PRIORITISING SPS INVESTMENTS FOR MARKET ACCESS IN THE GAMBIA

Prepared by

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1.0 Executive Summary

The Standards and Trade Development Facility (STDF) of the World Trade Organization (WTO) has developed the framework, "Prioritizing SPS Investments for Market Access (P-IMA)", based on Multi Criteria Decision Analysis (MCDA), to help inform and improve evidence-based SPS capacity building planning and decision-making processes. The STDF, in collaboration with different development partners, have applied this framework across different parts of the world including Eastern, Southern, and Western Africa, Caribbean, and in certain countries in Asia to prioritize Sanitary and Phyto-Sanitary (SPS) investment options and leverage resources for capacity development under relevant investment frameworks.

The Gambia faces several SPS constraints in accessing profitable regional and international markets despite the potential of agree-trade in boosting the economy and prosperity of the Gambians. The agri-food export market is constrained by inadequate compliance with SPS requirements, and failure to meet standards and technical requirements in EU markets and other export markets.

Thus, this report is the result of the application of the P-IMA framework in The Gambia. A total of six SPS investment options were evaluated based on the P-IMA priority setting framework. In all, approximately US$3.5 million is estimated to implement all the six options, which could potentially generate about US$52.4 million worth of exports annually. However, since resources are limited, a priority must be determined. The priority setting was based on a structured process of identifying SPS investment options that were relevant for market access, prior agreed objectives (decision criteria), and agreed weights were assigned to the decision criteria. Based on this, the following options were considered first best choices for immediate investment:

- *Capacity building in SPS compliance in cashew nut export*
- *Aflatoxin Control and management in groundnuts*
- *Enhancing SPS compliance in Chilli pepper exports*

As next best, the following options should be considered for a later investment:

- *Enhancing phytosanitary capacity for increased mango export to EU and UK Markets*
- *Strengthening disease control for hides and skins export*
- *Support compliance to standards and food safety requirements for smoked and dried fish exports*

2.0 Introduction

Sanitary and phytosanitary (SPS) measures are applied by governments to control food safety, plant health and animal health risks, and to prevent incursions of foreign pests and diseases. Such measures act to protect human health, promote agricultural productivity and facilitate the international trade of agricultural and food products. Poor implementation of SPS measures remains a problem, despite the obligations and rights laid down in the World Trade Organization (WTO) Agreement on Sanitary and Phytosanitary Measures. The biggest challenge for developing countries is achieving and maintaining the required compliance requirements, both within the public sector and in exporting firms. Historically, these challenges have been faced in the context of agri-food exports to industrialized country markets but are increasingly becoming an issue in trade between developing countries.

Developing countries in the efforts to expand their agri-food exports and to reposition themselves towards higher-value markets usually faces several ranges of SPS capacity-building needs that exceed available resources, whether from national budgets or from donors. Therefore, hard decisions must be made to prioritise particular investment needs over others. At the same time, the drive towards the effective utilization of donor resources requires that beneficiary governments should be able to present coherent and sustainable plans for investment. Whilst decisions must be made between competing needs on an on-going basis, such decisions often lack coherence and transparency, and there are accusations of inefficiencies in the allocation of resources, whether by developing country governments or by donors.[1]

Consequently, the Standards and Trade Development Facility (STDF) of the WTO has developed the framework, "Prioritizing SPS Investments for Market Access (P-IMA)", based on Multi Criteria Decision Analysis (MCDA), to help inform and improve evidence-based SPS investment planning and decision-making processes. The STDF, in collaboration with different development partners, have applied this framework across different parts of the world including, East and Southern Africa, Caribbean, and in certain countries in Asia to prioritize SPS investment options and leverage resources for capacity development under relevant investment frameworks.

The P-IMA framework provides a multi-stakeholder, evidence-based approach of mainstreaming SPS capacity building investment needs into national investment frameworks for agriculture, trade, health, and/or environment. Considering this, the Government of The Gambia applied the framework to prioritize SPS investments for export of agricultural products. This report provides the outcomes of the application of the P-IMA framework to The Gambia's trade.

[1]Henson, S.J., and Masakure, O., (2009). *Guidelines on the Use of Economic Analysis to Inform SPS-related Decision-Making*. Standards and Trade Development Facility, Geneva.

3.0 Overview of the Economic and Agricultural Sector

3.1 Overview of the Agricultural Sector

The Gambian Agricultural sector is characterized by little diversification, mainly subsistence rain-fed agriculture with a food self-sufficiency ratio of about 50%[2]. Crops produced include food crops, comprising cereals (early millet, late millet, maize, sorghum, rice), semi-intensive cash crop production like groundnut, horticulture and more recently cashew nuts.

The crops sub-sector generates approximately 40% of the foreign exchange earnings and provides about 75% of total household income[3]. The sub-sector also employs 70% of the labor force, and accounts for about 30% of GDP of the country. In recent years, the horticulture sub-sector has seen the most commercial investment, in particular for the export of high-value products like fresh mangoes, baby corn and chilli peppers. A projected growth of US$ 17 million between 2019 to 2025 suggests a promising outlook for horticulture export markets[4]

However, the agri-food export market is constrained by inadequate compliance with sanitary and phytosanitary requirements and a failure to meet standards and technical requirements in EU markets as well as other export markets. The livestock sub-sector is predominantly traditional involving low-input extensive system of animal husbandry. According to the 2017 Livestock Census, The Gambia's livestock population is estimated at 3.28 million heads of which poultry, small ruminants and cattle are considered of significant economic value. [5]

The fishery sub-sector which is managed by the Ministry of Fisheries, Water Resources and National Assembly matters contributes an estimated US$ 55.5 million to the economy annually representing 12% of the GDP. Of the total contribution of the fishery sub-sector 69% is derived from production and 29.3% from industrial processing. The sector currently employs an estimated 30,000 people and provide livelihood to about 200,000 people. Currently, fish exports (*i.e.* fishmeal, fish processing for exports, off-Gambia landings by industrial vessels, etc.) represent roughly 19,300 tonnes per year, generating US$ 65 million. [6]

Despite the primary role of the agriculture sector in the economy, its performance and share in most key socio-economic indicators in the past decade have been generallyerratic. This has been attributed to a combination of factors including adverse climatic conditions, application of Structural Adjustment Programs without sequencing, low private investments, soaring prices of food commodities and essential production inputs, inadequate domestic policies, institutional support and investment in the sector, particularly roads and equipment and SPS-related market access hurdles[7].

3.2 Overview of SPS Sensitive Trade of the Gambia

Generally, The Gambia's exports continued to consistently decline over the past decade, with the trade deficit widening almost four times (Figure 1). The value of export of agriculture products was US$ 107 million in 2022, this declined to about 50% (US$ 54 million) in 2023. Imports, on the other

[2] The Gambia: A Look at Agriculture (World Bank, 2019)
[3] The Gambia Second Generation National Agricultural Investment Plan-Food and Nutrition Security (GNAIP II-FNS) 2019-2026).
[4] FOOD SYSTEMS PROFILE - THE GAMBIA Catalysing the sustainable and inclusive transformation of food systems (FAO, 2022)
[5] https://unctad.org/system/files/official-document/ditc2013d4_en.pdf
[6] https://unfccc.int/sites/default/files/resource/The_Gambia_Case_Study.pdf
[7] https://www.fao.org/gambia/gambia-at-a-glance/en/

hand, have almost tripled during this time frame (*i.e.* from about US$ 348.3 million to about US$ 920.5 million). On average, woven fabrics, groundnuts coconuts, Brazil nuts, cashew nuts, cane or beet sugar, dairy products, pasta, sauce, and some fish products were the most dominant exports from The Gambia over the past decade.

