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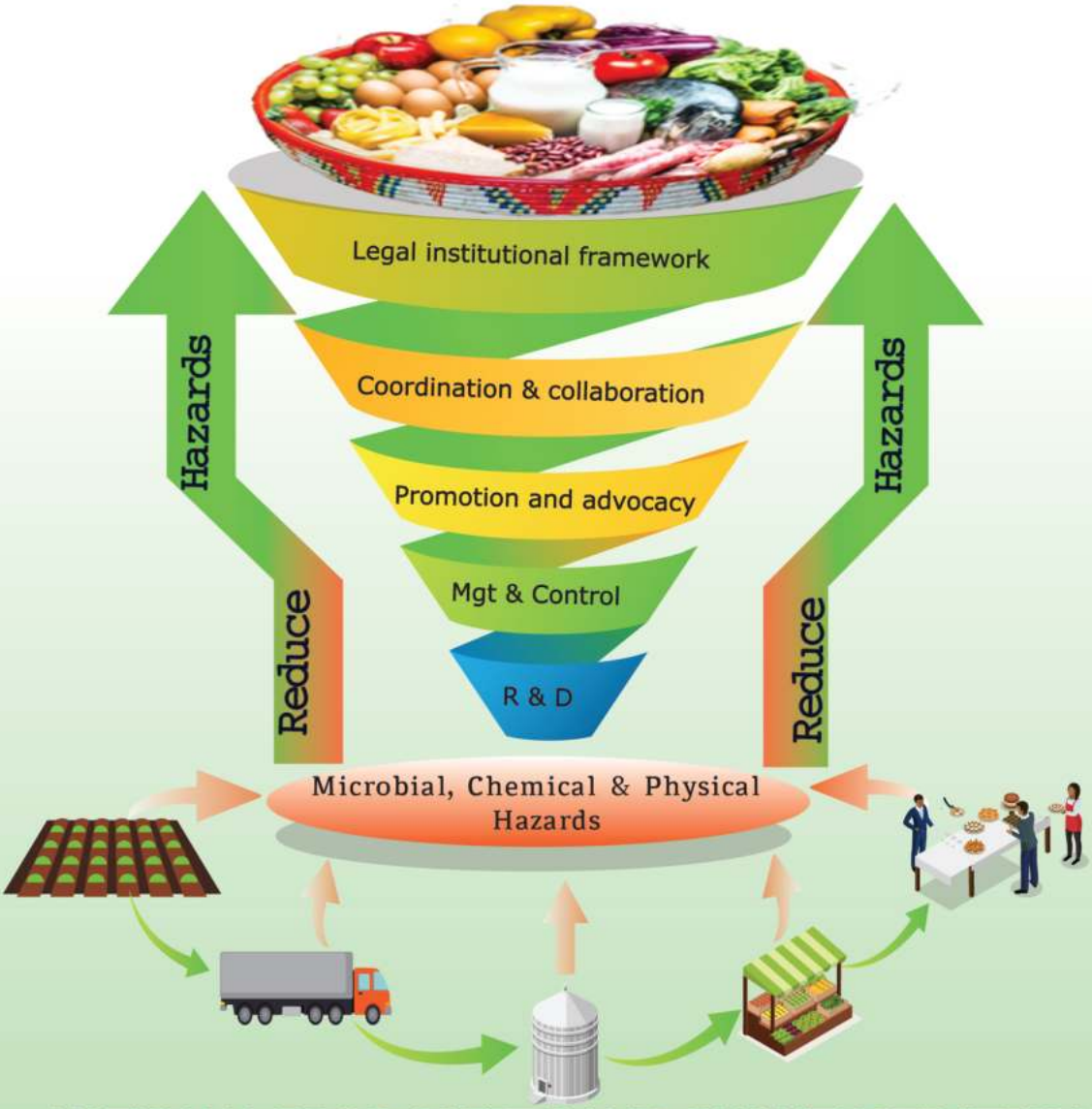
MINISTRY OF AGRICULTURE



NATIONAL FOOD SAFETY AND QUALITY STRATEGY FOR PRIMARY AGRICULTURAL PRODUCE

January 2024

Addis Ababa

THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

MINISTRY OF AGRICULTURE

NATIONAL FOOD SAFETY AND QUALITY STRATEGY FOR PRIMARY AGRICULTURAL PRODUCE

2023/24 – 2030 (2016 -2022E.C)

2023-2030/2015-2022 E.C

Addis Ababa, Ethiopia
November, 2023

MESSAGE FROM THE MINISTER

Food safety and quality issues have become significant health and market challenges in the world. The availability of safe, quality and nutritious food is crucial for the sustenance of life, promoting good health of the nation and better economic return for a country's investment. Consumption of unsafe food contaminated with microorganisms and/or chemical substances can induce more than 200 types of diseases, ranging from communicable/ contagious diarrhea to cancer. Addressing food safety, quality, and nutritional aspects is recognized as a foundation for reducing chronic malnutrition, lessening the public health burden, and improving the country's economic development. Therefore, the Ministry of Agriculture and its affiliated institutions, in collaboration with other stakeholders, have developed a food safety and quality strategy for primary agricultural produce. Its objective is to develop, strengthen, promote, and enforce legal and institutional frameworks for food safety and quality assurance systems and control mechanisms.

The strategy covers the entire food value chain, from primary agricultural production to consumption, and addresses non-tariff barriers related to sanitary and phytosanitary measures that hinder achieving food and nutrition security goals. It advocates for adopting and promoting effective measures, enhancing food control functions, strengthening the capacity of business operators that produce safe and quality food and encouraging consumers to demand safe food.

The successful implementation of the strategy requires a coordinated effort for resource mobilization and collaboration among government and affiliated authorities, development partners, and institutions working on advocacy, research and development, technology innovation, adoption and transfer. It also necessitates the full commitment of all stakeholders and a paradigm shift in the regulation and management of food safety and quality systems. This strategy document is expected to improve the incorporation of food safety and quality interventions and activities in the implementation plans of MoA, affiliated institutions and relevant stakeholders.

My gratitude is extended to all individuals and organizations who contributed to the preparation of this national food safety and quality strategy document. I would like to welcome, encourage and appeal to all stakeholders to join hands to make nutrition, health and economic development outcomes a reality for all Ethiopians.

H.E. Girma Amente (Ph.D.)

Minister for Agriculture

ACKNOWLEDGMENT

The Food and Nutrition Office of the Federal Ministry of Agriculture expresses its deepest gratitude to various stakeholders along engaged in food safety and quality including public institutions, private organizations, non-governmental organizations, and academic and research institutions. Their active participation and valuable contributions have been instrumental in the development of the National Food Safety and Quality Strategy for Primary Agricultural Produce.

Special recognition is extended to the steering committee composed of State Ministers of Crop and Horticulture Development and Livestock and Fishery Development Sectors, Director and Deputy Directors of the Ethiopian Agricultural Authority, the Head of MoA office and MoA's Chief Executive Officer for the overall guidance and supervision. Sincere appreciation goes to a core team composed of lead executive officers of crop development, horticulture development, livestock and fishery development, crop protection development, agricultural mechanization, livestock extension, and animal health and veterinary public health executive offices for their technical guidance and review. The office greatly thanks the Task Force; composed of members from the Ministry of Agriculture, Ethiopian Agricultural Authority, Animal Products and Input Quality Testing Center, Ethiopian Institute of Agricultural Research, Addis Ababa University, Hawassa University, Bahir Dar University, Ethiopian Society of Animal Production, Alive and Thrive, International Livestock Research Institute, Ethiopian Food and Drug Authority, Ethiopia Public Health Institute, Food, Beverage and Pharmaceutical Development Institute, Livestock Development Institute, LM Group Food Safety and Nutrition Consultancy and Global Alliance for Improved Nutrition. Their exceptional technical expertise has been pivotal in shaping this strategy.

The Office would also like to acknowledge the generous support received from the Food Systems Resilience Program, Nutrition Sensitive Agriculture Capacity Strengthening Project (NSA-CASE), Food and Agriculture Organization of the United Nations, and Livestock and Fishery Sector Development Program. Their contributions in the form of financial assistance have been invaluable in the development of this strategy.

Last but not least, sincere appreciation is extended to all individuals and organizations who have contributed to and supported the formulation exercise in various capacities. Their collective efforts have significantly enriched the outcomes of this strategy.

Mrs. Alemtsehay Sergawi
Head, Food and Nutrition Office
Ministry of Agriculture

Acronyms and Abbreviations

AFB1	Aflatoxin B1
AFM1	Aflatoxin M1
AGP	Agricultural Growth Program
AMR	Antimicrobial Resistance
CGIAR	Consultative Group for International Agricultural Research
CSO	Civil Society Organization
E.coli	Escherichia coli
EAA	Ethiopian Agriculture Authority
EAS	Ethiopian Accreditation Service
ECAE	Ethiopia Conformity Assessment Enterprise
EFDA	Ethiopian Food and Drug Authority
EIAR	Ethiopian Institute of Agricultural Research
EMI	Ethiopian Metrology Institute
EPHI	Ethiopian Public Health Institute
ESI	Ethiopian Standard Institute
ESI	Ethiopian Standard Institute
FAO	Food and Agricultural Organization of the United Nations
FBD	Food Borne Disease
FBOs	Faith-Based organizations
FS	Food Security
FSQ	Food Safety and Quality
FSQS	Food safety and Quality Strategy
GAIN	Global Alliance for Improved Nutrition
GAP	Good Agricultural Practices
GHP	Good Husbandry Practice
GIZ	Gesellschaft for Internationale Zusammenarbeit
GMP	Good Manufacturing Practice
GOE	Government of Ethiopia
HACCP	Hazard Analysis Critical Control Points.
ILRI	International Livestock Research Institute

IPM	Integrated pest management
ISO	International Organization for Standardization
KPIS	Key Performance Indicators
LFSD	Livestock and Fisheries Sector Development Project
MoA	Ministery of Agriclture
MoH	Ministery of Health
MSME	Micro, Small and Medium Enterprise
NGO	Non-governmental Organization
NSA	Nutrition Sensitive Agriculture
PAP	Primary Agriculture Produce
SAA	Sasakawa Africa Association
SDC	Swiss Agency for Development and Cooperation
SDGs	Sustainable Development Goals
SO	Strategic Objective
SWOC	Strengths, Weaknesses, Opportunities and Challenge
UN	United Nations
USAID	United States Agency for International Development
WFP	World Food Program
WHO	World Health Organization

TECHNICAL DEFINITION

Agricultural product: Refers to locally produced or imported unprocessed plant, plant produce, feed, animal, animal products, fish, honey, and honey products.

Primary agricultural produce: Denotes agricultural produce being produced in raw form or subsequently sliced, pulverized, chilled, unaffected, undried, untreated by additives, salt, or similar process, whether sealed or unsealed.

Agricultural inputs: Encompasses plant seeds and animal breeds, pesticides, fertilizer, feed and raw materials for feeds, veterinary vaccines, veterinary drugs and equipment, animal husbandry equipment, animal production and processing equipment, irrigation equipment, abattoir equipment, chemicals and materials needed for laboratory testing.

Food safety and quality: Represents a system that ensures the absence of contaminants, adulterants, naturally occurring toxins or any other substance that could cause harm to health on an acute or chronic basis. It also involves a complex set of characteristics of food that determines its value or acceptability to consumers. Along with safety, quality attributes include nutritional value, organoleptic properties such as appearance, color, texture, taste, and functional properties.

Good agricultural practices: Comprises a collection of principles applied to on-farm production and post-production processes, resulting in safe and healthy food.

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1. Introduction

1.1 Background

Food quality is a complex characteristic of food that determines its value for producers, market and/ or acceptability to consumers. On the other hand, food safety is a basic requirement of food quality which refers to absence or acceptable and safe levels of contaminants, adulterants, naturally occurring toxins or any hazard that may make food injurious to health on an acute or chronic basis (Zwietering,M et al, 2016). Besides safety, quality attributes include nutritional value and organoleptic properties such as appearance, colour, texture and taste. Quality deterioration or contamination of produce can occur on farm during growing (either in an open air environment or in a fully- or partially enclosed building), harvesting, packing, or holding; or elsewhere along the farm to-table continuum. The main hazards common in primary agricultural produce or food in general are biological, chemical and physical hazards.

