Monitoring Tools

To assess plan implementation effectiveness, two sets of monitoring tools will be developed and rolled out: semi-annual monitoring form and annual monitoring form.

Strategy Evaluation

There will be two external evaluations during the strategy implementation period:

- A mid-term evaluation will be conducted during the second half of 2022 with the objective of reviewing the level of attainment of the results. In addition, the evaluation will look at the effectiveness and efficiency of the management of the strategy to date.
- The second evaluation will take place during the second half of 2024, and will be aimed at providing insights for the development of the next or successor strategy.

4.5. Implementation Plan for Roll Out of Strategy

To roll out the strategy, the following activities will be carried out –see table 19 below.

Table 19: Inception / Role out Activities

Inception / Roll Out Events	**Responsibilities / activities**	**Month (Starting April)**									**Comments**
		1	2	3	4	5	6	7	8	9	
Official Launch of Strategy by the Minister of Agriculture	The strategy is officially launched by MoA	x									To provide a platform for the official start of strategy implementation
Awareness Creation	Copies of the Strategy distributed to all stakeholders by Ministry of Agriculture	x	x								To ensure that all stakeholders are fully knowledgeable on the strategy, and have copies for reference
Establishment of the Structures for Coordination of the Strategy	The Minister of Agriculture writes to designate Members of Steering Committee			x	x						The National Steering Committee Set up
	Drawing up of the ToRs for the Group		x	x							Functions of Steering Committee defined and approved
	Holding of the inception meeting for the Steering committee					x					Members establish relations and build team and outline work plan
	Setting up of the Technical Committee					x					Technical steering Committee set up

	Meeting of the Technical Steering Committee to undertake the prioritization and sequencing exercise						x				Members meet and map out their work plan and activities implementation
The National Horticulture Development Board	Undertake feasibility study and validate findings	x	x	x							
	Prepare legal framework and draft Bill				x	x					
	Enactment of Bill to establish NHDB						x	x			
	Formal Designation of Board Members								x		
	Formal Launch of Board									x	

Annex 1: List of Persons Met

No	Institution/Enterprise/Organization	Persons Met
1	Ministry of Agriculture	Ebrima Camara, Permanent Secretary I Mbaye Jabang, Permanent Secretary II Francis Mendy
2	Department of Agriculture	Kangsaikou Ceesay – DoA/HTS Lamin Darboe – DoA/HTS Seedy Fofana - Director DoA?FTS Lamin Drammeh –DoA/FTS
3	Plant Protection Services	Landing Sonko – Director Lamin Darboe – Senior Agriculture Officer Kebba Sarr – Senior Plant protection Officer Demba Bah – Agriculture Officer
4	Food Safety and Quality Authority	Zainab Jallow – DG Lamin Jaiteh – Principal Scientific Officer Mary Johnson – Director Regulatory Affairs Sana Jawara – Director of Food Control Bai Abdou Jallow – Director Scientific Affairs
5	GBoS	Nyakassi Sanyang – Statistician General Mariama Davies – Trade Statistician
6	CPCU/MoA	Dr. Famara Bulli Sanyang
7	NARI	Kebba Drammeh – Head Crops Tom Senghore – Head Horticulture Essa Drammeh – Rice Momodou Jallow – Horticulture Babucarr Gibba – Rice Saihou Saidykhan – Grain Legumes Sarjo Jarju – R/Assistant Jaja Jamamka - Cereals
8	FASDEP	Mr. Jarju - Director
9	NEMA	Banky Njie – BDS Officer
10	GHE	Momodou Ceesay - CEO
11	Radville Farm	Mamut Sey
12	Kuras Garden	Abdoulie Jallow
13	Medium Scale Producer	Musa Mbenga
14	Association of Processors	Mariayatou Mass
		Kaddy Kebbeh
15	GACH	Mr Ndow
16	ASPUNA	Amadou Jah
17	Topingo	Momar Taal
18	Fangsoto Marketing Federation	Ousman Manneh
19	Sofaniama Marketing Federation	Saikou Fadera
20	Fangkaso Marketing Federation	Wally Jallow
21	Nematulie Marketing Federation	Fatoumata Jagana
22	Heewal Marketing Federation	Abdou Boye
23	Solicita Marketing Federation	Cherno jallow
24	Apex (sosolaso)	Ousman Manneh (secretary)
25	Bakau Women Garden	Jalamang Camara
26	Sukuta Women Garden	Ebou Bojang, Karanta Bojang and Mbajai Marr
27	Banjunlnding Women Garden	Tombong Jarju Fatou Jatta and Amie Bojang