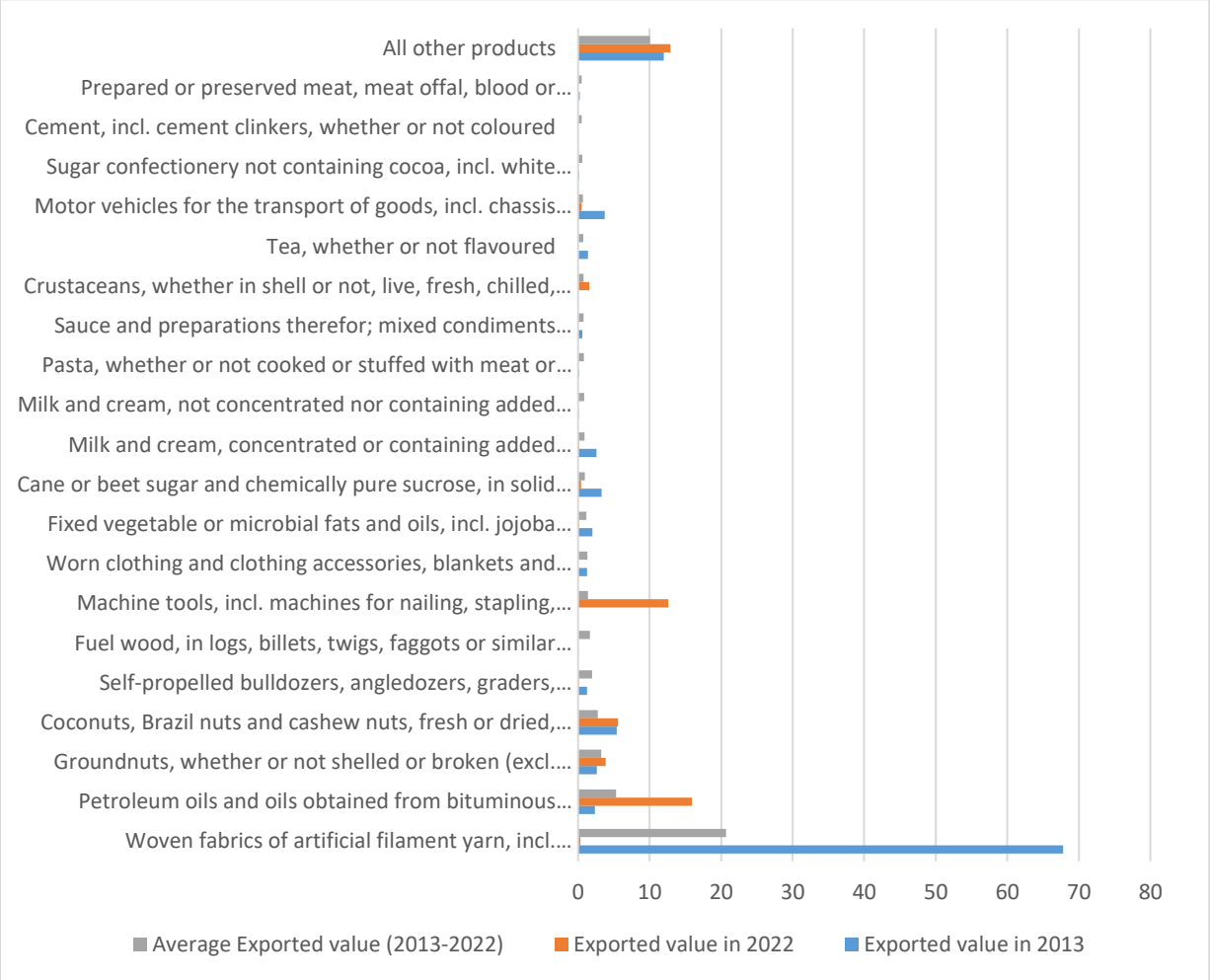
Like many developing countries, The Gambia's export faces several SPS constraints in accessing markets in advanced countries. For example, between 2019 and January 2024, the European Union's (EU) EUROPHYT database recorded 19 interceptions of Gambian exports of various fruits and vegetables (particularly mango and capsicum) due to the presence of quarantine pests such as fruit fly in mango, False Codling Moth (FCM) in chilli pepper or for reasons of documentary non-compliance. Moreover, according to the European Rapid Alert for Food and Feed (RASFF), the recurrence of exceedances of the maximum limits of aflatoxins in groundnut consignments exported from The Gambia (24 notifications in 2018) has led the European authorities to include The Gambia in the list of countries subject to the enhanced control regime. A specific regulation issued in May 2019 imposed special conditions governing the import of groundnuts from Gambia. In addition to an increased level of official controls, all consignments of groundnuts from The Gambia must be accompanied by a health certificate stating that the products have been sampled and analyzed for the presence of aflatoxins and have been found to be within the established aflatoxin limits.

Apart from detecting high levels of aflatoxin in groundnut consignments, according to the EU RASFF, high levels of biogenic amines were also detected in smoked fish from the Gambia. Overall, animal disease concerns in hides and skins, mycotoxins, pesticide residue & microbes in cashew nuts, and aflatoxins in groundnuts are major SPS hurdles that impede trade within these value chains. This situation highlights the need to reinforce the application of good phytosanitary practices by producers on one hand, and the need to improve the official control and sanitary and phytosanitary certification systems.

Figure 1: The Gambia's Trade (US$' Million; 2013-2022)

Source: Author's construction based on trademap.org

Figure 2: Products Exported (2013-2022; US$ Million)