Access to safe, nutritious, and healthy food is a basic human right, and it is the responsibility of governments to guarantee this right. However, this task is challenging, especially as the world becomes more interconnected, with different requirements and levels of standards as food systems change faster than ever (WHO, 2022). Non-compliance with food safety and quality standards exert three main burdens namely: health, food and nutrition security and economic/trade burdens.

According to WHO report (2022) on food safety, consumption of unsafe food cause more than 200 diseases ranging from diarrhoea to cancer. Approximately 600 million people, almost 1 in 10, fall ill after eating contaminated food, especial-

ly in developing countries, and 420,000 die every year. Children under five years of age bear 40% of the foodborne disease burden, with 125,000 deaths every year. The highest burden per population was reported in Africa, with 50-60% of diarrheal diseases caused by foodborne parasites, fungal and food-related toxins, and chemicals such as heavy metals or pesticide residues(Grace & health, 2015). Moreover, inappropriate use of antimicrobials, including misuse and overuse in human, animal, and plant health, is leading to developing antimicrobial resistance (AMR) in foodborne pathogens, a new and emerging risk. By 2050, ten million (10 million) lives will be at risk, and a cumulative US$ 100 trillion will be lost due to the impact of AMR if no proactive solutions are taken (WHO, 2014). The achievement of the third sustainable development goal (healthy lives) will not be attainable without safe food (*Morales-de la Peña, et.al., 2019)*.

There is an inextricably linkage of food safety and quality with food and nutrition security. Consumption of unsafe and low quality food creates a vicious cycle of disease/ poor immunity, malnutrition/ nutritional imbalance and disability retarded growth, and poor weight gain particularly affecting vulnerable groups (Security H,*et.al,* 2020). Improved safety and quality of food reduces food losses, increases food availability, stability and utilization resulting in improved nutrition. On the contrary, occurrence of foodborne illnesses from unsafe food consumption contribute to decreased worker productivity, disability and early death thus lowering incomes and access to food. There cannot be food and nutrition security (SDG2: zero hunger) without food safety and quality.

Unsafe food and food fraud negatively influences socioeconomic growth in agri-

business, trade and tourism. According to study economic impact, unsafe foods and food fraud cost each year, in low- and middle-income economies mainly in Sub-Saharan Africa and Southeast Asia estimated that, about $110 billion in lost productivity and medical expenses alone each year(Van Nieuwkoop, 2019). Another World Bank study (Jaffee S *et al.,* 2018) estimates the cost of productivity losses due to unsafe food sold in domestic, largely informal markets to be 40 to 50 times compared to the trade-related costs. Additionally, Ethiopia has witnessed costly trade rejections and in some cases, loss of market share due to trade of unsafe and low quality food(Petit, 2007). The attainment of the eighth sustainable development goal (decent work and economic growth) is linked with improved trade and market access, which is mostly a driver for food safety and quality.

Therefore, to address the effects of food safety and quality problems, strategic approach and well-coordinated effort is very crucial. The current Primary Agricultural Food safety and Quality strategy of Ethiopia is developed to address specifically impacts of non-compliance with food safety and quality standards which results in health, food and nutrition security and economic/trade burdens.

1.2. Food Safety and Quality Context of Ethiopia

Food safety and quality are important public health issues in Ethiopia. The lives of consumers are disrupted by foodborne diseases caused by high rates of adulteration and unhygienic food handling practices throughout the food value chain. Major cereals and agricultural products frequently contain mycotoxins and associated toxins. The most prevalent mycotoxin, AFB1, is found in all major cereal grains, including maize, sorghum, teff, wheat, barley, finger millet, peanut, and groundnut,

exceeding the EU's maximum limits for each as a food ingredient. In addition to mycotoxins, main cereals designed for direct human consumption have a higher prevalence of mycotoxigenic fungus and their toxins, particularly Aspergillus spp., Penicillium spp., Trichoderma spp., and Fusarium spp (Ayalew, A *et.al,* 2006)**.**

The bacteriological quality of locally produced fresh fruit juice sold in cafes and juice bars in Ethiopia is greater than the Gulf Standard 2000's maximum allowable level due to the presence of one or more bacterial species above the limit (Abisso,T *et al.,* 2018). The milk and dairy products across the dairy value chains in Ethiopia poorly meet the requirements of Ethiopian standard set for various dairy products in terms of both safety and quality (Havelaar et al., 2022). According to a study (Tadesse, S et al., 2020), the AFM1 contamination exceeded the USA/ Ethiopian Standard (US/ES) (0.50 µg/L) regulatory limit.

Heavy metals, including Cr, Cd, Pb, Zn, Cu, Ni, Co, Fe, and Mn are commonly found in cereals and complementary foods made from cereal (Skendi, Papageorgiou, Irakli, Katsantonis, & Safety, 2020). In some parts of Ethiopia, the concentrations of heavy metals such as, Pb, Cd, Cu, Hg, and Co in vegetables like tomato, cabbage, spinach, lettuce, carrots and potatoes are higher than the recommended limit for agricultural soil by WHO/FAO and other organization (Gebeyehu & Bayissa, 2020).

Primary agricultural produce are the main exported commodities, which accounts for 80% of Ethiopian total exports. However, interceptions for Ethiopia's exports are mainly increasing due to harmful organisms. Aflatoxins have been the main subject of export of hot pepper into the European market. In the current production year, 472.34 ton or 2.7 million USD worth of hot pepper is exported so far

(Aberedew et al., 2023). Similarly, Ethiopia's honey has performed exceptionally well, except in the recent years, where a decline in the exports has been recorded (Fikru 2015).

Salmonella and pesticide residues are the main Sanitary and Phytosanitary (SPS) constraints of Ethiopian sesame exports (Abbott, 2019). Similarly, Ethiopia's coffee has suffered market access issues due to high presence of pesticide residues and ochratoxin (Mamo et al., 2020). The recent changes in the Maximum Residue Limits (MRLs) requirements for pesticides by the European Union market and other market destinations has significantly affected Ethiopian coffee exports due to inability to comply with these stringent requirements. Non-compliance to these requirements has costed Ethiopia huge revenue loss. For example, an import ban imposed by Japan on Ethiopian Coffee due to a high presence of pesticide residues cost Ethiopia USD 86 Million in revenue loss in coffee exports (Tucker, 2017).

The livestock sector in Ethiopia contributes 17% of Ethiopia's total GDP and 45% of the agriculture GDP. The livestock sector mainly supports about 70% of the rural households in Ethiopia. However, Ethiopia has experienced a decline in meat export value from USD 93 Million to USD 69 Million in the same reporting period(Eshetu et al., 2016).

Ethiopia is facing SPS constraints, including the prevalence of trade sensitive and Trans –boundary animal diseases such as Foot and Mouth Disease (FMD), *Peste des petits ruminants (PPR),* heavy metals and drug residues on meat and meat product, inadequate mechanism to ensure traceability and inadequate food hygiene, sanitation and control system. Ethiopia is also facing an SPS challenge on

poor infrastructure qualities such as appropriate agricultural produce packing house, storage, market, quarantine stations and slaughterhouses and insufficient disease management systems (surveillance, detection and response) as well as limited regulatory frameworks (laws). Ethiopia has experienced repeated export bans and shipment returns from potential markets mainly due to trade sensitive diseases and wrecked cold supply chains. According to COMESA 2022 very recent report, an overall estimated total cost of approximately USD 30 million is needed to implement all the seven (7) SPS investments options, which are estimated to generate about USD 1.9 billion worth of additional exports annually.

In general, weak agricultural, postharvest, and market practices, along with the country's limited access to better technologies and infrastructures, have made Ethiopia's primary agricultural produce more susceptible to food safety risks, postharvest, and quality losses, which have had a negative impact on Ethiopia's economy (FMOH, 2018).

The mandates of regulatory bodies on food safety and quality control systemic continuum are fragmented into Ethiopia Agricultural Authority (EAA) for agricultural food produce and Ethiopian Food and Drug Authority (EFDA) for industrial processed food commodities, where synergy in their enforcement actions and exchange of information between them is virtually weak with some missing links and conflicts of interests. For example, the carcass and chunk of meat at slaughter or milk at dairy farm are the mandate of EAA, while the EFDA is responsible for the same commodities at wet market, processing and consumption points. The FSQM system should be in a continuum of the food systems (production to consump-

tion). Accordingly, the present FSQ strategy is focused on the primary agricultural produce. Proper coining of the nexus between food safety and environment/ climate is also lacking.

1.3. Rationale of the Food Safety and Quality Strategy

The problem of food safety affects society in many aspects. Primarily, the consumption of unsafe food poses a threat to human health. Additionally, unsafe food consumption has a significant economic impact in terms of medical expenses, reduced national productivity, and food losses due to rejection. Furthermore, unsafe food consumption has a negative impact on food and nutrition security, which, in turn, affects the productivity of individuals. In Ethiopia, the magnitude of the disease and economic burden caused by unsafe food consumption is not known, as health and foodborne disease surveillance systems are not in place. Few fragmented pocket studies on microbial safety, aflatoxin levels, pesticide residues, heavy metals levels, zoonotic disease occurrence, and the like indicate that the health and economic burden related to food safety are high (Roba, 2023).

In addition, Ethiopia has dominantly informal market with poor layout, weak infrastructure, regulatory enforcement, traceability, absence of surveillance, food safety and quality management systems. As agrarian country, the contribution of primary agricultural produce to the countries food supply and economy is very high. The primary agricultural produce' safety and quality have direct impact on the safety of primary processed ingredients and processed food products to avoid garbage-in-garbage-out. Thus, ensuring the safety and quality of primary agricultural produce has high impacts on raw material supply chain to processors, com-

petitive food commodity trade, national economy return and public health outcomes. Investment in food safety and quality assurance has reward. For instance, according to COMESA report (2022), USD 30 Million investment in SPS of seven primary agricultural export commodities could generate about USD 1.9 Billion worth of additional export revenue annually.

Therefore, the aim of this strategy is to establish an effective food safety and quality system to safeguard public health from unsafe food and to ensure associated economic gains from a competitive market, livelihood, and environmental/climate consequences. The strategy will provide a harmonized framework to implement activities that mitigate various food safety threats and quality losses that negatively affect consumers' health and the competitive global market for economic gains. It will help to address non-tariff barriers, particularly those related to Sanitary and Phytosanitary (SPS) measures or standards that have the potential to slow down the attainment of the country's commodity export's zero-rejection aspirations and related flagship programs impacted by food safety and quality. An additional benefit of the strategy will be the reduction of duplication of efforts, facilitating synergy leveraging on human and infrastructure resources, and enhancing lesson learning and best practices. This strategy encourages the development of specific tactics of private organizations and multi-sectoral actors to address high-priority actions on food safety and quality management systems.

2. Situational Analysis

As indicated Table-1 Assessing the internal and external environment is a critical stage to understand the current situation of Food Safety and Quality assurance (FSQA) in Ethiopia. These assessments explore the strengths and weaknesses of the existing FSQA and identify opportunities and challenges that may impact it. The analysis on the strength, weakness, opportunity, and challenge (SWOC) framework is used to scrutinize the internal and external environments that affect the FSQA. The internal environment (strengths and weaknesses) related to the FSQ in Ethiopia highly influences the ability to effectively implement strategic directions/ initiatives and to address the FSQA problems in Ethiopia. Hence, the internal strength (areas that distinguish Ethiopian FSQA) and weaknesses (areas that need improvement) have been assessed based on available empirical evidence and are to be further enriched through wide consultation with stakeholders for validation. The external environment related to opportunities and challenges has been analyzed in terms of opportunities (chances that will bring positive impacts) and challenges (obstacles that can negatively affect) to FSQA initiatives and success of the FSQ strategy.