28	FAO	Haddijatou Lamin-Njie Louise Agatha Tine
29	United Purpose	Ismaila Jammeh

Annex 2: List of Key Documents Consulted

1. Elena Baglioni: Straddling Contract and Estate Farming: Accumulation Strategies of Senegalese Horticultural Exporters, *Journal of Agrarian Change, January 2015*.
2. Evaluation of Gambian Fresh Fruit and Vegetable producers and producing/exporting SMEs on Good Agricultural Practices and sustainable production in The Gambia towards meeting local, regional and international markets requirements. Intermediary Draft Version for COLEACP / FAO Gary Tomlins Aided Trade April 2019
3. Horticulture Value Chain of Six Agricultural Regions in The Gambia. United Purpose, 2018.
4. Market Opportunities Study for Commercial Horticulture Production in The Gambia. Final Report, March 2018 National Horticulture Policy, Kenya, 2012
5. Mwai Lillian Wanjiku: Strategies that are used by the Horticultural Crops Directorate (HCD) in Kenya to increase Exports. *A Research Project submitted in Partial Fulfillment of the requirement for the Award of the Degree of Master of Business Administration School of Business, University of Nairobi October, 2015*
6. National Horticulture Policy and Strategic Implementation Plan, Rwanda, 2014
7. National Horticulture Sector Master Plan (2015-2035), May 2015
8. Report on the Assessment of the Extension Services of The Gambia. Kwame Azemah and Falalo Touray, 2018
9. The Agribusiness Innovation Center of Senegal: Scaling a competitive horticulture sector through value adding post-harvest processing. Prepared by infoDev (World Bank, 2011)
10. The Gambia National Development Plan (2018-2021)

Annex 3: Summary of Key Agriculture Projects contributing to Horticulture in The Gambia

Project	Objectives	Duration	Donor	Budget	Horticulture activities supported
Gambia Agricultural Commercialization and Value Chain Management Project (GCAV)	To improve productivity and access to markets of targeted agricultural commodities (rice and horticulture) for smallholders in the Project areas	5yrs (16th June 2014 - 30th November 2019)	World Bank	US $19.27Million	• 21 gardens 5ha each with complete fencing, solar power boreholes, fitted with driplines and fertigation tanks, one **Power Tiller** given to each garden, and training. • Two entrepreneurs (GHE and Tropingo) supported to process mango into juice, Jam and dried mango.
Food and Agriculture Sector Development Project (FASDEP)	To reduce rural household poverty, food insecurity and malnutrition, through increased Agricultural production, productivity and commercialization.	5 years (Sept. 2013 - Dec. 2019) plus 6 months extension to June 2020.	Global Agriculture and Food Security Program (GAFSP) and Supervised by AfDB	USD 26.6 Million	• 27 community (women's) 4 ha gardens with fencing and water (borehole) facility, initial input supply and training. • 60 half hectare gardens for schools supported with fencing and water facility, and input supply.
National Land and Water Management Development Project (NEMA)	Reduce poverty of rural women and youth through increased incomes from improved productivity based on sustainable land and water management.	2013-June 2020 (7years)	IFAD, IsDB, AfDB	USD 74Million	• 50 5-hectare gardens with solar powered year-round irrigation.