Source: Author's construction based on trademap.org

4.0 The P-IMA Framework

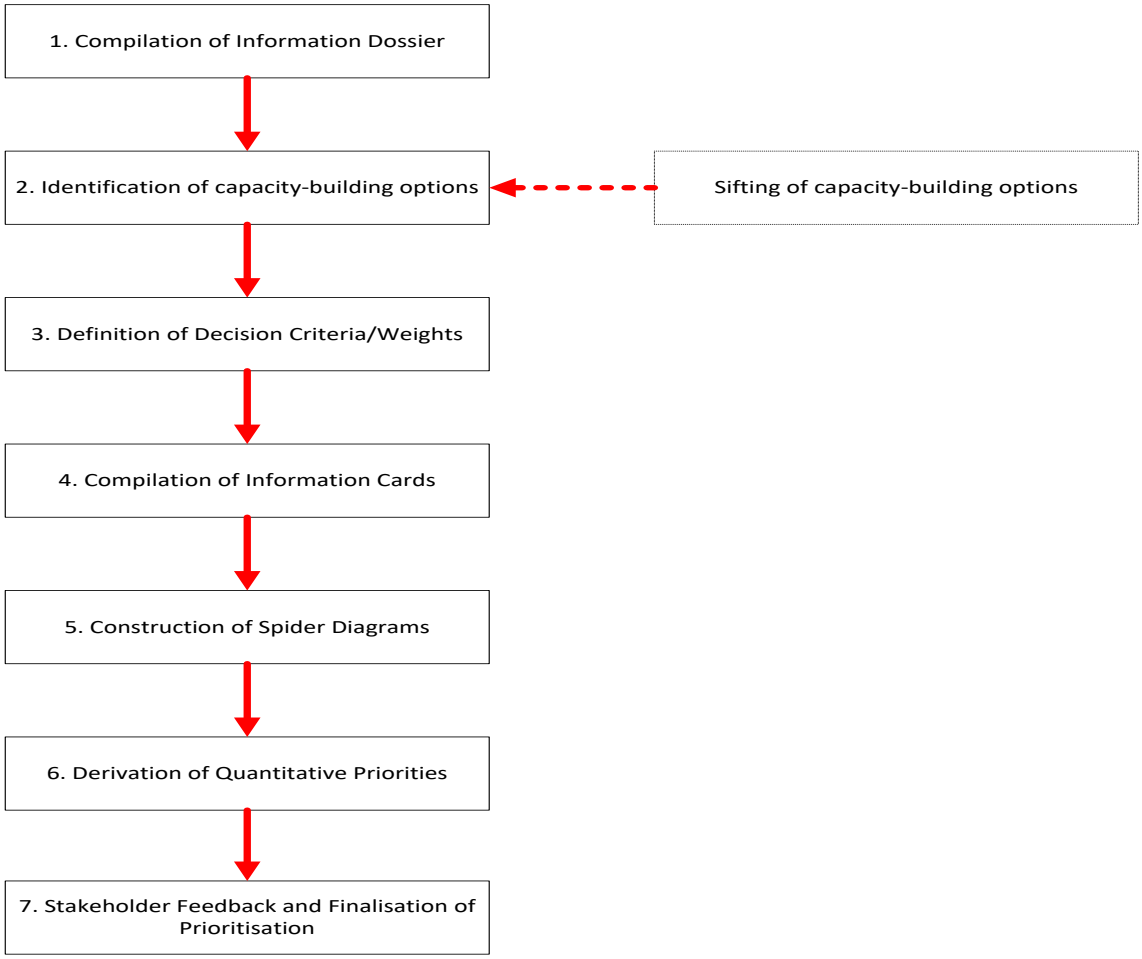
The P-IMA framework employs a Multi Criteria Decision Analysis (MCDA) tool that engages a multi-stakeholder approach to identify SPS capacity building needs, the costs involved and ranking of the investment options needed to address these needs based on agreed economic, social and environmental decision criteria. The aim is to generate a set of evidence-based SPS priorities that gives the best return on investment and can be mainstreamed into SPS related decision-making, national investment planning, and or used as basis for external resource mobilisation. The rationale behind the framework is that priorities need to be established based on a range of economic and social considerations that are often difficult to reconcile in view of limited resource availability. The approach ranks capacity building options needed to address a country's difficulties in meeting export market SPS requirements. Additional benefits may include enhanced safe trade, increase in incomes of small-scale producers and/or vulnerable groups, promotion of agricultural productivity and/or domestic public health, etc. The framework provides an approach for different decision criteria to be considered, even though they may be measured in quite different ways.

In this regard, the framework aims to:

- Identify the current set of SPS-related capacity-building investment options in the context of existing and/or potential exports of agri-food products, referred below as the choice set.
- Determine the decision criteria that should drive the establishment of priorities between SPS-related capacity-building investment options and the relative importance (decision weights) to be attached to each.
- Prioritize the identified SPS-related capacity-building investment options based on the defined decision criteria and decision weights.
- Examine the sensitivity of the established priorities to changes in parameters of the framework.

The framework employs a highly structured process that aims to be applied in a wide variety of contexts and to provide various diagrammatic and numerical outputs. Below in Figure 3, a brief outline of the seven stages of the framework is provided, with particular focus on how they were implemented in The Gambia.

Figure 3. Stages of the P-IMA Framework



4.1 Stage 1: Compilation of Information Dossier

The first stage of the analysis involved the compilation of a comprehensive dossier of existing information on the SPS challenges facing agri-food exports and the associated capacity-building investment needs. This step also helped identify what work had already been undertaken to identify capacity-building gaps in the three sectors of food safety, animal and plant health. This study used existing government documents, capacity evaluation tools reports as well as secondary research to analyse Gambia's agri-food trade and prevailing SPS compliance challenges.

4.2 Stage 2: Definition of Choice Set

To identify the SPS capacity building options to be considered in the priority-setting framework, a three-day stakeholder workshop was held from 4 – 6 March 2024. The workshop comprised of training of twenty-Nine (29) participants from key stakeholder institutions including the Ministry of Trade, Ministry of Agriculture among other private entities on the P-IMA framework and a dedicated session to identify each of the specific SPS investment needs and Investment Options, Decision Criteria and Weights. Participants were presented with a series of cards and asked to identify the SPS capacity-building needs that is mutually exclusive and consist of four key elements in Figure 4. First, the product(s) affected. Second, the specific SPS issue faced by exports of this product(s). Third, the market(s) where these SPS needs were an issue. Fourth, the investment options that would solve the

SPS issue being faced. The combination of these four elements defined a distinct investment option. Respondents were free to define as many specific SPS investment needs as they wished.

The investment options generated from the above workshop were further reviewed by the country focal persons in consultation with their stakeholders. At this stage, certain investment options were excluded on the basis that they were not SPS issues related to trade, not mutually exclusive to SPS issues, already addressed by an existing project, were not actual market requirements, etc. The options that were included are listed below but defined in detail in section 4:

- *Capacity building in SPS compliance in cashew nut export*
- *Aflatoxin Control and management in groundnuts*
- *Enhancing SPS compliance in Chilli pepper exports*
- *Enhancing phytosanitary capacity for increased mango export to EU and UK Markets*
- *Support compliance to standards and food safety requirements for smoked and dried fish exports.*
- *Strengthening disease control for hides and skins export*

Figure 4; Definition of SPS capacity-building options

4.3 Stage 3: Definition of decision criteria and weights

In the second part of the stakeholder workshop, respondents were asked to define an appropriate set of criteria (i.e., the objectives) that will drive the priority-setting process and to assign weights to these. First, participants were presented with a series of potential decision criteria and asked which (if any) should be excluded and whether any potentially important criteria were missing. To define the decision weights, the workshop participants were each asked to assign 100 points amongst the decision criteria. The scores of participants were then collated, and an average weighting calculated. This average weighting was reported back to the workshop to identify any discrepancies. The final agreed criteria and weights are presented in Table 2 below.

Table 2: Decision criteria, measurement metrics and weights

Decision Criterion	Details	Measurement	Weights
Cost			
Up-front investment	Monetary costs of investments to upgrade SPS capacity	Absolute value ($)	20
Trade Impact			
Change in absolute value of exports	Predicted enhancement of exports or avoided loss of exports five years from implementation of the intervention	Absolute value ($)	17
Domestic Spillovers			
Agricultural/fisheries productivity	Changes in productivity of agricultural or fisheries production destined for export and/or domestic markets	Large positive/negative (3/-3)	14
Public health & nutrition	Changes in domestic public health, through food safety, occupational exposure to hazards, etc.	Medium positive/negative (2/-2)	17
Poverty Impact	Change in the incidence of poverty		17
Environmental Impact		Low positive/Negative (1/-1)	8
No. of Women & Youth impacted		No change (0)	7

4.4 Stage 4: Construction of Information Cards

Having identified the choice set of SPS capacity-building options, the decision criteria and weights to be applied in the priority-setting exercise, information was assembled into a series of information cards during the stakeholders' workshop. The aim of these cards was to ensure consistency in the measurement of each decision criterion across the investment options, and to make the priority-setting exercise more transparent and open to scrutiny.