The SWOC analysis aimed to understand the existing scientific evidence, policy, economic, and socio-cultural perspectives, as well as the forces driving the high burden of foodborne diseases in Ethiopia. The development of the PAP FSQ strategy is drawn from the gaps between the need and capacity to manage food safety risks and quality as the economy develops.

Table 1. SWOC analysis was identified through desk review, different program im-

plementations and consultation with stakeholders

Strengths	Weaknesses
• Presence of institutional arrangements (food safety desk under the FNO in MoA and Ethiopian Agricultural Authority). • Establishment of food safety and quality laboratories under different institutions. • Presence of agricultural and health extension workers up to kebele level.	• Low food safety and quality awareness across the food value chain • Limited institutional capacity for food safety and quality promotion, management and control in both public and private sector. • High rate of agricultural product rejection in local and international competitive market due to non-compliance of food safety and quality requirement.

Strengths	Weaknesses
	• Limited engagement of the private sector in ensuring food safety and quality. • Lack of national evidence generating research for FSQ data set and foodborne disease situations for policy and decision-making. • Weak mobilization and utilization of resource for FSQ.

- Limited engagement of the private sector in ensuring food safety and quality.
- Lack of national evidence generating research for FSQ data set and food-borne disease situations for policy and decision-making.
- Weak mobilization and utilization of resource for FSQ.
- Lack of risk based FSQ assurance systems.
- Weak in advocacy on the food safety and quality.
- Limited consumers' food safety literacy and lack of ability to create informed choices.

Opportunities	Challenges
• The development and enacted policies, strategy and legal frameworks relevant to FSQ • Endorsement of global and continental food safety and quality strategies. • Food safety and quality issue get due attention in the SDGs. • Presence of food safety and quality training programs in higher learning institutions. • Recognition of safe and quality food supply as one of basic human right issue.	• Lack of food Law in Ethiopia • Limited infrastructure for food safety and quality assurance. • Lack of national food safety and quality coordinating body. • Multi-faceted nature of food safety and quality assurance issues. • Limited resource allocation for food safety and quality assurance. • Lack of incentive for food safety and quality investment • The mandate for FSQ is spread across sectors along the EFS. • Instability of political economy and potential changes in policy • Limited application of technologies in FSQ promotion, management and control. • Lack of structured food supply system and clear accountability

- Increasing environmental pollution
- Climate change and loss of biodiversity
- Inadequate commitment of multiple international development collaborates on food safety as integral component of nutrition intervention

3. Food Safety and Quality Strategy for primary agricultural produce

3.1. Vision, Mission and Goal

The challenges/ risks identified, which may negatively affect the implementation of the Food Safety and Quality Strategy of primary agricultural produce, are categorized into six. Rating of each risk factor based on the likelihood of occurrence and its potential impact was analyzed. Analysis on mitigation measures embedded in the FSQ strategy to deal with the identified risks was also undertaken.

Food Safety and Quality Strategy for primary agricultural produce

Vision, Mission and Goal

Vision

To see improved food and nutrition security, reduced incidents of foodborne illnesses and trade barriers.

Mission

Strengthen/institutionalize the food safety and quality promotion, management and control systems of primary agricultural produce in Ethiopia.

Goal

Ensure supply of safe and quality primary agricultural produce and increase export value by 100%.

3.2 Conceptual Framework

Figure 1 below shows simplified result framework of the FSQS. The impact level focuses on improved public health, food and nutrition security, sustainable livelihoods and economic growth. This is the ultimate goal and impact for any agricultural sector that is performing well. At outcome level, the emphasis is the consumer protection and facilitation of competitive trade and market access. Five strategic objectives are identified as outputs. To achieve the desired impacts and outcomes, appropriate inputs need to be in place. Key inputs include resources for improving the FSQ system, increased budgetary allocation for capacity building, and the establishment of effective coordination at various levels (Woreda, Regional, and National level).

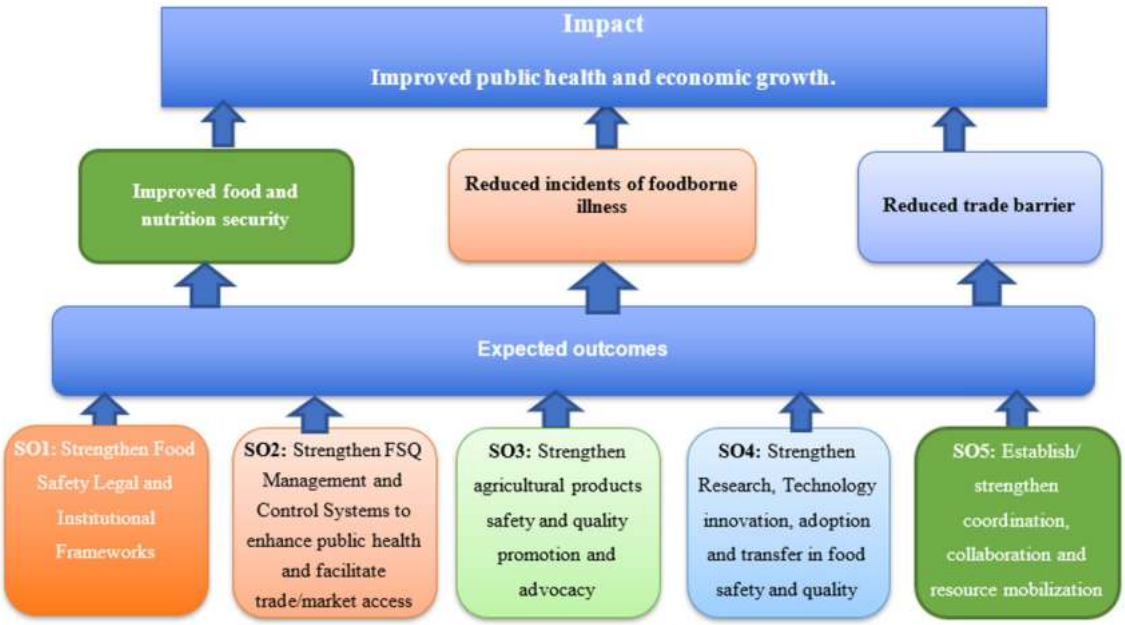

Figure 1. Conceptual Framework

3.3 Scope of the strategy

The strategy will cover the entire food safety and quality management and control systems along the food value chain from primary production to consumption of primary agricultural produce. The strategy covers strengthening of food safety and quality assurance systems, FSQ promotions, management and control elements and programs of a national food control system and the empowerment of consumers. The FSQ strategy also provides a foundation for multi-sectoral collaboration as well as internal organizational goal-setting and strategic planning. It will help to give appropriate response for food safety emergencies, and to assess the impact of the FSQ strategy in strong collaboration with Ethiopian Food and Drug Authority (EFDA), Ethiopian Public Health Institute (EPHI) and Ministry of Health as required. This strategy will be implemented throughout the country in the coming

seven years (2024-2030).

3.4 Strategy document formulation approaches

The FSQ strategy emanated from legal roles given to the Ministry of Agriculture (Proclamation No. 1263/2021, Article 20, Sub Article 1u), Ethiopian Agricultural Authority (Regulation No. 509/2022, Article 5, Sub Article 6), Ethiopian Institute of Agricultural Research (Regulation No. 527/2022) and Animal Health Institute (Regulation No. 503/2022) respectively. It is also in alignment with Sustainable Development Goals (SDG 1, 2, 3, 6, 8, 12 & 17), the WHO Global Strategy for Food Safety - 2022-2030, Food Safety Strategy for Africa - 2022-2036, and the national and sectorial policies and strategies developed in Ethiopia. In the National Food and Nutrition Policy (2018) and Food and Nutrition Strategy (2021) food safety and quality is identified as one of the pillars. The National Nutrition Sensitive Agriculture (NSA) Strategy (2017) identified food safety and quality as one initiative under Strategic Objective 3. Ethiopia's Food System (EFS) Transformation Synthesis Report (2022) also identified food safety as one priority. In the EFS 5 Action Trucks, Action Track 1 (Safe and Nutritious Food for All), from the 6 Clusters, Cluster 1 (Ensure availability and accessibility of safe and nutrient dense food) and the 1st Game Changer under Action Track 1 (Strengthen the national food safety management and control system of Ethiopia) all delt with food safety.

3.5 Guiding Principles

The development and implementation of this FSQ strategy considers the following six principles:

1. **Preventive and forward-looking approach:** The principle transforms from reactive to proactive/preventive system when addressing health risks emerging at human-animal ecosystems and environment interface in one health approach.

2. **Evidence-based:** This principle focuses on increasing the use of food chain information, scientific evidence, innovation**,** and risk assessment in risk management decision making.

3. **Inclusiveness:** Food safety is a shared responsibility, and it requires a joint effort by all stakeholders in the food systems. Ensuring food safety from farm to fork requires a more inclusive and integrated approach with all stakeholders.

4. **People-centered**: a FSQ approach of development that focuses on local communities' self-reliance, social justice, and participatory decision-making, a language that puts people's safety first and respects their dignity, worth, and strengths.

5. **Risk-based:** an approach focusing on points of the food chain or processes that pose the highest risk; minimize costs to food operators by reducing unnecessary inspection and testing costs; promote preventive than reactive approach to food control; and optimizes the efficiency of food control and

use of inspection resources.

6. **One-health approach**: Development of FSQ strategic objectives and activities considers human-animal and ecosystem interface to ensure sustainable food safety and quality assurance towards resilience.

3.6 Food Safety Strategy Theory of Change

The theory of change for the FSQ Strategy in Ethiopia is shaped by the context of the significant burden associated with enormous human health and economic costs. These costs encompass foodborne illnesses and malnutrition among citizens, the decline in quality and safety of primary agricultural produce, and trade barriers affecting commodity exchange. The driving force behind this theory of change is the aspiration for all people in Ethiopia to have access to safe, quality, and nutritious food while maximizing the returns on investment in primary agricultural produce. The following change model will be considered throughout implementation of the FSQ strategy on the agricultural primary produce (PAP). The building blocks of FSQ Strategy theory of change on the PAP include: (1) good agricultural practice, (2) good postharvest handling (farm to kitchen), (3) safe agricultural produce supply to domestic and export market, (4) safe and quality produce for MSME and consumer, (5) food safety and quality promotion. Implementation of these systemic building blocks will result in healthy people and economic productivity as the desired outcomes through circular FSQ systems with enforcement of food safety and quality regulations in one health approach (**Figure 2**). A third party FSQ systems auditor will evaluate the performance confirmation on FSQ assurance of the primary agricultural produce.

All these deliberate actions and processes will culminate in desired outcomes, including strengthened institutional capacity at regional and country levels to facilitate the reduction of public health burdens and trade barriers. This, in turn, necessitates improved capacities on FSQ strategies to produce safe and quality food, integrating FSQ strategy into food and nutrition policies, and ensuring the enforcement of standards and regulations. These steps will lead to the establishment of sustainable safe food production in the agricultural sector at the national level. This sector will be characterized by increased production and productivity, improved FSQ, nutrition and food security, enhanced access to competitive export markets, and increased income. Consequently, the agricultural sector will exhibit a heightened contribution to the GDP, leading to more diversified and resilient economic growth in Ethiopia.

