THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF AGRICULTURE

NATIONAL COMMUNICATION STRATEGY FOR AFLATOXIN CONTROL

*****DRAFT*****

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ABBREVIATIONS

Agriculture Council of Tanzania	ACT
African Development Bank	AfDB
Agriculture Non State Actors Forum	ANSAF
Agro Z	A to Z
Bank of Tanzania	BOT
Civil Society Organizations	CSOs
Food Self-sufficient ratio	FSSR
Good Agricultural Practices	GAPs
Good Hygienic Practices	GHPs
Good Manufacturing Practices	GMPs
Good Storage Practices	GSPs
Governmental agencies	MDAs
International Agency for Research on Cancer	IARC
International Institute for Tropical Agriculture	IITA
Local Government Authorities	LGAs
Ministry of Agriculture	MoA
Monitoring and Evaluation	M&E
National Aflatoxin Communication Strategy	NACS
Non-Governmental Organizations	NGOs
Partnership for Aflatoxin Control in Africa	PACA
Social and Behaviour Change Communication	SBCC
Tanzania Food and Nutrition Center	TFNC
Tanzania Bureau of Standards	TBS
Tanzania Initiatives for Preventing Aflatoxin Contamination	TANIPAC
Tanzania Revenue Authority	TRA
Television	TV
United Republic of Tanzania	URT

FOREWORD

A clear, accurate and effective communication is fundamental for realizing an aflatoxin-safe nation. The aim of this communication strategy is to facilitate a better understanding of aflatoxin among stakeholders and facilitate timely intervention. It will facilitate improved awareness along the value chain and bringing together different stakeholders, encourage behavioral change, enhance capacity of players, provide consistent information, knowledge, communication and technology on aflatoxin and mitigation measures.

The strategy was prepared using participatory approach that involved various key stakeholders including health, agriculture, trade, industry and environment. This strategy is meant to provide framework and inform policy, build awareness, formulate programs, encourage social and behaviour change across a wide spectrum of stakeholders to mitigate aflatoxin risks.

Certainly, the implementation of this strategy will enhance communication, information and knowledge to minimize the problem of aflatoxin contamination along the food value chains.

ACKNOWLEDGEMENT

The development of this National Communication Strategy for Aflatoxin Control in food value chains required coordinated inputs from various institutions and individuals. Special appreciation to the team of experts from various organizations including; Ministry of Agriculture (MoA), Ministry of Agriculture Livestock Fisheries and Natural Resources (MALFNR) – Zanzibar, President's Office – Regional Administration and Local Government (PO-RALG), Ministry of Health Community Development Gender Elderly and Children (MHCDGEC), Prime Minister's Office (PMO), Ministry of Industry and Trade (MIT), Ministry of Livestock and Fisheries (MLF), Tanzania Food and Nutrition Centre (TFNC), Tanzania Bureau of Standards (TBS), Sokoine University of Agriculture (SUA), University of Dar es Salaam (UDSM), Agriculture Council of Tanzania (ACT), Agriculture Non State Actors Forum (ANSAF), International Institute of Tropical Agriculture (IITA), A to Z Textile Mills Limited and Partnership for Aflatoxin Control in Africa (PACA) for their tireless efforts in compiling this strategy.

Further acknowledgement is due to the National Steering Committee for Mycotoxin Control which initiated the need for having a communication strategy specifically for mycotoxins, and TFNC for taking the lead in coordinating this activity. Financial assistance provided by Global Agriculture and Food Security Program (GAFSP) and Africa Development Bank (AfDB) through Tanzania Initiative for Preventing Aflatoxin Contamination (TANIPAC) project is acknowledged. The contributions from other parties not mentioned above is highly acknowledged.