First, the specific nature of each of the SPS capacity-building options were described in detail based on existing documentation, consultation with stakeholders, etc. and are set out in Section 5. The metrics to be employed for each of the decision criteria were then defined, taking into account the current available data and the range of plausible ways in which each of the criteria might be represented. Table 2 sets out the metrics used. The choice of metrics involved a difficult compromise between the availability and quality of data, and the imperative to employ continuous quantitative measures. For instance, in the case of upfront investments, industry experts estimated the cost of investments based on industry knowledge of how much specific activities cost. Also, in the absence of specific industry estimates of total export potential of each value chain, the International Trade Centre (ITC's) export potential estimates were used as a proxy for how much exports could be generated from the value chains if the binding SPS constraint was resolved. This assumes that the only constraint to the potential of this value chain is the identified SPS issue, but this may not be the case. It is important to recognise that the aim of the framework is not to provide a final and definitive prioritisation of the

investment options. Rather, the priorities that are derived should be revisited on an on-going basis as more and/or better data for the decision criteria become available.

Information cards for each of the six SPS investment options were then compiled. These are reported in Annex 1. Each card presents data for the seven decision criteria, measured according to the scales outlined in Table 2. For each criterion, details are provided of how measures for each of the decision criteria were derived. There is also an indicator of the level of confidence in the measure reported. Where there is a lack of underlying data and/or these data are of doubtful quality, a low or medium level of confidence is indicated. Conversely, where rigorous and comprehensive prior research is available, a high level of confidence is reported. These confidence measures need to be considered in interpreting the results of the prioritisation exercise, and in considering how the analysis might be refined in the future.

4.5 Stage 5: Construction of spider diagrams

Throughout Stages 1 to 4, inputs for the priority-setting process were gathered and compiled into a series of information cards. The aim of Stage 5 is to present this information in a way that facilitated easier comparison of capacity-building options. To achieve this, spider diagrams are often created to plot SPS capacity-building options against the agreed decision criteria. However, in this assessment, spider diagrams were not used. Instead, the performance of each investment option on each decision criterion is reflected in the criteria contribution rankings, measuring how well or poorly each option performs relative to others in the choice set.

4.6 Stage 6: Derivation of quantitative priorities

The formal priority-setting analysis involved the use of outranking through the D-Sight software package. The mechanics of the analysis are described in some detail in the user guide to the framework. The inputs to the model are the data assembled in the information cards. For most of the decision criteria, preferences were modelled using a level function since these were measured using categorical scales. However, the up-front investment, on-going cost and absolute change in value of exports criteria were measured continuously and modelled using linear functions. Two models were estimated using D-sight:

- Baseline model using decision weights derived in Stage 3.
- Equal weights model in which all the decision criteria are weighted equally.

The baseline model is considered to provide the most reliable set of priorities, in that it uses the full set of information derived through Stages 1 to 4. The equal weight model is usually estimated to examine the extent to which the derived priorities are sensitive to changes in the weights; if the broad ranking of the SPS investment options remains generally the same under the two scenarios presented by these models, we can be reasonably confident that the results of the framework are robust.

4.7 Stage 7: Validation

The final stage of the priority-setting analysis is completed with this report on the results of the analysis. The aim of the validation process is to ensure that the results of the priority-setting framework were broadly in accordance with expectations, or that unexpected rankings can be

explained through the pattern of data in the information cards. To facilitate this process, the draft report will be disseminated to stakeholders by email with a request for comments. Further, the preliminary results will be presented at a stakeholder workshop.

5.0 Description of Capacity Building Options

5.1 Enhancing phytosanitary capacity for increased mango export to EU and UK Markets

Fruit and vegetable production is one of the fastest-growing agricultural sectors in The Gambia and provides both income and employment to growers and exporters. Mangoes, citrus, chillies, papayas, and watermelons are among the most common fruits and vegetables grown for domestic urban markets and export. The Gambia has been growing traditional mango varieties for domestic markets. However, improved varieties are currently increasing in importance thus opening opportunities in regional and international markets. This offers a great opportunity for export and enhanced livelihoods for small scale producers and actors within the mango value chain. Unfortunately, mango exports from the Gambia are constrained by the existence of insect pests notably fruit flies which cause damage to the fruits. This problem is further compounded by the loss of market opportunities through the imposition of strict quarantine rules by importing countries. According to reports from National Agricultural Research Institute (NARI), the damage caused by fruit flies on crops particularly mango is estimated at 35%[8] of loss of annual harvest. This has led to increased interceptions and destruction of exported fruits from the Gambia destined for the UK, EU and other markets.

Currently, the Gambia does not have a National Pest Control Plan. A National Pest Control plan is crucial as it could be used to guide and develop strategies to manage plant pest through risk analysis and adoption of an Integrated Pest Management strategy including the use of biocontrol means such as biopesticides and pheromone traps. Moreover, implementation of such a plan will provide an opportunity for training producers on the adoption of good post-harvest handling and processing techniques which may help reduce post-harvest loses and the infestation of pest such as fruit flies.

This investment is expected to impact 4,300 smallholders and it is estimated to cost US$823,000 in return for US$1.36 million annual exports.

5.2 Enhancing SPS Compliance in Chili pepper exports.

Horticulture is one of the avenues for food, nutrition, and income security as well as export potential of The Gambia's economy. It is estimated that Chilli pepper and other vegetables grown in The Gambia have the potential to contribute to US$ 64 million of the international market, benefiting 36,600 farmers, and creating 16% more jobs in the horticultural sector[9]. However, the export of chilli pepper has recently been negatively affected by the discovery of False Codling Moth (FCM) in consignments exported to the UK, EU and other major markets. The value chain is further constrained by the lack of standards and a regulatory framework to control the safety and quality of exports. The absence of a National Pest Control Plan in the Gambia prevents the possibility to systematically monitor and control FCM in the Gambia. As a first step, it is therefore important to develop a National Pest Control plan for a structured approach to combating FCM and other relevant plant pest. It is also important to enhance the capacity of the National Plant Protection Organization through training of phytosanitary inspectors and extension workers on specialised training on integrated pest management (IPM).

[8] (2021) Boosting production and export of mangoes by stemming the damage caused by fruit flies.
[9]The National Horticulture Sector Strategy – NHSS (2020- 2024)

Development of an inspection manual and procurement of small equipment that enable trained phytosanitary inspectors from the NPPO to systematically carry out the required inspection in the field, in warehouses and in border-crossing points. Additionally, it is also relevant that communication between stakeholders in the chilli value and the NPPO is enhanced to improve inspection and certification of consignments destined for exports. This could be achieved through training of out-growers and the development of a communication strategy to enlighten actors on the steps to take to ensure their consignments are properly inspected and certified prior to despatch for export.

Overall, Enhancing SPS compliance in Chili pepper exports is expected to yield an annual revenue of US$174,000 for a one-time investment of US$845,000 and will impact approximately 89,000 smallholder producers.

5.3 Capacity building in SPS compliance in cashew nut export.

Cashews offer one of the most dynamic alternatives to The Gambia's main export commodity, groundnuts. Despite producing and exporting a significant volume of high-quality cashew nuts, that currently command premium price from international buyers, the Gambia only produces 0.1% share of global cashew market[10]. With less than 5% of total raw cashew nuts (RCN) processed in 2012, there is a clear opportunity to increase in-country value-addition and take advantage of demand from hotels and restaurants catering to the growing Gambian tourism industry and increase exports to lucrative markets[11]. In 2022, Gambia's cashew nut exports were valued at about US$ 35 million representing a significant increase from the previous year during which exports were estimated at about US$30 million.