Annex 4: Profile of Communal Horticulture Gardens

Main Features	Bakau	Banjulunding	Sukuta
When established	1985	1979	1974
Membership (male/female)	2 males 518 females	5 males 80 females	1 Male 444 Females
Land tenure arrangement	Membership own	Community owned	Community owned
Total land area	10.5 ha^{-1}	23 ha	15 ha
Available area/member	200m^2 per member	240m^2 per Member	
Main crops grown (Dry season /Rain season)	• Dry season (onion, cabbage, pepper, egg-plant, tomato, lettuce and cucumber) • Rain season (maize, sorrel, egg-plant and amaranthus)	• Dry season (tomato, lettuce, cucumber, cabbage, green bean, onion, groundnut, pepper and bitter tomato) • Rain season (okra, egg-plant, maize and sweet potato	• Dry season (lettuce, cabbage, cucumber, tomato, onion, bitter tomato, green bean, egg-plant and groundnut) • Rain season (sweet potato, cassava, radish)
Type of water supply system	Borehole with Solar energy	Borehole with Electricity (cash power) and Solar energy	Borehole with Electricity (cash power) and Solar energy
Type of fencing available	Cement and chain link wire	Front face cement and chain wire	Front face cement and chain wire
Machinery and equipment available	Spade, hoe, watering can, rake, wheelbarrow and cutlass	Tractor, power tiller, pampas, watering can, rake, wheelbarrow, hoe, weighing scale, spade and cutlass	Tractor, power tiller, pampas, watering can, rake, wheelbarrow, hoe, weighing scale, spade and cutlass
Storage and processing facilities available	None available	Yes	Yes
Inputs used: List (seeds, fertilizers, pesticides etc)	• Seeds (onion, cabbage, pepper, egg-plant, tomato, lettuce, cucumber, maize, sorrel, egg-plant and amaranthus) • Fertilizer (NPK (15:15:15 and 20:6:10) and Urea). • Pesticides (pacharr)	• Seeds (tomato, egg-plant, cucumber, cabbage, green bean, onion, pepper, sweet potato, bitter tomato and lettuce) • Fertilizer (NPK 15:15:15 and Urea). • Pesticides (herbicides, pasch mine and sulfur	• Seeds (tomato, egg-plant, cucumber, cabbage, green bean, onion, pepper, sweet potato, bitter tomato and lettuce) • Fertilizer (NPK 15:15:15 and Urea). • Pesticides (herbicides, pasch mine and sulfur

Sources of inputs used: pesticides, fertilizers and seeds	GHE Department of Agriculture	Aja seed store, GHE Karansaikou seed store	Aja seed store GHE Karansaikou seed store
Produce sold on Domestic Market: types, Quantities, Markets (Kg or MT)	• Cabbage 240tones • Onion 128 tones • Lettuce 350 tones • Tomato 175 tones	Egg-plant, tomato, cabbage, green bean, lettuce, cucumber, onion sweet potato and bitter tomato	Egg-plant, tomato, cabbage, green bean, lettuce, cucumber, onion sweet potato and bitter tomato
Produce sold for Export: quantities, produce and destination (Kg/MT	No export	No Export	No Export
Main sponsors and types of support received	British High Commission, FASDEP, American Embassy and Department of Agriculture	• Taiwan (seed store, tractor, power tiller, pampas and garden tools) • SDF (build storage facility) • FAO (maintenance of borehole solar panels • Department of Agriculture (power tiller)	• Taiwan (seed store, tractor, power tiller, pampas and garden tools) • SDF (build storage facility) • FAO (maintenance of borehole solar panels
Yearly turn-over per member (GMD)	N/A	N/A	N/A
Other Activities	Tilling, weighing, composting and fertilizer application.	N/A	N/A

Annex 5: Profile of Commercial Horticulture Growers[45]

Main Features of Enterprise	Radville Farms	GHE	Kura's Garden
When established	Established in 1985 by Wealmoor, a UK-based fresh fruits producer, importer and distributor with connections in Africa, Radville Farms is a joint venture with local partners	GHE was established in September 1990	November 2011
Ownership	Private, Limited Liability Company	Sole proprietor	Sole proprietor but recently registered as a family enterprise
Partnerships established	UK and Gambian shareholders	YEP project for training of youths and the world vegetable center for testing of new varieties	Family
Land Tenure arrangement	All land purchased from traditional owners	Lease /own	Bought the land from a family
Land Area	Approximately 300 hectares in five locations – Nemakunku, Tubakuta, Misiranding, Bonto Kuta and Bonto Koto	100 hectares	36 hectares
Number of workers employed	150 permanents, 600 during low season – 1300 at high season casual workers	300 people at the peak of the season and 115 at the close season	20 workers
Main crops grown	Mangos, green beans, chilli peppers, baby corn and butternut	Fruits: - mangoes, cashew, lime, papaya, Avocado	Vegetables, fruit tree (citrus), moringa,