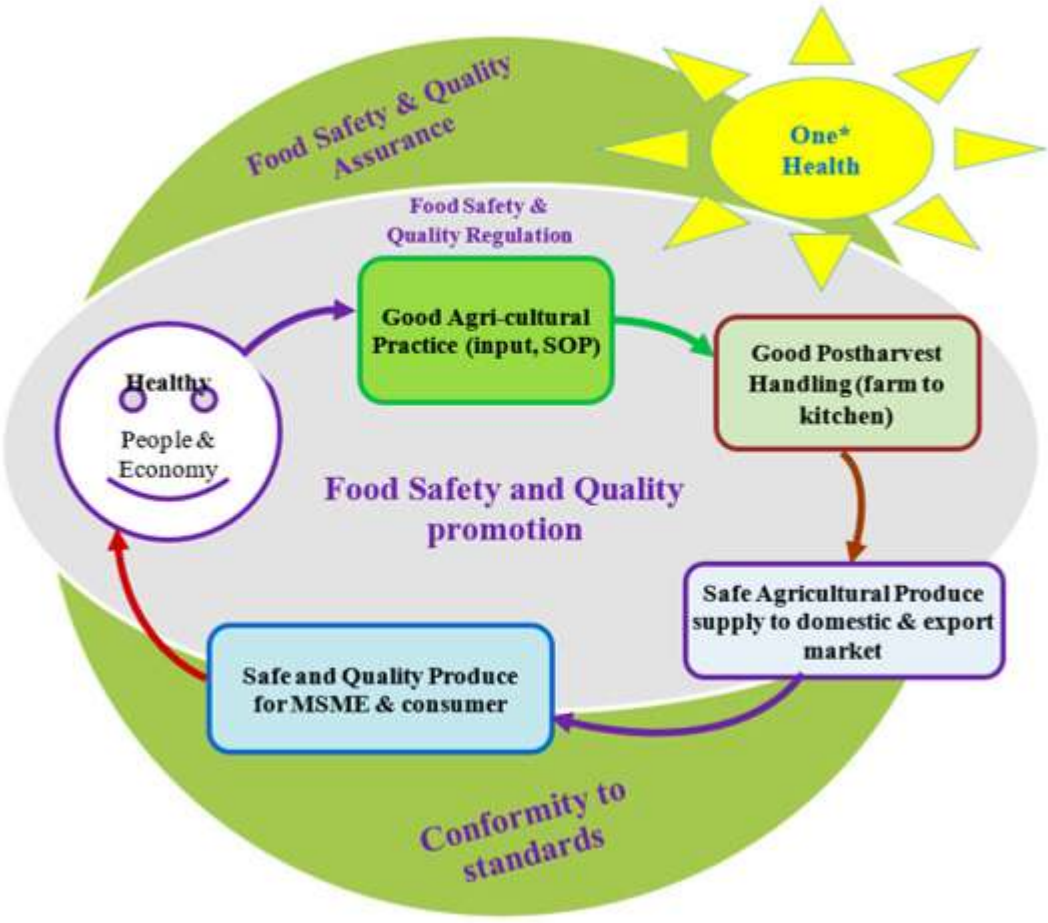

Figure 2.Conceptual framework: The FSQM system and its regulation to reduce health burden and trade barriers of primary agricultural produce

* = green (vertical) and gray (horizontal) oval circles imagined as primary agricultural production and systemic FSQM implementation strategy as integral part of the one health (yellow sun rays) prospect, respectively

3.7 Strategic Objectives

The FSQ strategy will collectively work to address the major challenges in the priority areas of the strategy supported by the five (5) identified strategic objectives (SO) and related actions to achieve the vision and goals as elaborated below.

1. **Strategic Objective One**: Develop, strengthen and enforce food safety legal and institutional frameworks
2. **Strategic Objective Two**: Strengthen Food Safety and Quality Management and control systems for primary agricultural produce to enhance public health and facilitate competitive trade/market access
3. **Strategic Objective Three**: Strengthen primary agricultural produce safety and quality promotion and advocacy
4. **Strategic Objective Four**: Strengthen research, technology innovation, adoption and transfer in food safety and quality
5. **Strategic Objective Five**: Establish/strengthen coordination, collaboration and resource mobilization for food safety and quality of primary agricultural produce.

3.7.1 Strategic Objective 1: Strengthen Food Safety Legal and Institutional Frameworks

The current food safety and quality framework in Ethiopia is characterized by inadequate legal frameworks and institutional arrangements and capacity. Some food legislation needs updating, some of which is generic and not risk-based, while oth-

ers are fragmented, overlooked, and have limited linkages to international commitments. Despite progress made in improving institutional arrangements, there is still a weak institutional arrangement to fully execute its respective mandate. Furthermore, there is a fragmentation of institutional responsibilities (horizontally and vertically).

Therefore, this strategic objective is developed to strengthen the food safety and quality legal and institutional frameworks in both public and private sectors to ensure the safety and quality of primary agricultural produce. This strategic objective shall be realized through the implementation of the following strategic initiatives.

Initiatives:

- Develop and/or strengthen food safety and quality legal frameworks
- Support the establishment of functional institutional framework for FSQ assurance of primary agricultural produce at all levels

3.7.2 Strategic Objective 2: Strengthen Food Safety and Quality Management and control systems for primary agricultural produce to enhance public health and facilitate competitive trade/market access

The food safety and quality management and control system in Ethiopia are plagued by inadequate human resources, laboratory facilities, and infrastructure capacity. Additionally, the capacity for food safety risk assessment, analysis, and management is weak. These deficiencies lead to poor risk management, control, and suboptimal enforcement of necessary actions for strengthening food safety and quality systems. Consequently, this results in poor public health and signifi-

cant local and international trade barriers for primary agricultural produce.

The aim of this strategic objective is to strengthen the FSQ (Food Safety and Quality) management and control system through the implementation of the following strategic initiatives and actions. These measures are designed to enhance public health and improve trade/market access.

Initiatives

- Improve food safety and quality management systems
- Improve food safety and quality control systems
- Strengthen compliance to international standards to facilitate trade and market access

3.7.3 Strategic objective 3: Strengthen primary agricultural produce safety and quality promotion and advocacy

In Ethiopia, consumers and other actors in the food value-chain have limited knowledge, practice, and attitude regarding food safety hazards, quality defects, risks, and the necessary preventive or mitigation measures. This inadequacy is attributed to the insufficient promotion and advocacy activities related to Food Safety and Quality (FSQ). The aim of this strategic objective is to enhance the FSQ knowledge, attitude, and practices (literacy) among individuals, households, communities, and other stakeholders involved in the food value-chain. Consequently, this effort will lead to an improved uptake of safe and high-quality food and facilitate trade. The aim of this strategic objective is to strengthen the FSQ promotion

and advocacy through the implementation of the following strategic initiatives.

Initiatives:

- Improve food safety and quality promotion of primary agricultural produce
- Improve food safety and quality advocacy of primary agricultural produce

3.7.4. Strategic objective 4: Strengthen research, technology innovation, adoption and transfer in food safety and quality

Research development is crucial for enhancing FSQ. Academia and research institutions play a prominent role in bolstering FSQ research, technology innovation, adoption, and transfer. Partnerships between academia, competent authorities, and FBOs can facilitate prioritizing and addressing important FSQ issues. This enables more timely responses to research questions on FSQ and aids in developing risk-based approaches and the scientific foundation for food safety and quality systems.

Despite their critical role, only a limited number of universities and centers of excellence are engaged in operational FSQ research tailored to local conditions and stakeholders' needs. Consequently, there is a lack of scientific data for evidence-based decision-making and understanding the impact of FSQ on public health and trade. Similarly, FSQ-related technology innovations and adoptions are also restricted.

Hence, the aim of this strategic objective is to strengthen the capacity for research, innovation, technology adoption, and transfer in the realm of FSQ. Additionally,

it seeks to enhance the capability to conduct risk assessments and provide risk management options for both the public and private sectors. The aim of this strategic objective is to strengthen the research, technology innovation, adoption and transfer in food safety and quality through the implementation of the following strategic initiatives.

Initiatives 4:1

- Strengthen food safety & quality research
- Strengthen food safety and quality technology innovation and adoption

3.7.5. Strategic Objective 5: Establish/strengthen coordination and collaboration mechanisms and resource mobilization for food safety and quality of primary agricultural produce

Ensuring food safety and quality assurance necessitates efficient multi-sectoral, regional, continental, and global cooperation and collaboration. Presently, there is limited collaboration and cooperation among the various actors involved in food safety and quality assurance. Effective collaboration and coordination would facilitate the mobilization of resources for food safety and quality assurance, harmonize standards, and minimize redundant efforts, conflicts of interest, and oversight of crucial activities. The aim of this strategic objective is to establish a multi-sectoral, regional, continental, and global collaboration and coordination mechanism for food safety and quality assurance. The strategic initiatives required for the successful implementation of this objective are outlined.

Initiative:

- Strengthen national level multisector coordination and collaboration for FSQ assurance.
- Strengthen regional, continental and global coordination and collaboration for food safety and quality assurance.
- Strengthen resource mobilization for food safety and quality strategy of primary agricultural produce.

4. Implementation Arrangements

Identification and alignment of roles and responsibilities of key actors and collaborators is meant to avoid duplication, enhance resource leveraging and promote accountability and transparency among others in FSQ activities for PAP. Effective implementation is only expected if active participation of the stakeholders is sustained at all levels of development, implementation, monitoring, evaluation and reporting.

4.1 Role and responsibilities of key actors

- **Ministry of Agriculture (MoA):** Identify systemic constraints of agricultural produce FSQMS issues and recommend solutions in order to ensure sustainability and structural transformation on FSQMS. In addition, MoA organizes a multidisciplinary national FSQM working group mainly involving key stakeholders (academia, Development partners, Public and private sectors and others) representatives. Moreover, it mobilizes, manages and lead the im-

plementation of primary agricultural produce FSQM projects.

- **Ethiopian Agricultural Authority (EAA):** Develop and implements PAP FSQ regulatory legal and institutional frameworks. Similarly, EAA performs awareness creation, capacity building, monitoring and evaluation as well as control activities of regulation on food safety, fraud and defence on primary agricultural produce. In addition, it manages and leads the implementation of primary agricultural produce FSQ regulatory supporting projects. Moreover, EAA rapidly disseminates primary agricultural produce food safety incidents information among relevant stakeholders, which detected in the PAP food value chain and take action on a timely basis to protect public health against food borne illnesses. EAA will also involve in harmonization of international food safety and quality standards through communication with international organizations as well as competent authorities involved in food safety and quality assurance, implement fulfilment of PAP FSQ regulatory infrastructures and human capacities.

- **Ethiopian Institute of Agricultural Research (EIAR):** Conduct food safety and quality baseline study on major primary agricultural produce commodities and conduct demand-driven or strategic applied and operational food safety and quality related research on primary agricultural produce including adaptation studies of proven technologies. In addition, EIAR documents and disseminate appropriate research findings, best experiences and technologies on the FSQ practices.

- Regional Bureaus of Agricultural (RBoA)

  The Regional Agricultural Bureaus will be responsible for organizing and overseeing the implementation of intervention activities of FSQ at both regional and district levels. They will also maintain communication and work in coordination with Ministry of Agriculture (MoA) and Ethiopian Agricultural Authority (EAA). At the regional level, specific bureaus will act as focal points to facilitate coordination among key stakeholders, including the private sector, non-governmental actors, and others. Additionally, the bureaus will coordinate the execution of FSQ at the district level. Focal persons at various levels will compile and share lessons learned to support the ongoing implementation of the strategy.

- Regional Livestock and Fishery Resource Development Bureaus

  Regional bureaus and agencies will work together with federal offices to carry out the strategy. They will coordinate the implementation of intervention activities at the provincial and district levels and maintain communication with the Ministry of Agriculture (MoA), Ethiopian Agricultural Authority (EAA) and Institute of Ethiopian Agricultural research. Their primary responsibility is to coordinate the implementation of FSQ activities for livestock products at the district level. They are also responsible for compiling and sharing lessons learned to support the ongoing implementation of the strategy.

4.2 Roles and responsibility of collaborators

The main collaborators for the implementation of this strategy are identified with their role and responsibilities, level of involvement, their needs, anticipated challenges together with institutional responses as indicated below.