In-country value addition is a well-recognized ambition of the Gambian cashew industry. Actors in the value chain believe that in-country value addition will further enhance exports, increase farmer earning and diversify the sector. However, to achieve this objective, training and sensitization of the mostly small-scale actors on post-harvest handling practices to reduce the levels of aflatoxins and other contaminants in the nut is vital through Training of Trainers (ToT) and attaching trained experts to major production areas to providing coaching to producers and traders within the cashew value chain. Secondly, the development of a guide to good production, harvesting, drying, sorting and packaging practices focused on preventing the occurrence of mycotoxin contamination in the harvested nuts will also significantly contribute to achieving the objective. Additionally, testing for mycotoxins and other contaminants is still a major challenge for export of food agricultural products. Investment in training of official control officers and providing means of rapid testing and on-field quality control of nuts will enhance export of safe and quality cashew nuts. It will be immensely beneficial to provide community-owned storage facilities to handle nuts based on good storage practices that limit the occurrence of contaminants like mycotoxins.

Cashew nuts exports hold a potential of US$45 million annually requiring only an upfront investment of US$453,000 to SPS compliance capacity. The value chain currently employs about 12,000 smallholder producers and can be a great channel for poverty alleviation as it has the potential to attract more youth into the sub-sector.

[10] The Gambia Cashew Sector Development and Export Strategy 2014-2019
[11] YOUTH AND TRADE ROADMAP OF THE GAMBIA NUTS AND AGROPROCESSING SECTOR 2018-2022

5.4 Aflatoxin Control and Management in Groundnut

Groundnuts are a major cash crop in The Gambia and are grown throughout the country and constitute one of the country's key export commodities. These nuts have historically constituted the single largest cash crop in The Gambia. Groundnut production is one of the major economic activities among rural dwellers. Groundnut farming generates income, foreign exchange, jobs and feed for livestock. It accounts for nearly a third of agriculture's contribution to total GDP and on average nearly 32% of the value of total merchandise exports (excluding re-exports) between 1995 and 2000 although a large share of the production is locally consumed[12]. In 2019, it accounted for 60% of total domestic export. However, recent changes in EU's regulatory limits of aflatoxins and other mycotoxins have negatively affected the groundnut sector, leading to reductions in export volumes. For example, In the 1980's-1990's, The Gambia used to produce more than 140,000 metric tons of groundnuts with a commercial groundnut crop of above 90,000 tonnes per annum. However, in the recent past, the commercial crop has dropped drastically to less than 40% of these quantities[13]. A secondary fungal metabolite, aflatoxin occurrence in groundnuts generally starts in the field and increases as the groundnut moves through the value chain depending on storage and handling conditions. Adoption of Good Agricultural Practices (GAPs), good storage and the use of biocontrol products such as "Aflasafe" have proven to be effective ways of reducing the levels of aflatoxin in groundnut. Therefore, to improve and recover the lost grounds in groundnuts export, investments in training farmers on the adoption of GAPs, provision of community owned storage facilities and the provision of both rapid and standards testing means to the extension workers and regulatory agencies is fundamental. Additionally, capacity building for officials from the NPPO and the Food Safety and Quality Authority of various safety and quality control steps such as sampling and analysis for aflatoxins will also be vital. Procurement and application of biocontrol means like Aflasafe are also potential investment avenues that could enhance export of groundnut from The Gambia.

This investment option is expected to cost US$573,000 and could generate US$5.7 million annually and could impact an estimated 5,000 smallholder farmers who are currently in the sub-sector.

5.5 Smoked and dried fish

The Gambia is endowed with vast marine resources making the country a major producer of fish and fishery products. With 80km of coastline and a continental shelf area of 4,000km^{2,} The Gambia offers the ideal environment for industrial fishing and the development of smoke house facilities. The country's Exclusive Economic Zone of about 19,500 km^2 is currently yielding an estimated 75,000 tons of fish per year which represent a guaranteed source of raw material for smoking and other forms of processing. An estimated 30% of this fish is traditionally processed (dried and/or smoked) and marketed within the country (especially in the inland markets); part of this is then exported to neighboring West African countries (Senegal, Ghana, Guinea, Nigeria etc.)[14]. Around 30,000 Gambians are currently employed in the fisheries sector. The Fisheries Department estimates that, the sector contributes about 5% of GDP. Artisanal activity and small-scale fishing account for 90% of all fisheries outputs in The Gambia. Smoking, drying and other value addition processes are equally carried out in a small scale with exports mostly targeting regional and other less regulated markets. Currently only one company is registered and certified to process and export smoked fish to the EU. Restrictions

[12] The National Export Strategy 2021-2025
[13] https://gambia.gov.gm/files/2024/05/Gambia-Agriculture-Transformation-Program-2020-2030.pdf
[14] Smoke Houses in The Gambia by Gambia Investment and Export Promotion Agency

around exports to the EU are mostly food safety-related with particular focus on the levels of Polycyclic Aromatic Hydrocarbons (PAHs) and general hygiene of the production, premises and the personnel processing smoked fish. Principally produced during the fish smoking process, PAHs are known carcinogenic substances and as such strictly regulated by the EU and other food safety regulatory authorities[15]. Investments in new and modern smoking techniques such as the FAO Ftt-Thiaroye smoking Kleins, development of good smoking practice manual, training and sensitization of actors in the fish smoking industry will lower the levels of PAHs in the processed smoked and improve hygienic conditions and consequently increase access to markets such as the EU, US and within the sub-region. Additionally, investments in development and adoption of national strategy and approach to the fish-smoking process will enable good smoking practices that will eventually lower the limits of PAHs and other non-desirable substances that impede market access for smoked fish from the Gambia.

Investment in this option is quite high, requiring US$626,000, although its trade potential remains unclear despite about US$125,000 exported over the last five years and industry experts claim of informal exports into the regional market. Nonetheless, the sub-sector employs about 30,000 small producers and can be a great channel of poverty reduction especially among women who dominate the sub-sector.

5.6 Hides and Skins

The livestock sector in The Gambia represents 8% of the agricultural Gross Domestic Product (GDP). It is a key driver of socio-economic development, providing food, income, and employment for poor rural dwellers. The diversity of products and by-products produced by livestock make it a very attractive sector for investment and poverty alleviations. Over the years, formally registered exports of skins and hides from the Gambia are very limited. For example, Gambia exports of raw hides and skins of bovine or equine animals to Senegal in 2010 was only US$ 356 and exports to Ghana in 2012 were limited to US$ 763 during 2012 according to the United Nations COMTRADE database on international trade. According to the recent Gambian livestock Strategy, over 700,000 skins and hides from slaughtered animals are wasted. To take full advantage of this export potential, animal health issues such as Foot and mouth disease and Lumpy skin disease (LSD) should be generally controlled and investments in strengthening disease control, vaccination campaigns, strengthening disease surveillance, improve laboratory diagnostic capacity, capacity building (field staff), and increased incentives to farmers.

The investment option is estimated at US$156,000 and can impact 46,000 small producers.

Excluded Investment Options

- Building SPS capacity to enhance onion exports in The Gambia. This investment was dropped as it was established that The Gambia holds very limited potential in the export of this product.
- Addressing aflatoxin issues in maize. This option was not pursued as it was realized there is already significant investment in this area and the export potential is also very limited.
- Addressing diseases in animal and animal products. This option was dropped due to limited production capacity and export potential.