CHAPTER ONE: INTRODUCTION

1.1 Background

Aflatoxins are naturally occurring toxins produced by certain fungi, mainly *Aspergillus flavus and A. parasiticus.* These fungi produce several types of aflatoxins including AFB_1, AFB_2, AFG_1 and AFG_2. The AFB_1 is recognized by the International Agency for Research on Cancer (IARC) as liver carcinogen (Group I carcinogen). These aflatoxin-producing fungi can colonize several food commodities including important staple crops such as maize, sorghum, millet, rice and cassava, and important cash and nutritional crops such as oilseeds, nuts such as groundnuts, and spices. Since *Aspergillus* species originate in the soil, the biochemical risk of aflatoxins contamination begins from the field and can be worsened later through inappropriate harvesting, drying, handling, storage, processing and transport practices. Factors that favour growth of aflatoxin producing fungi include; damage by plant pests, drought stressors (elevated temperature and low moisture content), inadequate drying and poor storage.

High concentrations of aflatoxin in food or feed cause acute ill-health effect including death. In humans, chronic exposure to lower levels of the toxin leads to immune deficiency, childhood stunting, low birth weight and increased rates of liver disease and cancer. In animals, aflatoxins exert carcinogenic, teratogenic, hepatotoxic, mutagenic effects, suppresses the immune system, decreased farm productivity and death. Animal fed on aflatoxin contaminated feed can in turn produce contaminated milk, eggs etc, which consenquently are consumed by humans.Aflatoxin contamination can lead to country's export ban Losses to producers and traders can also occur in the domestic market if consumer awareness about the problem rises, or if regulations are tightened and more strictly enforced.

1.1.1 Aflatoxin contamination in food

Tanzania like many other tropical countries is affected with aflatoxin contamination in staple foods and feeds. Available evidence indicates that aflatoxin contamination is prevalent in

agricultural commodities mainly maize and groundnuts, which presents a challenge to food security, health and trade.

1.1.2 Dietary exposure to aflatoxin and effects on health

Aflatoxin exposure in humans can be accurately assessed by measuring biomarkers of exposure in biological matrices such as blood, milk and urine which provide direct evidence that the toxin has been consumed. Breast milk samples from lactating mothers and serum samples from children in some parts of the country have been detected with aflatoxin metabolites confirming dietary exposure to the toxin.

Exposure to high levels of aflatoxin causes fatal liver toxicity while chronic exposure to low doses is associated with liver cancer, impaired child growth and immune suppression. In 2016, Tanzania experienced an outbreak of acute aflatoxin poisoning which occurred in Dodoma and Manyara regions. In that outbreak 68 cases were reported out of which 20 died(fatality rate of 30%). Investigation of the disease outbreak confirmed that the victims consumed home grown maize that was contaminated with high levels of aflatoxin. Beside aflatoxins, samples of the consumed maize were also contaminated with other types of mycotoxins, hence increasing the health risk. Moreover, serum samples from the cases were detected with high levels of aflatoxin biomarkers and therefore justified that the cause of the outbreak was exposure to very high levels aflatoxins through contaminated maize. Suspected incidences of aflatoxicosis have been reported in various parts of the country indicating that people continue to consume aflatoxin contaminated food. The existing situation is complex and therefore requires concerted efforts and cooperation among various sectors and players in order to address the problem of aflatoxin. It is therefore important to develop strategies including communication strategy to facilitate the creation of public awareness on prevention and control of aflatoxins in food value chains.

1.2 Rationale for the National Communication Strategy for aflatoxin control

Inspite of the widespread of aflatoxin contamination in food and the significance of its threat, there is very low awareness of aflatoxin, its negative effects and mitigation measures among the stakeholders across the food value chain. It has become evident that inadequate knowledge on pre and post - harvest management practices among smallholder farmers are the main cause of

aflatoxin contamination along maize and groundnuts value chains; and contamination in animal products, such as milk, eggs and meat. However, awareness and knowledge on Good Agricultural Practices (GAPs), Good Manufacturing Practices (GMPs) and Good Hygienic Practices (GHPs) are not widespread hence contribute to increased prevalence of aflatoxin contamination and exposure. Additionally, the bio-control and improved storage technologies which have been proved to be effective and sustainable in reducing aflatoxin levels in food value chain have not been scaled up. In view of the existing situation, individual behavior change is required across the wide spectrum of stakeholders in order to facilitate implementation of cost-effective, efficient and sustainable mitigation of aflatoxin.