- **Private sector and other Technology Developers**

  The successful implementation of FSQ strategy at different levels heavily depends on the active involvement of the private sector. This includes various stakeholders such as FBOs, distributors, processors, transporters, aggregators, farmers, agro-dealers, traders, and service providers. Other private entities will contribute to building capacity and spreading relevant FSQ technologies. Some may participate in consultative meetings and thematic groups. Furthermore, private sectors and technology developers are encouraged to contribute to FSQ innovations, adaptation, and replication of successful FSQ technologies from other countries. They also provide technical services like maintenance and training, and collaborate with research institutions and universities to generate innovative solutions to address FSQ challenges.

- **Livestock Development Institute (LDI)**

  The institute should actively participate in innovating FSQ technologies specifically for livestock products. Additionally, it should develop guidelines for the production and dissemination of these technologies. The institute is also supportive of the establishment of a dedicated department that focuses on generating technologies to support FSQ implementation in livestock prod-

ucts, as well as the agricultural processing industries.

- **Consultative Group for International Agricultural Research (CGIAR)**

  The CGIAR, an international organization operating within the country, has the capacity to effectively tackle FSQ issues. It will engage in collaboration with the Ministry of Agriculture (MoA) and other organizations to address FSQ challenges. Additionally, the CGIAR will provide support to the national research system in order to enhance FSQ practices for livestock and plant products.

- **Ethiopian Standard Institute (ESI)**

  In collaboration with other stakeholders, ESI develops and strengthen standards for safety and quality primary agricultural products and establish a system that checks whether goods and services comply with the required standards. Furthermore, the institute will provide training and technical support to value chain actors along the value chains.

- **Ethiopia Conformity Assessment Enterprise (ECAE), Ethiopian Accreditation Service (EAS), and Ethiopian Metrology Institute (EMI)**

  The ECAE, EAS, and EMI will provide testing, Inspection, and Certification services to the strategy focus products. They will also be responsible for consumer protection by ensuring that measuring systems result in fair trade transactions of agri-food products.

- **Academic Institutions**

  In Ethiopia, there are fifty public universities that provide both long-term and short-term training programs to meet the professional demands of individuals. These institutes also offer specialized programs in FSQ. The universities will further provide customized training to various actors within the value chain, focusing on specific thematic areas.

- **Ethiopian Electric Utility**

  It is responsible for ensuring the availability of efficient, reliable, and affordable energy supplies to support agro-processing industries, enterprises in technology generation, service providers, and value chain actors to attain the strategic goal.

- **Financial Institutes and Insurance**

  The inadequate allocation of financial services to investments in FSQ poses a significant challenge to the sub-sector in Ethiopia. To overcome the obstacles related to financing and insurance, cooperatives, service providers, and FSQ technology developers must engage with a range of public and private financial institutions, including banks, insurance companies, and microfinance institutions. These institutions are expected to develop financial products specifically tailored to support various actors involved in FSQ, such as manufacturers, distributors, processors, transporters, aggregators, farmers, agro-dealers, merchants, and service providers. This approach is in line with the requirements of both the service industry and agricultural production.

- **Ministry of Trade and Regional Integration (MoTRI)**

  The MoTRI facilitates regional and international trade and develops the marketing of agricultural commodities. They will work aggressively to enhance FSQ activities through its regulatory bodies.

- **Development partners (NGO, CSO, UN) and Resource Partners**

  Various development and resource partners, including FAO, SAA, GIZ, USAID, SDC, Bill and Melinda Gates, WFP, and others, will collaborate with the MoA on different FSQ interventions. They will offer technical, financial, and resource assistance to ensure the comprehensive strategy is implemented successfully. These partners will contribute to the nation's overarching objectives of eradicating poverty, promoting economic growth, and ensuring food and nutrition security by supporting the strategy.

- Ministry of science and technology (MinT)

  The Ministry will support studies, research and their dissemination, for the improvement, development indigenous technologies, facilitate the accessibility of technologies in the form of prototype to stakeholders and the community, encourage and support individuals, professional associations, study and research institutions that contribute significantly for the development of FSQ innovations and technologies.

- Professional societies and associations

  The professional societies will facilitate to bring in track the current interdis-

ciplinary research efforts and will recommend ways to stimulate and support relevant research, Follow up the effectiveness of the transformation of innovative ideas, facilitate collaboration of scholars from various fields, provide a supportive environment to develop and test new skills, provide integrated professional support and technical advice to public and private organizations that seeking special support.

- Central statistics service (CSS)

  It will provide technical advice and support on capacity building on statistical record and data reporting system, provide services on data collection and arrangement service as the main data collector upon request and collect, compile and disseminate FSQ statistical data.

- **Ethiopian Commodity Exchange (ECX)**

  Will serve as a marketplace, where buyers and sellers come together to trade, assure quality, delivery and payment, Electronic Trading Session for Identity preserved, provide relevant information related to the selling and buying of agricultural food commodities and establish an automated system to determine the daily price.

5. Coordination and Implementation of the FSQS

Food safety and quality issues are multidimensional and cross-sectorial in nature. It is a systematic approach through which a group of organizations/stakeholder which are committed and willing to support FSQ by jointly coordinating their activities to achieve the desired food safety and quality. It is widely recognized that

no single institution alone can tackle the current food safety and quality challenges. Governments, private sectors, development partners, and other institutions have a role to play and ability to work in coherence that can affect the lead organization to address most of pressing food safety and quality challenges.

The MoA and EAA coordinate and support FSQS implementing sectors and stakeholders to fulfill their duties and responsibilities. Equivalent structures shall be established at the regional/center, zonal, woreda and kebele levels. The Regional FSQS committee chaired by the regional president that will be accountable to the National FSQS Nutrition Council. Similarly, structures at zonal and woreda levels will be led by the respective zonal and woreda administrators to efficiently coordinate and implement the food and nutrition activities. At the kebele level, the FSQS committees will be established and led by the kebele administrators.

Government designated Competent Authorities will be responsible for coordination of country-specific activities that will lead to the overall achievement of the objectives of this strategy. Non-governmental organizations support the coordination and adoption of FSQ international standards, support capacity development initiatives, provide technical assistance, provide financial assistance where applicable. The overall coordination of this strategy will be lead by the federal ministry of agriculture, food and nutrition office, agricultural authority and affiliated offices as well as national laboratories.

Success Factors:

A. For the successful implementation of the FSQS, attention has been given to seven (7) success factors.

B. These are:

C. Government leadership and commitment

D. Stakeholder ownership

E. Existence of vibrant private and public sectors

F. An effective institutional framework that links the Implementation, Monitoring and Evaluation and Reporting system across the Country with improved communication, and sharing of information and resources.

G. Food safety culture

H. Gender mainstreaming.

I. Budgetary and investments considerations:

6. Cross cutting Issues

Climate

Consequently, climate change is likely to have a wide range of effects on the biology of plant and livestock pests (weeds, insects, and microbes). Rising minimum winter temperatures and longer growing seasons are highly likely to alter pest distribution and populations. While detailed quantitative models of these impacts

are limited, there is a strong indication of the need for preparedness to address climate change impacts. This challenge underscores the importance of examining environmentally sustainable strategies to manage food safety risks. Thus, this strategic document attempts to address the impact of climate on the safety and quality of PAP (Processed Animal Products).

Environment

The production of PAP in a polluted environment or contaminated soil directly impacts the safety and quality of food. Integrating food safety and environmental sustainability is a relatively new approach that can build on methods already applied in research areas outside the domain of food science. Although the scope of risk analysis in assessing food safety intervention strategies is limited in terms of environmental impact, it is evident that strategies across value chains must consider both food safety and environmental sustainability. Therefore, the current strategic document gives due attention to the environmental impact on PAP FSQ.

Gender

Gender is an important element to consider in the food business environment. Improving food safety and quality in developing countries can only be achieved by properly taking into account women's and men's roles in producing, processing, and consuming food. While men typically grow mainly field crops as producers, women are usually responsible for growing the food consumed in the home and raising small livestock. Moreover, persistent gender inequalities are generally associated with hunger and malnutrition worldwide. Taking this into consideration,

a gender perspective was included during the development, validation, and for future implementation and achievement of the goals of this PAP FSQ strategy.

Nutrition

Food safety and nutrition are closely linked, as people must be both well-nourished and free from foodborne diseases to achieve optimal human health and wellbeing. Despite these linkages, existing frameworks for food systems often overlook the connections between food safety and nutrition, treating food safety superficially as just one sub-component rather than integrating it throughout. While a sufficient quantity of food is an obvious requirement for food security, food quality is essential to fulfill basic nutritional needs. Therefore, nutritional quality must be assessed before implementing any safety activities. As a result, this PAP FSQ strategic document addresses the existence of bidirectional causal pathways between food safety and nutrition.

7. Food Safety and Quality Strategy Financing

Food safety and quality financing in Ethiopia is depend on government budget, development partners, private sector investment and external support/loans. In the Maputo Declaration countries committed to allocate at least 10% of national budgets to agriculture and rural development.

Ministry of Agriculture will allocate the required budget to enhance food safety and quality systems. Moreover, implementation of the FSQS will require additional financial sources from development partners, private sectors and external support/loans.

Non-compliance penalty fees and service payments will be the possible sources of revenue for the government to compensate the additional investment needed for the implementation of PAP FSQS. Establishment of financial instruments for food safety and quality related investments for FBOs at all levels of the supply (small-scale farmers, farmer associations (unions), small and medium entrepreneurs (SMEs), large-scale investors, etc.) to ensure their access to soft loans, small loans and grants will be facilitated. This can be done by following agro-industry subsidy policy of government, government and private banks and development banks experience to finance PAP FSQS. Moreover, development partners and international organizations are expected to support private sectors and FBOs by supplying food safety and quality facilities.

Due consideration will be paid to specific challenges faced by women to access investments when creating the financial structure. Furthermore, funds for financing the FSQS will be mobilized from several development partners supporting food safety and quality interventions. International Funds financing FSQS include the World Bank Funds, Africa Development Bank (ADB) Funds and Bilateral Funds, which are provided in the arrangement between one of the donor countries and Ethiopia (as a developing country), institution, or NGO. Additional official assistance is channeled from donor to recipient countries through multilateral organizations and through international NGOs. Additionally, funds will be mobilized through grant project writing and winning significant funds. The FSQS fund activities will be coordinated through MOA, EAA and other stakeholders.

The planned budget/cost for the successful implementation of this strategy is **248,105,414.34** USD (two hundred forty-eight million one hundred five thousand four hundred fourteen US dollars). The budget/cost distribution by the strategic objectives and/or by the project time (years) is presented in the following pie charts.