[15] FAO Study on The Profitability of Fish Smoking With Ftt-Thiaroye Kilns In Côte D'ivoire

6.0 Results

Upon consultation with relevant stakeholders and subject-matter experts in The Gambia, six investment options were identified and costed. The combined investment required to implement the identified investment options is estimated at US$ 3,476,400.00. Of these options, “enhancing SPS compliance in Chilli pepper exports” and “enhancing phytosanitary capacity for increased mango export to EU and UK markets” were the most expensive capacity building options requiring US$ 845,000 and US$ 823,000 of investment respectively, for a combined return of export valued at US$ 1,534,000 annually. This is followed by “support compliance to standards and food safety requirements for smoked and dried fish exports” which requires an investment of US$ 626,000 for realizing change in absolute value of exports of US$ 125,000 annually. The implications of these relative weaknesses and strengths are that the more expensive options are weaker in terms of the pairwise comparisons than the options with relatively cheaper up-front investments, and this would influence their overall ranking.

The baseline model, i.e. Figure 5, present the main result of the prioritization framework using outranking in the D-Sight software package based on the decision criteria and weights agreed by stakeholders. The result shows that investment in ***SPS Compliance in Cashew nut export***, ***aflatoxin control and management in groundnut*** and ***enhancing SPS Compliance in Chilli pepper export*** are the topmost desirable investment options. This implies that investment in these options would generate better outcomes in terms of trade and economic returns taking into consideration the decision criteria and measurements estimated across the different options.

On the other hand, strengthening disease control for hides and skins export, support compliance to standards and food safety requirements for smoked and dried fish exports, and enhancing phytosanitary capacity for increased mango export to UK and EU markets ranked bottom three, implying that based on the decision criteria used in the modeling, investments in these SPS challenges will yield returns lower than the top three. As a matter of caution, it should be noted that these rankings do not suggest that a low ranked investment option is not important for implementation. Rather, it indicates that, in terms of priority, assigned costs and flow of benefits, a lower ranked option is not the best option to be implemented first given limited resources.

To provide more clarity on the ranking of the investment options, contribution of each of the decision criteria to the ranking of the investments was analyzed in detail as illustrated in Figure 6. It explains how the different decision criteria and their weights contribute to the global score of each investment option. In effect, it is noticeable that the top ranked options have greater contribution from almost all decision criteria than the lower ranked options and low ranked options have limited contribution from decision criteria. For instance, it can be noticed that supporting compliance to standards and food safety requirements for smoked and dry fish exports which ranked lowest, had limited/no contribution from agriculture/fisheries productivity. Also, enhancing phytosanitary capacity for increased mango exports to EU and UK markets had no/limited contribution from poverty impact probably due to the number of poor people active in this particular value chains.

Figure 5: Baseline model

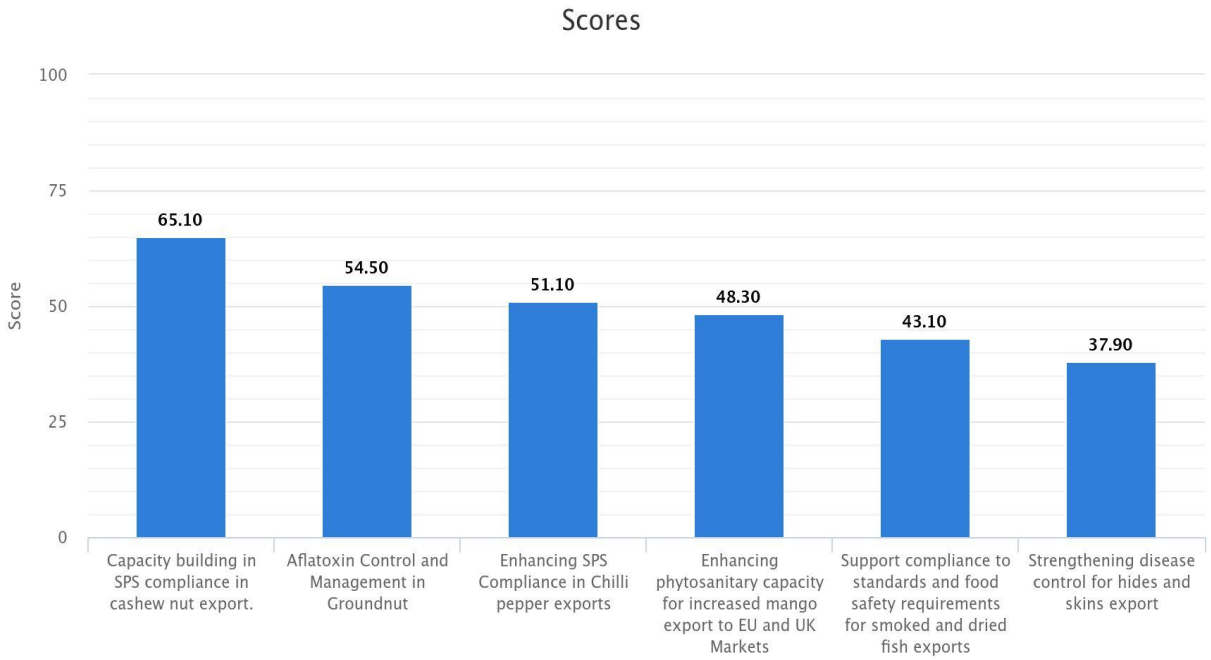
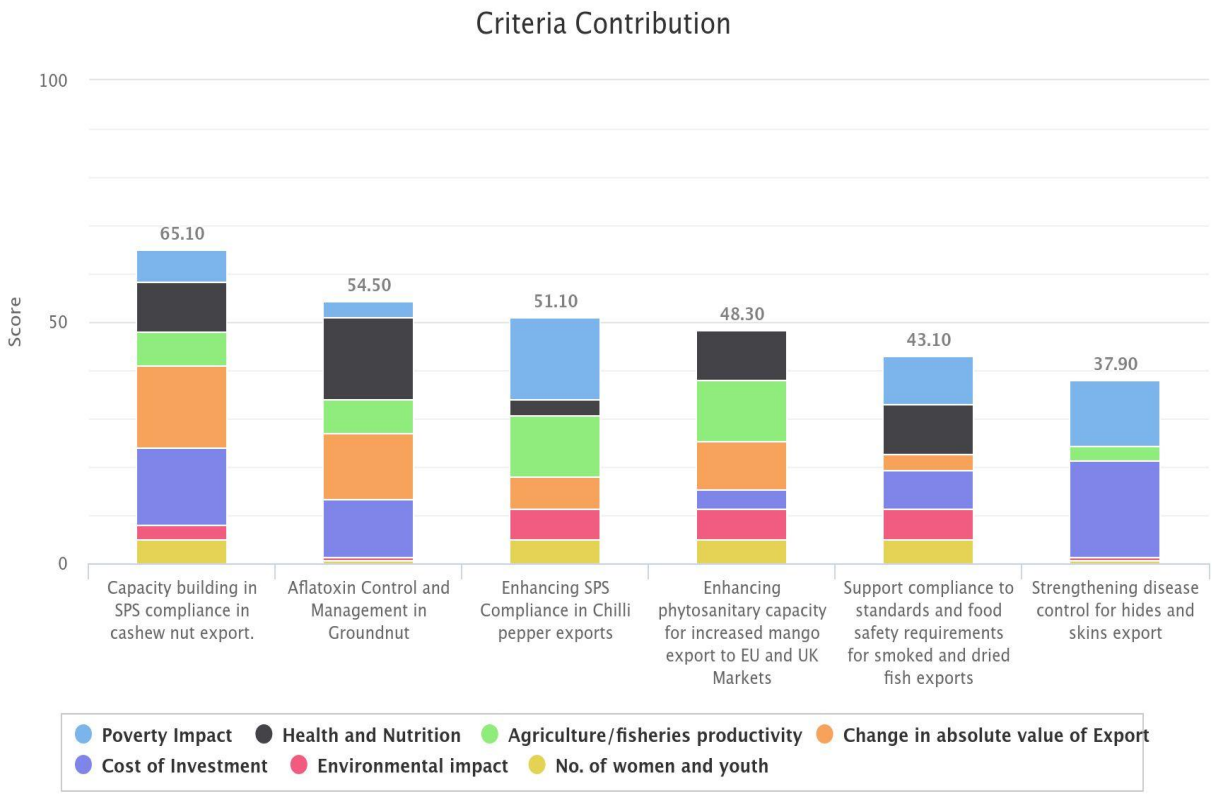
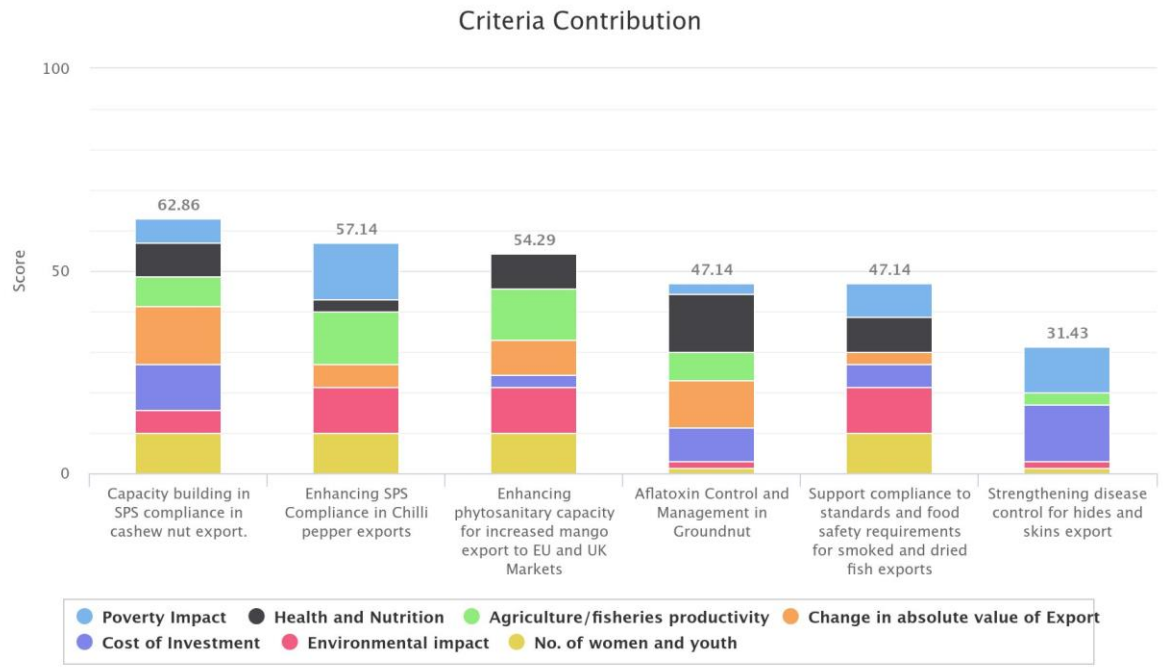