[45] Efforts were made to obtain data from Kharaffi Farms without success

		Vegetable: - challis, baby aubergine, green beans, butternut squash, tomatoes, onion, cucumber, okra,	
Machinery and equipment available	Land preparation machinery, tractor mounted product sprayers, tractor front loader and forklift	Tractors, Power tillers, garden equipment, drip irrigation	Tractors and tractor implements (disc plough, seeder, harrow, leveler, grass cutter) sine hoe, milling machine, maize thresher and farm tools.
Out-grower schemes – which crops, how many farmers, purchases	Mango out-growers – 138, vegetable out-growers 8 active women garden groups and 3 individual farmers	Crops: - onions and tomatoes How many farmers: - 5 women vegetable gardens Purchases: - local markets	10 farmers (10 hectares)
Domestic market: – quantities, produce and destination	No structured domestic market except for none exportable quality such as over matured, deformed fruits, out of spec products. This is not quantified	5 tons of tomato for local market 10 tons of onions for local market	300 to 500kg of Moringa powder supply to supermarkets
Export: quantities, produce and destination	UK is the nominal point of entry to the EU. Green beans; 349.5 tons, Chilli peppers; 306.8tons, Baby corn; 88.5tons, Butternut; 43tons.	1 ton every week during the season (December to March) for vegetables (chillis, baby aubergine, green beans, hot pepper and okra) 5 ton every week during the season (May to July) for mangoes	3tons of moringa powder to Germany
Yearly turn-over		100 to 150tons	50 to 200tons of moringa powder
Other activities	support to community activities, transportation of school children in our areas of activity, establishment of a basic cycle school at Nemakunku, annual Ramadan gifts to villages,	Production of sweet potato and cassava during the rainy season	Animal husbandry, groundnut cultivation

Annex 6: Profile of Processors

Main Features of Enterprise	Topingo	GHE	Aspuna	GACH
When established	Topingo was establish in 2014	GHE started processing in 2010 and it has three processing sites (Bakau, Kembujeng and Banjulnding)	The concept of Aspuna started in the Gambia in 2015, the company signed a MOU with National Agricultural Research Institute (NARI) and the Department Of Agriculture in September 2016. The company was established in January 2018 and started operation in January 2019.	August 2018
Ownership	Sole proprietor	Family business	The Chief Executive Officer of Aspuna is Maria Yassin Jah base in London and Mr Amadou Jah is the general manager base in the Gambia	Private company
Partnerships established	NeMA project GCaV project Agric Growth	Local farmers	NARI, MoA, PUM, GIZ, NeMA	Chinese group
Number of workers employed	50 people	15 to 20	38 people	Fifty (50) employees
Main produce processed	Mango	Mango, Cashew, Cereals (millet and maize) vegetables (tomato and	Cassava into flour and starch	Tomato paste, tomato ketchup, hot pepper sauce and water

		pepper) and beverage drinks		
Machinery and equipment available	Dehydrator, Fruit and vegetable sorting, Slashing machine, Cool rooms, Refrigerated trucks, Tractors, Rice milling machines, Fruit seed oil press	Crusher, mango processing machine, herbal tea processor, beverage processor and moringa processor	Aspuna is having a cassava processing machine.	Two line machines i.e. tomato line processing machine and water line processing machine. Excavators, bulldozers, trucks etc
Domestic market: – quantities, produce and destination	They sell only 5% of their produce at supermarkets in the domestic market	Onions 10 tons, tomato 5 tons and fresh vegetables	Aspuna still on testing phase.	3.5 tons per day Tomato paste, tomato ketchup, hot pepper sauce and water
Export: quantities, produce and destination	Topingo exports dry and fresh mangoes to European markets	Process cereals into cherry for Gambian in the diaspora	N/A	1.5 tons per day Tomato paste, tomato ketchup, hot pepper sauce and water Guinea Bissau, Guinea Conakry and Liberia
Yearly turn-over	800tones		N/A	800 tons per year
Other activities	Topingo are about to start exporting vegetable to the European markets. They are trying to organize farmers under their supply chain, to build their capacity in production to be able to meet European standards.	Sell locally made beverages (wujon, baobao, ditak, ginger)	Aspuna is collaborating with partner institutions, to set up a cooperative with farmers to strengthen their supply chain.	Security service Construction Civil engineering Landscaping