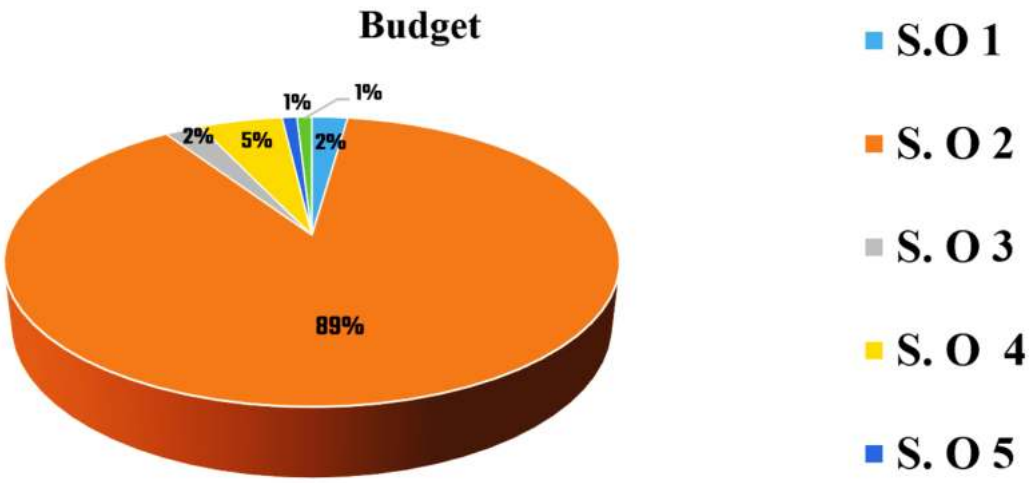

Figure 3. Budget distribution by strategic objective

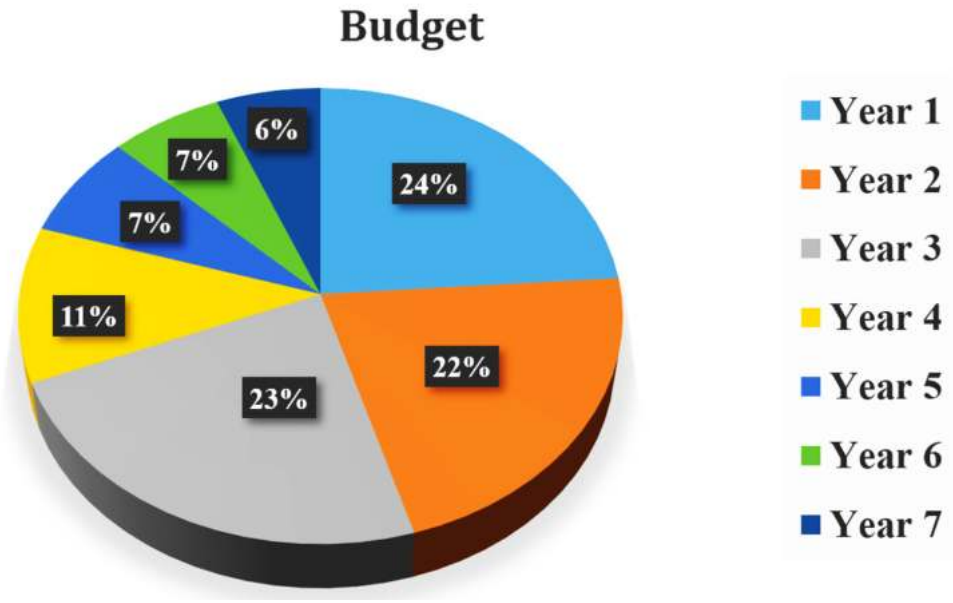

Figure 4. Budget distribution by year

8. Monitoring and Evaluation

The results framework is the foundation of an effective Monitoring and Evaluation (M&E) system. It presents objectives at various levels of the hierarchy, along with their Key Performance Indicators (KPIs), which are objective markers and conditions/assumptions that must be achieved to reach the set targets. The values of the KPIs will come from the baseline study. Conducting a baseline survey before starting the strategy implementation allows for a better assessment of improvements and progress made. The tracking of KPIs will be done annually to identify challenges early and employ appropriate corrective measures accordingly.

The Monitoring and Evaluation (M&E) system of the primary agricultural produce FSQS will be responsible for tracking the implementation of planned activities and taking corrective measures when necessary. The M&E hub for the FSQS will be located in MoA and EAA. M&E activities will be implemented collaboratively with other key stakeholders to enhance the credibility and acceptability of M&E results across the value chain. Both internal and external M&E will be undertaken accordingly. There will be mid-term and end-of-period M&E evaluations that will be participatory in nature.

The monitoring activity involves systematic and regular data collection, processing, analysis, and reporting of findings to the FSQS steering committee and relevant forums and stakeholders. This helps to compare planned targets against achievements and enables stakeholders to detect deviations from the target plan in time, facilitating the necessary corrective actions. The overall objective of the evaluation is to draw lessons from experiences gained during the implementation

of the FSQ intervention measures and convey them to MOA, EAA, EIAR, and other stakeholders to assess the pace and impact of the FSQS during the implementation period.

Specifically, the M&E exercise will involve:

i. Assessment as to whether the targets set in the FSQS are practical

ii. Assessment as to whether the implementation of the FSQS is achieving the intended results

iii. Assessment as to whether adequate resources (human power and finance) are being mobilized timely to implement the FSQS

iv. Assessment on the efficiency and effectiveness of utilizing the available resources

v. Assessment on the reasons for failures in implementing some of the agreed activities

vi. Assessment on the performance of key implementers in spearheading the implementation of the FSQS.

The M&E system will be reviewed annually to determine elements of the system that need to be reviewed or dropped. Since the FSQS is planned to be a strategy of 7 years, there will be an evaluation of the strategy implementation once in every three years. This will be done using an impartial external evaluator to diagnose potential changes that might affect the performance of FSQS during the remaining period of strategy implementation. For impact assessment, two indicators namely

the food safety health index (FSHI) and the food safety trade index (FSTI) will be used.

9. Reporting arrangement

Reporting system will follow the normal Government channels whereby report of FSQM activities is compiled at woreda (district) level and sent to zone/regions. Different Woreda (district)/check posts reports will then be compiled by the regions/zones/centers and sent to the MoA and EAA. The reports will be submitted on quarterly and annual bases and will include:

i. Summary of progress in work plan implementation, including a review of any challenges encountered;

ii. Summary of expenditures relative to project disbursement targets; and

iii. A summary of results being achieved, including a copy of the results framework listing performance targets and accomplishment. The performance targets are not expected to change in every quarterly report. However, the implementation team is expected to summarize the progress of performance monitoring, and highlight any challenges that may affect the achievement of the project targets.

At the Woreda level, the Woreda/check posts FSQ focal person under the supervision of the region will be responsible for compiling the reports from different Government and non-Government FSQ actors at that level. At the regional level, the FSQ focal person will analyze and compile all the woreda/check posts reports and submit to the MoA and EAA. At national level, the FSQS section under MoA/

EAA will be responsible for compiling and analyzing all regional reports. The issues identified will be forwarded to the respective thematic working group/sectors for action. Only the issues, which need High-level decision, will be taken to the High Level Steering Committee for action.

The reports will pay particular attention to the availability of resources required to implement the FSQS, achievements of the planned targets, constraints impeding implementation of planned activities and way forward. The MoA and EAA responsible section will be charged with preparation of detailed strategy reports, which focus on targets and specific achievements, constraints experienced during the implementation, actions taken to address constraints and milestones.

Strategic Objective 1: Develop, strengthen and enforce food safety legal and institutional frameworks

Strategic intervention	Targets	Activities	Responsibility	Performance indicators	Expected outcome
Initiatives 1.1 Develop and/or strengthen food safety and quality legal frameworks				Number of developed and/or strengthened food safety and quality legal frameworks	
1.1.1 Develop/ strengthen food safety and quality legal frameworks (Proclamations, regulations, directives and standards)	Review and develop legal frameworks by 2023/24-2027	• Conduct a need assessment for the development of legal frameworks for ensuring safety & quality of primary agricultural produce, inputs, practice and waste management (Proclamation, Standards, Regulation, Guidelines and Standard operating procedures) • Develop/strengthen food safety & quality assurance legal frameworks for primary agricultural produce (Proclamation,	Lead (EAA, MOA EIAR) Collaborators (Judiciary institutions)	# of developed legal frameworks (Proclamations, regulations, directives and standards)	Improved decision making in FSQ assurance Reduced foodborne diseases

		• Develop/strengthen agri-food fraud legal framework (Proclamation, Standards, Regulation, Guidelines and Standard operating procedures) • Develop/ strengthen food safety and quality assurance legal frameworks for safe use of agricultural inputs (Proclamation Standards, Regulation, Guidelines and Standard operating procedures) • Develop/ strengthen legal frameworks for safe agricultural practice and technologies (Proclamation, Standards, Regulation, Guidelines and Standard operating procedures) • Develop/ strengthen legal frameworks for agricultural waste management (Proclamation, Standards, Regulation, Guidelines and Standard operating procedures)			

		• Update legal frameworks on import and export permits, in line with national and international standards • Develop legal framework for animal welfare • Develop legal framework for safety and quality-based grading and pricing of primary agricultural • produce Organize validation and launching/ endorsement work shop for developed legal frameworks • Promote the legal frameworks among regulatory bodies, the private sector, government and partners • Evaluate the level of legal framework implementation at national level			

1.1.2 Strengthen human Capacity for food safety and quality legal framework development for primary agricultural produce	At least 85% of FSQ experts capacitated by 2023/24-2029/30	Conduct human capacity need assessment at federal and regional levels for food safety and quality assurance Organize capacity building training on legal frameworks for relevant developers Organize experience sharing in countries with good experience in primary agricultural produce safety and quality assurance legal framework development	Lead (MOA/ EAA/ EIAR) Collaborator (National & international Development partners, private sectors)	# Of capacitated human resource	Improved capacity of FSQ experts for development of legal framework
1.2.1 Establish and strengthen the institutional frameworks for food safety & quality management and control at national, regional, zonal, district and kebeles level for primary agricultural produce	FSQ organizational structure established at level from 2023/24-2029/30	Conduct situational analysis of existing food safety and quality management and control institutional framework/ organizational structure Develop model food safety and quality management and control organizational structure at all levels for their consideration during adapting their structure Support implementation (like staffing on contract basis) of developed food safety and quality management and control institutional framework model	Lead (MOA/ EAA /EIAR) Collaborator (Civil Service Agency, Regional governments)	# Of established institutional frameworks	FSQ governance system improved

1.2.2 Fulfill and enhance facilities to make the developed institutional framework functional	95% of FSQ facility fulfilled from 2023/24-2027	Conduct facility need assessment for fully functionalization of established institutions Based on need assessment equip the institutions	Lead (MoA) Collaborator (MoF)	# Of equipped institutional frameworks	FSQ facilities improved

Strategic Objective 2: Strengthen Food Safety and Quality Management and control systems for primary agricultural produce to enhance public health and facilitate competitive trade

Strategic initiatives and actions	Targets	Activities	Responsibility	Performance indicators	Expected outcome
Initiatives 2:1 Improve food safety and quality management systems				# of agricultural producers who implemented good practices	
2.1.1 Enhance the capacity of food value chain actors for food safety and quality management	At least 85% of FSQ management experts capacitated from 2023/24-2030	Conduct capacity need assessment of food value chain actors for training Develop training manuals of FSQ management Conduct TOT on FSQ management Support the training of food producers on FSQ management Support the training of agricultural service providers on FSQ management Support the training of primary agricultural produce traders on FSQ management Support the training of primary agricultural produce consumers on FSQ management	Lead (MOA/EAA/EIAR) Collaborator (AHI, LDI, EFDA, EPHI, MoH, Development partners, Private sectors, etc.)	# Of capacitated food value chain actors	Standard FSQM training manuals developed Efficiency of experts improved

2.1.2 Enhance the development and implementation of FSQ good practices for primary agricultural produce	85% of agricultural practices meet GAP/GMP/GHP standards from 2023/24-2030	Conduct baseline assessment on GAP implementation Prepare consultative workshop for development of GAP manual/s for FSQ Develop/strengthen GAP/GMP/good husbandry practice (IPM, Safe use of agricultural inputs, CCM, Agricultural product handling, storage, packaging, transportation, husbandry, biosafety, etc.) manual for FSQ Conduct training on GAP/ GMP/GHP for relevant stakeholders based on the developed manuals Support the implementation of the developed GAP/GMP/GHP Support domestic & wildlife interface surveillance & disease control & prevention system effective management Support national veterinary services Support plant health services Develop and implement GAP/GMP/GHP certification	Lead (MOA/EAA) Collaborator (EIAR)	# Of developed FSQ good practices # Of implemented FSQ good practices	85% of farms are certified on GAP/ GMP/GHP

2.1.3 Enhance agricultural waste management system	Agricultural waste management system established Agricultural waste management training manual developed from 2023/24-2030	Establish appropriate, safe and environment friendly agricultural waste management and disposal system Improve agricultural waste treatment, recycling and/or utilization/reuse Develop manual for appropriate agricultural waste management Provide training for relevant stakeholders on agricultural waste management Support the implementation of appropriate, safe and environmentally friendly waste management system	MOA/EAA/EIAR	# Of enhanced waste management systems	Agricultural waste management system improved by 75%
2.1.4 Enhance WASH practice for FSQ management	75% of farms implement WASH practice from 2023/24-2030	Promote the use of safe water source for agricultural practice Prevent water pollutant from agricultural sources Create access for water treatment technologies along the agricultural produce value chain Support the availability of WASH facilities	MOA/EAA/EIAR	# Of enhanced WASH infrastructure	Reduced contamination of agricultural produce Reduced environmental pollution from agricultural wastes