Figure 6: Contribution Criteria



To test the resilience of the result in the baseline model, another analysis was performed by setting the weights on all decision criteria equal (Figure 7). In the equal weights model, the outcome shows relatively similar findings as in the baseline model as the investment in cashew came out top ranked. However, slight shifts in the positions of some of the options were observed. For instance, aflatoxin control and management in groundnut shifted from the second position to the fourth while enhancing SPS compliance in Chilli was displaced to the second position. However, in the bottom, the lowest two ranked options from the baseline model remained the same.

Figure 7: Equal weight



7.0 Conclusions

This report presents the outcomes of six SPS investment options that were ranked based on a structured process of identifying the SPS investment options that are relevant for market access, prior agreed objectives (called decision criteria), and agreed weights assigned to the decision criteria. If resources were not a constraint, these six options which costs approximately US$3.5 million may be implemented concurrently. However, due to resource constraints, this priority setting framework provides a necessary tool for decision making on first-best investment options. The actual priority setting was carried out using Multi-Criteria Decision Analysis (MCDA) powered by the D-Sight software package. Based on this, the following options are considered more desirable as first-best choices for immediate investment:

- *Capacity building in SPS compliance in cashew nut export*
- *Aflatoxin Control and management in groundnuts*
- *Enhancing SPS compliance in Chilli pepper exports*

On the other hand, the following options are considered next best and should be considered after the above investments are implemented:

- *Enhancing phytosanitary capacity for increased mango export to EU and UK Markets*
- *Support compliance to standards and food safety requirements for smoked and dried fish exports*
- *Strengthening disease control for hides and skins export*

Again, it must be noted that ranking of certain investment options as of low priority does not ultimately suggest that are not important in the longer term. Rather, it suggests that, based on agreed objectives and limited resource availability that they should not be prioritized in the short-term. Nevertheless, with time and availability of resources, all these investment needs must be addressed. Furthermore, it is crucial to emphasize that these finding are a snapshot of the current landscape. Therefore, it must be revisited regularly and revised whenever new data and/or other pressing SPS challenges emerge.

8.0 Information Dossier

Henson, S.J., and Masakure, O., (2009). Guidelines on the Use of Economic Analysis to Inform SPS-related Decision-Making. Standards and Trade Development Facility, Geneva.

The Gambia Second Generation National Agricultural Investment Plan-Food and Nutrition Security (GNAIP II-FNS)

FAO Study on the Profitability of Fish Smoking with FTF-Thiaroye Kilns in Côte D'Ivoire (*FAO Fisheries and Aquaculture Circular No. 1155 FIAM/C1155 (En))*

The Gambia National Export Strategy 2021-2025

The Gambia Trade Policy 2018-2022

The Gambia Cashew Sector Development and Export Strategy 2014-2019

GGCP Mango Out-grower Scheme Beneficiary Assessment Survey *(Out-Grower Scheme; 2012 Beneficiary Survey and Assessment for The Gambia Growth and Competitiveness Project (GCP)*

The Gambia Groundnut Market Inquiry Report by GCCPC

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

Recovery-Focused National Development Plan (2023-2027)

Horticulture and Pearl Millet Value Chain Analysis (VCA) Study by United Purpose

Gambia Livestock Strategy 2023

Consulting Services for Gambia Agriculture Transformation Programme (2020-2030) Final Report

Smoke Houses in The Gambia by Gambia Investment and Export Promotion Agency

Agriculture and natural resources (ANR) policy (2017 – 2026)

The National Horticulture Sector Strategy – NHSS (2020- 2024)

UNCTAD The fisheries sector in the Gambia: trade, value addition and social inclusiveness, with a focus on women

FOOD SYSTEMS PROFILE - THE GAMBIA Catalysing the sustainable and inclusive transformation of food systems (FAO, 2022)