The problem of aflatoxin contamination in food is complex and cuts across the agriculture, health, livestock and trade sectors. Despite the current efforts targeted at mitigation of aflatoxin, such efforts are fragmented with limited synergy. There is no standardized way for communicating issues of aflatoxin among different stakeholders thus leading to misinformation and misleading information that may result into ineffectiveness in prevention and control.

This strategy for reducing aflatoxin contamination and enhance food safety in the food value chain, aligns with Tanzania Development Vision 2025 (TDV 2025), National Five Year Development Plan (2016/17 – 2020/21), Agricultural Sector Development Programme Phase Two (ASDP II); and the Tanzania Agriculture and Food Security Investment Plan (TAFSIP), among others.

There is, therefore, a need for developing a holistic communication program for raising public awareness about aflatoxin, its effects and mitigation measures in a coordinated manner. The National Aflatoxin Communication Strategy will foster the sharing and uptake of information, knowledge, services and technologies related to aflatoxin mitigation leading to reduced aflatoxin contamination and enhanced food and nutrition security, public health and trade. The strategy will also encourage behavioral change and improve coordination and information exchange across value chain stakeholders and establish as a reliable source of information.

1.3 Methodology

The development of this National Communication Strategy for Aflatoxin Control was one of the activities in the National Aflatoxin Control Action Plan. The National Mycotoxin Control Steering Committee (NMSC) assigned the Tanzania Food and Nutrition Centre (TFNC) to coordinate the development of the strategy. Consequently, TFNC organized consultative meetings with various stakeholders and developed the first draft.

The first draft was then submitted to the NMSC and reviewed under the coordination of TANIPAC. The review team composed of representatives from the Prime Minister's Office, Ministry of Agriculture, Tanzania Food and Nutrition Centre, Tanzania Bureau of Standards, SUA, UDSM, International Institute of Tropical Agriculture (IITA), A to Z Textile Mills Limited and Partnership for Aflatoxin Control in Africa (PACA).

The reviewed draft was then presented in a validation workshop that included the National Steering Committee for Mycotoxin Control members and other stakeholders that included representatives from, PO-RALG, MoA, MLF, MIT, MHCDGEC, MALFNR-Zanzibar, TARI, TBS, TFNC, UDSM, SUA, ANSAF, and ACT, The comments and suggestions for the improvement of the strategy were received, deliberated and incorporated.

CHAPTER TWO: COMMUNICATION STRATEGY

2.1 Goal

The overall goal of the National Aflatoxin Communication Strategy is to facilitate a better understanding and adoption of aflatoxins control measures among stakeholders and facilitate timely intervention.

2.2 Purpose

The purpose of this strategy is to influence public policy development, inform subsequent programming and promote social and behavior change about the control of aflatoxin in food value chain in Tanzania.

2.3 Critical communication issues

The overall communication issues regarding awareness on aflatoxin contamination in food value chains are;

i. Aflatoxin is invisible by naked eyes, it is tasteless, odourless and colourless.
ii. Capacity of stakeholders in communicating Aflatoxin contamination
iii. Association between aflatoxin and diseases
iv. The sensitivity of the problem given the fact that it affects the major staple foods.
v. Aflatoxin affects all segments of the food value chain.
vi. Multi-sectoral coordination and collaboration
vii. Resources for communication activities.
viii. Incentives, rewards or motivation for farmers to invest in aflatoxin mitigation.
ix. System of data collection, storage, information and knowledge sharing.