2.1.5 Enhance the protection and rehabilitation of natural resource for improved food safety and quality	70% of affected natural resource rehabilitated and protected from 2023/24-2030	Awareness creation on water and soil pollution reduction Support the enforcement of industrial waste management legal framework Facilitate multispectral guideline development and implementation of waste management Rehabilitate affected /polluted water bodies Rehabilitate affected /polluted soil	MoA/EIAR, EPA, EAA	# Of rehabilitated watersheds and water bodies	Natural resource protected and rehabilitated for improved FSQ
2.1.6 Establish/ enhance the tracking and traceability system for primary agricultural produce	70% of primary agricultural product are traceable from 2023/24-2030	Review the existing resource, status and traceability systems of agricultural commodities Organize international experience sharing on product traceability Develop guideline/manual for product traceability & tracking Provide training for experts on product traceability Create community awareness on product traceability Fulfille necessary infrastructure for primary agricultural produce tracking and traceability system Develop and implement database and information management systems for food products traceability	MOA/EAA /EIAR	# Of tracking & traceability systems # Of effectively implemented tracking & traceability systems	Tracking & traceability systems of primary agricultural commodities effectively implemented

2.1.7 Enhance proper utilization & disposal of agro-chemicals	• Training manual developed • Agrochemical waste disposal system established from 2023/24-2030	• Develop manual for proper utilization and disposal of agrochemicals • Provide training on agrochemicals utilization and disposal • Support sustainable implementation of proper agrochemical utilization and disposal system. • Support the provision of facilities for proper disposal of agrochemicals	MOA EAA EIAR	% Increment in agro-chemical proper utilization Volume of disposed agro-chemicals	Improved agro-chemical utilization Improved agrochemical disposal
2.1.8 Enhance the establishment of animal disease free zone	• 4 animal disease free zones established from 2023/24-2030	• Conduct international experience sharing • Prepare manual/guideline for establishment of animal disease free zone • Identify suitable geographical location for establishment of animal disease free zone • Support important facility for animal disease free zone establishment	MOA/EAA /EIAR	# Of created animal disease free zone	Trans-boundary animal disease free zone created for trade
2.1.9 Enhance animal welfare	Welfare of 75% of animal population improved from 2023/24-2030	• Develop/strengthen animal welfare manual / guideline • Provide training on animal welfare to relevant stakeholders • Support and follow up the implementation of animal welfare legal framework	MOA/EAA /EIAR	# Of established welfare mechanisms	Livestock trade improved
Initiatives 2:2 Improve food safety and quality control systems				# of effective food safety and quality control systems	

2.2.1 Enhance human capacity for FSQ control	90% of FSQ expert capacitated from 2023/24-2030	Conduct human capacity need assessment Provide service specific capacity building training for food safety regulatory experts at all levels Establish professional upgrading system for food safety regulatory experts Support the engagement of relevant human resource in food safety and quality control Provide competency certification for food safety control experts Develop platform for regular communication with experts Developed code of ethics guideline for agri-cultural product safety and quality regulatory Provide training on developed code of ethics Prepare code of conduct guideline on food safety risk communication	EAA, MoA, EIAR	# Of capacitated FSQ control experts	FSQ assurance system improved
		Organize training on developed food safety risk communication guideline			

2.2.2 Improve laboratory facility for FSQ control	1 FSQ laboratories established 10 FSQ laboratories fully equipped from 2023/24-2030	• Conduct baseline assessment on the current status of existing laboratories in terms of food safety and quality control • Equip selected food safety and quality laboratories • Establish and capacitate FSQ control laboratory at national and regional levels • Support and follow up the accreditation of selected public and private FSQ laboratories	EAA, MoA, EIAR	# Of fulfilled laboratory facilities	FSQ decision making improved Facilitated trade of primary agricultural product
2.2.3 Establish and strengthen quarantine facilities for FSQ control	3 quarantine laboratories established 1 database system established 95% of quarantine and check post are fully equipped from 2023/24-2030	• Develop/revise FSQ quarantine service working documents • Establish laboratory for post entry analysis • Strengthen existing check post and border post facilities • Establish database system for imported agricultural produce and food items • Establish standard transportation system for imported/ exported agricultural produce and food items • Establish and strengthen market entry certification system • Improve post-marketing	EAA, MoA, EIAR	# Of established/ strengthened quarantine facilities	Imports and exports of product improved
		• surveillance through M&E			

2.2.4 Enhance FSQ control facilities at all levels (office furniture, logistic facilities, ICT, etc.)	85% of FSQ control facilities fulfilled from 2023/24-2030	• Support fulfillment of vehicle/logistics and office infrastructures used for food safety and quality assurance • Establish new regulatory office at all level (regional, check posts and quarantine stations)	EAA, MoA, EIAR	# Of procured and installed facilities	Improved FSQ control system	
2.2.5 Enhance product registration, vigilance, surveillance, inspection, auditing and certification system for FSQ control	5 guidelines developed from 2023/24-2025 Product registration, vigilance, surveillance, inspection, auditing and certification system improved by 75% from 2023/24-2030	• Build a public and private sector data exchange platform and laboratory networking and twinning • Develop regulatory surveillance guideline for primary agricultural produce safety and quality • Join global networks and information exchange system • Develop guideline for modern internal and external food safety conformity assessment and auditing system • Develop guideline for agricultural input, product and practice safety and quality inspection system • Develop a system to control use of banned chemicals, growth hormones and irrational animal feed additives in agricultural practices	EAA, MoA, EIAR	# Of enhanced product registration, vigilance, surveillance, inspection, auditing and certification systems	FSQ control system improved by 75%	

		• Develop a manual/guideline for risk analysis during importing of agricultural commodities • Develop modern inspection and sanitary certification system in livestock, livestock product and other agricultural commodities • Support internal auditing practice of producers against national FSQ standards • Support digitalization of FSQ control system • Prepare manual for inspection and certification of safe agricultural practice • Establish control system for the safe storage and disposal of agrochemicals			
2.2.6 Enhance primary agricultural produce food safety risk analysis, rapid alert and emergency response system	4 guideline developed by 2024 Risk analysis, rapid alert and emergency response system of FSQ established from 2023-2028	• Develop food safety risk analysis & emergency response guideline • Conduct capacity development training on • risk analysis and emergency response • Establish food safety risk assessment system • Establish food safety risk communication system • Establish food safety risk management system • Establish food safety risk rapid alert & emergency response system	EAA, MoA, EIAR	# of enhanced risk analysis, alert and response systems	Risk analysis, rapid alert and emergency response system of FSQ improved

Initiatives 2:3 Strengthen compliance to international standards to facilitate trade and market access				Percentage of compliance to international standards related to global trade	
2.3.1 Harmonize national food safety and quality standards with international standards	95% of national FSQ standards are harmonized with international standards from 2023-2030	• Organize international visit for FSQ experts to importing countries to facilitate trade by implementing the international food safety standards • Conduct regular assessment of importing country and international requirements of food safety and quality • Assess the current situations of primary agricultural produce food safety and quality compliance • Promote mutual recognition arrangements, systems equivalence and facilitate regulatory coherence and cooperation among trade partners • Promote international recognition agreements of testing certificates from accredited food safety and quality laboratories	Lead (EAA, MoA, EIAR) Collaborator (MoRIT, ESI (Ethiopian Standard Institute), EFDA)	# Of harmonized national food safety and quality standards	Improved competitive trade

2.3.2 Encourage implementation of quality-based grading and pricing systems	4 manual and guideline from 2024 -2025 75% of primary agricultural products ranked and graded from 2023/24-2030	• Prepare agricultural product safety and quality-based grading manual and guideline • Promote safety and quality-based grading and pricing to primary agricultural produce market players • Rank/grade food producing organizations in terms of food safety and quality management system	EAA, MoA, EIAR	# Of commodities graded and priced based on quality	FSQ based grading and pricing systems improved
2.3.3 Support / strengthen National Sanitary and Phytosanitary measure to enhance trade/market access	50 commercial farms implemented biosecurity from 2023/24-2030 Trade barrier disease are decreased by 75% from 2023/24-2030	• Implement bio-security in all commercial farms • Enhance/strengthened prevention and control of trade barriers animal diseases, zoonotic disease, and crop pests • Provide financial and technical support for the existing national SPS committee • Establish national and cross-border animal movement control system	EAA, MoA, EIAR	# of implemented SPS measures	Trade and market access enhanced

Strategic objective 3: Strengthen primary agricultural produce safety and quality promotion and advocacy

Strategic initiatives and actions	Targets	Activities	Responsibility	Performance indicators	Expected out-come
Initiatives 3.1: Improve food safety and quality promotion of primary agricultural produce				Level of change in knowledge, attitude and practice on FSQ among produc-ers, food busi-ness owners and consumers	
3.1.1 Develop and implement food safety and quality commu-nication approach guideline/manual	1 food safety and quality communica-tion approach guideline/man-ual developed and implement-ed from 2024-2029	• Develop FSQ communication ap-proach guidelines/manual • Validate and launch FSQ communi-cation guideline/manual • Support the implementation of developed FSQ communication guideline • Integrate FSQ communication to ex-isting agricultural extension system • Follow up the implementation of FSQ promotion	Lead(MOA, EAA, EAIR) Collaborators (Mass media, MoE, MoIT, etc.)	# of developed communication guidelines/ man-uals # of implement-ed communica-tion guidelines/ manuals	Developed and implemented FSQ guideline/ manual

3.1.2 Enhance FSQ promotion and education to improve literacy of consumers and value chain actors	At least 85% of consumers and value chain actors' literacy level improved by 2024-2029	Conduct context specific KAP assessment on FSQ aspects of PAP Develop tailored promotions & educational KAP materials Conduct capacity development training on KAP Use appropriate communication platform to transfer message	Lead(MOA, EAA, EAIR) Collaborators(Mass media, MoE, MoIT, etc)	. % increase in FSQ awareness among consumers & food value chain actors	Improved literacy level of consumers and value chain actors by 85%

3.1.3 Enhance human capacity at all levels to deliver food safety and quality promotion	Human capacity enhanced /improved at all level at least by 90% by 2024-2029	Conduct capacity needs assessments on FSQ promotion Deploy experienced FSQ promotion advisor Develop a training manual on FSQ promotion Provide capacity-building training for experts on FSQ promotion Improve accessibility of ICT to experts working on FSQ promotion	Lead (MOA, EAA, EAIR) Collaborators (Mass media, MoE, MoIT, etc.)	# of capacitated promotion experts	Food safety and quality issue has been promoted

3.1.4 Enhance access for communication technologies among consumers and other value chain actors	At least 80% of consumers and other value chain actors have access to communication technologies by 2024-2029	Develop mechanisms that helps communication technology access among the community Develop manual for utilization of accessible communication technologies Provide training for utilization of accessible communication technologies for FSQ education and promotions	Lead(MOA, EAA, EAIR) Collaborators (Mass media, MoE, MoIT, etc.)	% increase in access to communication technologies	Consumers and other value chain actors have access to communication technologies

3.1.5 Mainstream and implement FSQ assurance in the existing agricultural extension package	FSQ assurance mainstreamed and implemented at least 95% in the existing agricultural extension package by 2024-2029	• Review the existing agricultural extension packages to mainstream FSQ issues of primary agricultural produce • Based on review findings, mainstream FSQ objectives with agricultural extension packages • Organize promotion and sensitization workshop for agricultural extension workers on food safety and quality issues mainstreamed extension packages • Develop & exercise KPI that regularly measures the effort made with agricultural extension workers from FSQ point of view	Lead(MOA, EAA, EAIR) Collaborators (Mass media, MoE, MoIT, etc.)	# of districts introduced food safety & quality in extension package	Food safety & quality mainstreamed in agricultural extension package