Annex 7: Profiles of Horticulture Marketing Federations

Main Features of Federation	Fangsoto	Sofaniama	Fangkaso	Nematulai	Solicita	Khewal	Sosolaso (Apex Body)
When established	Established on the 21st July 2011	Marketing Federation was formed 17th September 2018 and registered with the Attorney General Chamber on the 2nd October 2018 under the Companies act number 2018/C7566	Established 14 September 2014	Established in 2014	Established in 2013	Established on the 29th September 2015, with the AG Chambers	The national vegetable grower cooperative was established in May 2019 and renamed 'SOSOLASO in September 2019.
Membership	Membership of 3065	Membership of 5019 people [4929 of whom are women representing 90% of the total membership] Members are drawn from 31 women market kafoos within the Lower River Region	Membership of 3528	Membership of 65 communities	Membership of 8050	Membership of 4,390, out of which 3,965 are Female and 425 are Male.	The six marketing federations constitute the Apex body.

Region	West Coast Region	Lower River Region	Central River Region - South	Upper River Region	North Bank Region	Central River Region - North	Operates in the seven agricultural regions
Main Activities	• Capacity building on new farming techniques, • Providing quality vegetable seeds, Farm inputs • Collecting weekly market prices	• Building the capacities of members in the area of production and marketing • Advocacy and lobbying in favor of the market control of its members • Promote the production and consumption of chemical free crops especially vegetables by adopting and promoting organic farming • Mobilize resources both within and outside the general membership	• Capacity building of members in organizational management • Capacity building on enterprise development • Capacity building on good agronomic practices • Promotion of bio-fortified and nutritious crops (ALVs, OFSP, iron rich pearl millet and pro-vitamin A maize) • Promotion of healthy and nutritious foods • Members' contributions • Support	• Fight for equal treatment of members by the council duty collectors in Basse market • Advocate for a permanent place for members in main markets in URR • Advocate for cool storage facilities • Mobilization of resources by the executives • Capacity building for members	• Facilitate member's contribution • Conduct capacity building on horticulture value chain, group management, mentoring to members • Conduct monthly meetings and group management for the executive • Resource mobilization • Provide market information to members • Conduct production/business plan to members • Strengthen the federation marketing strategy • Conduct strategic plan • Provide networking between the federation and market	• Advocacy/lobbying, sensitizations • Mobilizing and training in the area of improving the production, productivity and marketing of vegetables	The executive body is charged with the affairs of the cooperative.

		of the Federation in pursuit of its goals and objectives • Learning and sharing on best practices through networking and synergy with sister organizations of similar objectives within the sub region • Promoting and advocating for labor savings devices to support women farmers in communities • Support microfinance activities for members and linking them to financial institutions • Promote food	members on garden materials • Conducting quarterly meetings • Collecting market information for members		vendors/traders • Conduct seed fair		

		value chain activities and preservations to address food insecurity • Promote the production, consumption and marketing of the Orange flesh sweet potato, the African leafy vegetables and whole grain pearl millet in combating mother and child malnutrition • Promote social cohesion between the membership					
Sponsorship	UP GeT	Presently, Sofaniama has no main sponsor. It relies on the coaching, mentoring and support of	UP	• WASDA • UP	• NATC, • ADWAC • UP	• UP • GEF	Office is located at UP head office

		Freedom From Hunger Campaign [FFHC] the main initiator of the idea. United Purpose [UP] being a longtime partner to FFHC has emerged as a potential sponsor to Sofaniama especially in the following areas • Capacity building • Coaching and mentoring • Provision of labor saving devices for women • Providing support and guidance in the formation of a marketing cooperative with sister Federations • The Global Environmental					

		Facility [GEF] provided funding to the Federation to implement its ideas in Organic farming. This 12 months' project was conceived through the involvement of FFHC					