2.4 Scope and timeframe

The National aflatoxin communication strategy will focus on crops value chain particularly maize and groundnuts and will be implemented over a five-year (2020-2025) period.

2.5 Target audiences and stakeholders

As already stated, aflatoxin contamination is a problem along the value chain requiring targeted approach on the various stakeholders. This therefore calls for a communication strategy that is able to clearly communicate to all these audiences in a language that can be easily understood.

The audiences are categorized as primary and secondary. The primary audiences are those stakeholders targeted with behavioral practice and action change intervention. On the other hand, secondary or influencing audiences are those stakeholders whose actions can enhance the adoption of improved behavior or practice of the primary audiences.

Table 1 Target audiences and stakeholders

Primary audiences:	**Secondary audiences:**
i. Farmers, livestock and fish farmers, ii. Stockists iii. Transporters; iv. Consumers; v. Extension service providers (public and private); vi. Public health workers; vii. Nutritionists; viii. Commodity traders; ix. Food/feed processors; x. Policy and decision makers; xi. Agricultural input and technology providers; xii. Journalists.	i. Researchers; ii. Governmental agencies (MDAs); iii. Regulatory authorities; iv. Specialized group (influencers, early adapter and other beneficiaries); v. Non-Governmental Organizations (NGOs); vi. Financial institutions and development partners; vii. Faith-based organizations.

2.6 Stakeholders information messages

Audiences are grouped according to their information needs, roles and responsibilities as far as aflatoxin contamination problem is concerned. Therefore, messages to be developed will be based on the level of literacy, technical competence or familiarity with the aflatoxin issues. This

communication strategy has identified the following typology of information needs as per the broad diversity of primary and secondary audiences along the food value chain levels:

i) Scientific information: To extension service providers for wider dissemination (GAP, GMP, GHP).

ii) How-to information: To end users for application; and should be simple and illustrative.

iii) Evidence based information: To Decision makers for policy facilitation and decision making.

2.7 Issues to be communicated

Communication strategy will focus on delivering information and knowledge on best practices including GAP, GSP, GMP and GHP. The following are the key areas that need to be communicated to the target audience along the value chain:

a) Pre harvesting practices

- Ensure land preparation is done at the right time preferably before the onset of rains.
- Planting should be done at the onset of rains to avoid the dry season before crop maturity.
- Ensure inputs are properly selected and correctly used including recommended certified seeds, fertilizers, herbicides and pesticides.
- Apply biocontrol products such as Aflasafe TZ01 as a pre-harvest aflatoxin mitigation measure as may be prescribed.
- Ensure appropriate density of planting by maintaining the recommended row and intra- plant spacing for the species/varieties grown.
- Crop rotation
- Ensure insect, pest and weed control are effective.

b) Harvesting

- Ensure timely harvesting at full maturity.
- Avoid mechanical damage to the grain.
- Avoid direct contact of the produce with soil during the harvesting operation.
- Sort to remove immature and infested crops but do not feed the infested crops to livestock.
- Avoid piling or heaping of freshly harvested produce.

c) Post - harvest practices

- Use proper equipment such as threshers and tarpaulins during threshing and drying respectively.
- Ensure that drying is properly done to the required moisture content in different crops.
- Pre-clean and sort before storage to remove straws, damaged grains or other plant materials that can carry moulds or mould spores.

d) Storage

- Clean, repair and disinfect the storage structures before bringing in new harvest.
- Use recommended storage technologies such as hermetic technology (bags and silos).
- If using pesticides use only recommended pesticides and according to manufacturers' instructions.
- Storage structures such as granaries and warehouses should be properly designed for aeration, inspection and should be able to deter water, insects and rodents.
- Bagged grain should be stacked on pallets and kept away from the wall.

e) Transport from storage

- Transport containers and vehicles should be dry, clean and water proof.
- Avoid transporting when it is very wet especially where the road network is not reliable.

f) Processing and cleaning after storage

- Before processing, sort and clean to remove mouldy infected and/or damaged kernels.
- Dehulling can be used as an option for reducing mycotoxin contamination in milling fractions as the outer parts of the kernel of most cereal grains typically contains higher mycotoxin levels.