ANNEX 1 – List of Investment Options, Estimated Costs and Export Potential

Investment Options	Cost of Investment (USD)	Export Potential (USD)
Capacity building in SPS compliance in cashew nut export.	453,000.00	45,000,000.00
Aflatoxin Control and Management in Groundnut	574,000.00	5,700,000.00
Enhancing SPS Compliance in Chilli Pepper Exports	845,000.00	174,000.00
Enhancing phytosanitary for increased mango export to EU and UK markets	823,000.00	1,360,000.00
Support Compliance to standards and food safety requirements for smoked fish exports	626,000.00	125,000.00
Strengthening disease control for hides and skins export	156,000.00	-
Total Investment	3,478,000.00	52,359,000.00

Annex 2: Capacity Building Options Information Sheets

1. Enhancing phytosanitary capacity for increased mango export to EU and UK Markets

Decision Criterion	Value	Details	Confidence
Cost			
Cost of investment	US$823,000	Detailed costing attached	High
Trade impacts			
Change in absolute value of exports	US$1.36M	According to ITC Export Potential Map, unrealized export potential of Guavas, mangoes & mangosteens is US$1.7M. We assume 80% is Mango and mangosteens.	Medium
Domestic agri-food impacts			
Agricultural/fisheries productivity	3	Reduction in the number of mango losses due to high fruit fly infestation	High
Public health & Nutrition	2	Fruit flies undermine the nutritional status of Mango and may lead to vitamin A deficiency	Medium
Social impacts			
Poverty impact	4,300	Number of smallholders outgrowers	Medium
Environmental Impact	2	This project will use IPM and other environmentally friendly practices.	Medium
No. of Women & Youth impacted	3	Women and Youth are in the majority of this value chain	High

2. Enhancing SPS Compliance in Chilli pepper exports

Decision Criterion	**Value**	**Details**	**Confidence**
Cost			
Cost of investment	US$845,000	Detailed costing attached	High
Trade impacts			
Change in absolute value of exports	US$174,000	According to ITC Export Potential Map, unrealized export potential of pepper is US$174,000	Medium
Domestic agri-food impacts			
Agricultural/fisheries productivity	3	Reduction in the number of chilli losses due to high fruit fly infestation	High

Public health & Nutrition	1	Reduces cross-contamination	Low
Social impacts			
Poverty impact	88,769	From UNIDO value chain assessment report	Medium
Environmental Impact	2	This project will use IPM and other environmentally friendly practices.	Medium
No. of Women & Youth impacted	3	Women and Youth are in the majority of this value chain	High

3. Support compliance to standards and food safety requirements for smoked and dried fish exports

Decision Criterion	**Value**	**Details**	**Confidence**
Cost			
Cost of investment	US$625,900	Detailed costing attached	High
Trade impacts			
Change in absolute value of exports	$125,000	The highest export of dried and smoked fish in the last 5 years is $125,000. There are no records of export potential of this category of product.	Low
Domestic agri-food impacts			
Agricultural/fisheries productivity	0	No impact	High
Public health & Nutrition	2	SPS issues are carcinogenic and impacts human health but degree of impact yet to be fully established	Medium
Social impacts			
Poverty impact	30,000	The number of actors in the fishery sector in the Gambia	Medium
Environmental Impact	2	The approach to be used uses less fuel and produces less smoke	Medium
No. of Women & Youth impacted	3	Women and Youth are in the majority of this value chain	High

4. Strengthening disease control for hides and skins export

Decision Criterion	Value	Details	Confidence
Cost			
Cost of investment	US$156,000	Detailed costing attached	High
Trade impacts			
Change in absolute value of exports	**0**	No impact as no value was obtained from international data sources.	medium
Domestic agri-food impacts			
Agricultural/fisheries productivity	1	Reduces the quality of the product and attracts lesser prices	High
Public health & Nutrition	**0**	No impact	High
Social impacts			
Poverty impact	**46,000**	The number of small-scale and informal actors in the sector	Medium
Environmental Impact	**0**	No impact	Medium
No. of Women & Youth impacted	**1**	Very few women and youth are in this value chain, so impact would low	Medium

5. Capacity building in SPS compliance in cashew nut export.

Decision Criterion	Value	Details	Confidence
Cost			
Cost of investment	US$453,000	Detailed costing attached	High
Trade impacts			
Change in absolute value of exports	US$45 M	According to ITC Export Potential Map, unrealized export potential of cashew nuts is $45M	Medium
Domestic agri-food impacts			
Agricultural/fisheries productivity	2	Some of the issues have the impact on destroying the cashew trees	Medium

Public health & Nutrition	2	Impacts heath (mycotoxins, pesticide residue & microbes) but consumption levels not significant	Medium
Social impacts			
Poverty impact	12,000	Number of small-scale outgrowers	High
Environmental Impact	1	Investment in this value chain is focused on post-harvest management esp. quality and safety control which will have minimal impact on the environment	Medium
No. of Women & Youth impacted	3	There are many women and youth involved in this value chain. Therefore, the investment will have great impact on them.	Medium

6. Aflatoxin Control and Management in Groundnut

Decision Criterion	Value	Details	Confidence
Cost			
Cost of investment	US$573,500	Detailed costing attached	High
Trade impacts			
Change in absolute value of exports	US$5.7M	There is not export potential estimation for groundnuts. However, in the past 5 years, the highest export was US$3.9M. We assume potential market loss of this value without an intervention plus 10% annual increment over 5 years.	Low
Domestic agri-food impacts			
Agricultural/fisheries productivity	2	Reduces overall output due to after sorting	High
Public health & Nutrition	3	High impact on health e.g. cancer, stunting, immune suppression, etc.	High
Social impacts			
Poverty impact	4,750	95 government buying points (Secos). An average of 50 farmers selling products to a Seco	Medium
Environmental Impact	0	No impact	Medium
No. of Women & Youth impacted	1	Less women and youth are involved in this value chain, so impact will be minimal	High

ANNEX 3 – List of Participants - Stakeholder Workshop

	NAMES OF PARTICIPANTS	INSTITUTION
1	Mariam Bittaye	Gambia Investment and Export Promotion Agency
2	Alieu Kujabi	National Nutrition Agency
3	Bubacar Beyai	Gambia Revenue Authority
4	David Mendy	Ministry of Trade
5	Matty Sanyang	Ministry of Trade
6	Rohey Sillah	Department of Fisheries
7	Kebba M. Jobe	The Food Safety and Quality Authority
8	Abdul Aziz Sanyang	National Agricultural Research Institute
9	Bintou Jarju	National Agricultural Institute
10	Francis Beyai	Gambia Groundnut Cooperation
11	Serign Mbaye	Gambia Revenue Authority
12	Mustapha Ndimballan	The Department of Livestock
13	Dr. Mustapha Manneh	Department of Livestock
14	Muctarr Seckan	The Gambia Standards Bureau
15	Malado Jallow	Gambia Chamber of Commerce and Industry
16	Omar Jombo Baldeh	The Gambia Cashew Alliance
17	Rohey Leigh	Office of the Vice President
18	Saffiatou Jorbateh	The Food Safety and Quality Authority
19	Antionette M. Badjan	The Food Safety and Quality Authority
20	Mary M. Johnson	The Food Safety and Quality Authority
21	Pauline Gibba	The Food Safety and Quality Authority
22	Yankuba Fatty	The Food Safety and Quality Authority

23	Fanta K. Cessay	The Gambia Consumer and Competition Protection Commission
24	Isatou Cham	The Gambia Standards Bureau
25	Yaya Baldeh	Department of Livestock
26	Lamin F Fatty	Department of Plant Protection Services
27	Nyara Fabureh	Department of Plant Protection Services
28	Aminata Kambi	Department of Plant Protection
29	Wuday Khan	ASPA