3.1.6 Enhance FSQ promotion at national and international level for improved trade/ market access	Promotion coverage of FSQ reached by 85%	• Develop public risk communication guideline for emerging and reemerging food borne diseases • Promote food law and legal frameworks • Develop social and Behavioral change communication (SBCC) promotion guideline for practitioners • Promote new FSQ management innovations and technologies adaptation in the extension systems. • Aware & engage civil societies & consumer association on application of • FSQ of agricultural produce • Organize periodical food safety and quality show case events • Promote innovation, toolkit and collaborative FSQ educational activities for school and higher learning institutions	Lead(MOA, EAA, EAIR) Collaborators (Mass media, MoE, MoIT, etc.)	Percent of increase in market access	Market access improved

		• Provide education and promotional activities on FSQ attributes of buyers and consumers • Promote harmonized FSQ standards • Promote improved FSQ compliances • Promote improved FSQ assurance institutional structure • Promote improved FSQ analytical capacity • Utilize existing media (mass media, social media, mini media), digital technologies and schools for promotion of FSQ assurance			
Initiatives 3.2: Improve food safety and quality advocacy of primary agricultural produce			Lead(MOA, EAA, EIAR) Collaborators(Mass Media, MoE, MoIT, etc.)	Percent change in food safety and quality advocacy and percent increase in market access	
3.2.1 Develop and implement food safety and quality advocacy guideline	At least 1 FSQ advocacy guideline developed and implemented by 2024-2029	• Develop FSQ advocacy guideline for PAP • Validate and endorse the advocacy guideline • Launch PAP FSQ advocacy campaign	Lead(MOA, EAA, EIAR) Collaborators(Mass Media, MoE, MoIT, etc.)	# of developed advocacy guidelines # of implemented advocacy guidelines	FSQ advocacy guideline developed and implemented

3.2.2 Enhance human capacity for FSQ advocacy	At least 95% FSQ's experts capacitated on FSQ advocacy By 2024-2029	• Conduct capacity need assessment on FSQ advocacy • Based on conducted assessment, develop training manual • Provide capacity building trainings • Evaluate post training capacity improvement	Leads(MOA, EAA, EIAR) Collaborators (Mass Media, MoE, MoIT, etc.)	# of capacitated advocators	Human capacity improved for FSQ
3.2.3 Establish and utilize FSQ advocacy platform	One FSQ advocacy platform established and utilized by 2024-2029	• Establish efficient & effective advocacy platform for FSQ • Develop operational plan for food safety and quality advocacy • Pool budget for operationalization of platform	Leads(MOA, EAA, EIAR) Collaborators(Mass Media, MoE, MoIT, etc.)	# of platforms created and utilized	Strong FSQ platform established at national level
3.2.4 Develop a mechanism to engage champion in FSQ advocacy	One mechanisms designed to engage champion	• Develop criteria to select FSQ champions • Bring on board champions and give them agendas • Appropriately utilize champions for the proper execution of FSQ advocacy	Leads(MOA, EAA, EIAR) Collaborators(Mass Media, MoE, MoIT, etc.)	# of champions engaged in FSQ advocacy	One champion engaged in FSQ advocacy

3.2.5 Enhance international advocacy on improved FSQ system and PAP to improve trade and market access	Participated on 8 international FSQ platforms by 2024-2029	• Conduct FSQ advocacy international workshop • Conduct food safety and quality advocacy high level international meeting • Conduct food safety and quality advocacy international conference • Conduct food safety and quality advocacy international seminar • Conduct food safety and quality advocacy international webinar • Assess the impact of conducted advocacies	Leads(MOA, EAA, EIAR) Collaborators (Mass Media, MoE, MoIT, etc.)	% increase in trade and market access	Improved trade and market access

SO4. Strengthen Research, Technology innovation, adoption and transfer in food safety and quality

Strategic initiatives and actions	Targets	Activities	Responsibility	Performance indicators	Expected outcome
Initiatives 4:1 Strengthen food safety & quality research			Leads(EIAR, MOA, , EAA) Collaborators (EPHI, AHI, LDI, ILIR, development partners)	Number of strengthened food safety & quality research	Strong FSQ research
4.1.1 Enhance FSQ research at national & regional level	85% of FSQ research enhanced at national & regional level by 2024-2029	• Review existing data on FSQ in the country • Conduct context specific FSQ research every year • Conduct baseline assessment/desk review on safe use and disposal of agro-chemicals • Conduct assessment to identify gaps on the national FSQ management system • Conduct baseline assessment on current good agricultural practices including animal welfare • Assess indigenous knowledge and practice on FSQ • Conduct baseline assessment for creation of animal disease free zone • Conduct baseline assessment on quality-based grading and pricing systems for PAP • Establish database for FSQ research outputs • Support best practice/experience scale up	Leads(EIAR, MOA, , EAA) Collaborators (EPHI, AHI, LDI, ILIR, development partners)	# of research conducted on FSQ	FSQ research work improved

4.1.2 Enhance human capacity for FSQ research at national & regional level	Capacity-building training provided at least 7 times for FSQ researchers Financial & material incentives provided 7 times for FSQ researchers 3 FSQ researchers deployed from 2024-2029	• Conduct a human capacity gap assessment • Deploy FSQ related researchers coordinator in MoA and EAA • Provide capacity-building training for FSQ researchers • Ensure financial and material incentives for FSQ researchers	Leads (EIAR, MOA, , EAA) Collaborators(E-PHI, AHI, LDI, ILIR, development partners)	# of capacitated researchers	Improved human capacity for FSQ research
4.1.3 Enhance / establish laboratory facilities for FSQ research	At least 7 FSQ research laboratories established One laboratory enhanced	• Conduct an assessment on the existing FSQ laboratory capacity • Establish equipped FSQ research laboratory (food microbiology, food chemistry and food toxicology) • Enhance the capacity of existing • FSQ laboratories	Leads(EIAR, MOA, EAA) Collaborators (EPHI, AHI, LDI, ILIR, development partners)	# of fulfilled laboratory facilities	Improved/enhanced FSQ laboratories

4.1.4. Enhance the dissemination of FSQ research output	100% FSQ research outputs disseminated by 2024-2029/30	• Disseminate FSQ research outputs in national/regional research conferences • Disseminate FSQ research outputs in international research conferences • Link the research output with the agriculture extension system	Leads (EIAR, MOA , EAA) Collaborators(E-PHI, AHI, LDI, ILIR, development partners)	# of disseminated research outputs	FSQ research outputs disseminated for improved FSQ
4.2.3 Enhance facilities for food safety and quality technology innovation and adoption	7 ICT facility enhanced for FSQ technology innovation and adoption 1 laboratory facility enhanced for FSQ technology innovation & adoption	• Enhance ICT facility for FSQ technology innovation and adoption • Enhance laboratory facility for FSQ technology innovation & adoption	Leads(EIAR, MOA, EAA EIAR, MOA, EAA) Collaborators(E-PHI, AHI, LDI, ILIR, development partners)	# of fulfilled facilities	FSQ facilities fulfilled

4.2.4 Enhance the dissemination of FSQ innovated and adopted technologies	At least 95% of innovated and adopted FSQ technologies disseminated	Disseminate innovated and adopted technologies of FSQ quality in national conference Disseminate innovated and adopted technologies of FSQ in international conference Disseminate the innovated and adopted technologies through an agriculture extension system		# of disseminated innovated technologies # of disseminated adopted technologies	FSQ technologies innovated, adopted and disseminated

Strategic Objective 5: Establish/strengthen coordination and collaboration mechanisms and resource mobilization for food safety and quality of primary agricultural produce

Strategic initiatives and actions	Targets	Activities	Responsibility	Performance indicators	Expected out-come
Initiative 5.1: Strengthen national level multisector co-ordination and collaboration for FSQ assur-ance				Number of public private partnerships formed to enhance food safety at varies food value chains and establishment of national coordinating bod	
5.1.1 Enhance coordination and collab-oration of food safety and quality in implementing sectors	One coor-dination mech-anism devel-oped for sectors by 2023/24-2029/30	Identify food safety and quality implementing sectors Identify FSQ activities that can be implement-ed in collaboration Develop coordination mechanism to imple-ment the identified activities	Lead (MOA, EAA, EIAR) Collaborator (Private sectors, development partners)	# Of activities implemented through coor-dination # of collabo-rative projects implemented	FSQ implementing sectors coordi-nated

5.1.2 Enhance food safety and quality coordination and collaboration among public, private sectors and development partners	One coordination mechanism established for public, private sectors and development partners by 2023/24-2029/30	Identify private sectors & development partners that can collaborate with the public in FSQ of PAP Identify FSQ activities that can be implemented in collaboration with private sectors and development partners Develop and agree on coordination mechanism to implement the identified activities	Lead (MOA, EAA, EIAR) Collaborator (Private sectors, development partners)	# of activities implemented through public, private sector and development partners coordination # of collaborative projects implemented by public, private sectors and development partners	Public, private sectors and development partners coordinated for implementation of FSQ
5.1.3 Enhance coordination and collaboration between food safety and quality research management and control		One coordination mechanism established between FSQ research management and control by 2023/24-2029/30	Arrange consultative forums that involve FSQ researchers, controllers and food producers. Develop coordination mechanism to enhance proper FSQ information among researchers, producers and controllers. Lead (MOA, EAA, EIAR) Collaborator (Private sectors, development partners)	# of activities implemented through collaboration and coordination	Research and innovation improved for FSQ assurance

5.1.4 Promote the establishment of food safety and quality coordinating body at national level	One food safety and quality coordinating body established at national level by 2023/24-2029/30	Arrange consultative meeting on how to coordinate food safety and quality assurance at national level Establish national FSQ assurance coordinating body Establish a national FSQ technical working group	Lead (MOA, EAA, EIAR) Collaborator (Private sectors, development partners)	# Of Established coordinating body	FSQ coordinating body established
5.2. Strengthen regional, continental and global coordination and collaboration for food safety and quality assurance				Number of regional, continental and global collaborations made on food safety and quality	
5.2.1 Enhance regional collaboration for FSQ	Regional collaboration enhanced for FSQ by 2023/24-2029/30	Create linkage with neighboring countries to: information exchange in food safety related issues accepting analysis results made in one country in the others Harmonize food safety and quality standards, Develop projects that can be implemented in collaboration with neighboring countries	Lead (MOA, EAA, EIAR) Collaborator (Private sectors, development partners)	# Of collaborations made with neighboring countries	Regional collaboration improved for FSQ

5.2.2 Enhance continental collaboration for food safety and quality	Continental collaboration established for FSQ by 2023/24-2029/30	Develop projects that can be implemented in collaboration with African countries	Lead (MOA, EAA, EIAR) Collaborator (Private sectors, development partners)	# Of collaborations made with African countries	Continental FSQ collaboration improved
5.2.3 Enhance global collaboration for FSQ	Global participation enhanced for FSQ by 2023/24-2029/30	Create linkage with non-African countries to: harmonize food safety and quality standards, accepting analysis results made in one country in the others information exchange in food safety related issues Develop projects that can be implemented in collaboration with non-African countries	Lead (MOA, EAA, EIAR) Collaborator (Private sectors, development partners)	# of global collaborations made	Global linkage improved for FSQ assurance
5.3. Strengthen resource mobilization for food safety and quality strategy of primary agricultural produce				Amount of resource in USD mobilized for food safety and quality assurance	

5.3.1 Mobilize resource for FSQ assurance	At least 20 FSQ resource mobilization project developed by 2023/24-2027 One FSQ fund established by 2023/24-2029/30	Advocate food safety and quality strategy for higher resource allocation and mobilization from public and private sectors Develop projects to finance FSQS Initiate FSQ service payment system Establish FSQ fund	MOA, EAA, EIAR	Amount of fund (USD) raised for FSQS	Sufficient resource mobilized for FSQ

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