(g) Regular testing and inspection of susceptible products

- Regular monitoring and surveillance of products susceptible to aflatoxin contamination to facilitate timely detection of aflatoxin contaminated products.
- Testing for aflatoxin for new processed products before entry into the market to ensure compliance to the standard.

- Emphasize on aflatoxin testing in tradable goods both for local and international markets.

2.8 Strategic Objectives

i. To promote knowledge, information, technologies and innovations sharing on how to control Aflatoxin among actors in the food value chain.
ii. To improve institutional communication in coordination and collaboration.
iii. To build capacity on communication skills regarding aflatoxin awareness and education to stakeholders.
iv. To promote food safety through aflatoxin surveillance.

Table 2 Strategic objective matrix

Strategic objective	Activity	Target audience	Communication channel
Strategic objective 1: To promote knowledge, information, technologies and innovations sharing on how to control Aflatoxin among actors in the food value chain.	Train and conduct demonstration on aflatoxin prevention and control; food safety and consumer protection	Farmers, livestock and fish farmers, Stockist, Transporters Consumers, Extension service providers, (public and private), Public health workers Nutritionists, Commodity traders, Food/feed processors, Policy and decision makers, Agricultural input and technology providers, Journalists, Researchers, Governmental agencies (MDAs), Regulatory authorities, Specialized group (influencers, early adapter and other beneficiaries), Non-Governmental Organizations (NGOs), Financial institutions and development partners, Faith-based organizations	Farm Field Schools, Mass media (tv, radio, news papers) Social media platforms (blog, twitter, whatsapp and face-book) Facts sheets (leaflets, brochures, posters, banners, fliers, popular version) Mobile phone instant messaging tools and applications.
	Train warehouse operators on aflatoxin prevention and control; food safety and consumer protection measures		
	Disseminate training content on aflatoxin prevention and control; food safety and consumer protection		
	Repackage and dissemination of key research findings on aflatoxin to different stakeholders.		
	To develop, print and disseminate content for the information, education and Communication (IEC) materials and website		
	Coordinate the development and production of media programs and dissemination of key messages on aflatoxin control to specific audience		

Strategic objective	Activity	Target audience	Communication channel
Strategic objective 2**:** To improve institutional communication in coordination and collaboration.	Coordinate advocacy campaign to create awareness on aflatoxin control.	Governmental agencies (MDAs), Regulatory authorities, Non-Governmental Organizations (NGOs), Financial institutions and development partners	Mass media (tv, radio, news papers) Social media platforms (blog, twitter, whatsapp and face-book) Facts sheets (leaflets, brochures, posters, banners, fliers, popular version) mobile phone instant messaging tools and applications.
	Organise regular coordination meeting for TANIPAC Project Steering Committee members and National Steering Committee for Mycotoxin Control		
Strategic objective 3: To build capacity on communication and advocacy regarding aflatoxin awareness and education to stakeholders.	Train media/communication practitioners on effective reporting regarding aflatoxin management	Journalists, communication officers, public relation officers	Mass media (tv, radio, news papers) Social media platforms (blog, twitter, whatsapp and face-book) Facts sheets (leaflets, brochures, posters, banners, fliers, popular version) mobile phone instant messaging tools and
	Training of non-media practitioners on effective communication and advocacy regarding aflatoxin management	Farmers, livestock and fish farmers, Stockist, Transporters Consumers, Extension service providers, (public and private), Public health workers Nutritionists, Commodity traders, Food/feed processors, Policy and	

Strategic objective	Activity	Target audience	Communication channel
		decision makers, Agricultural input and technology providers, Researchers, Governmental agencies (MDAs), Regulatory authorities, Specialized group (influencers, early adapter and other beneficiaries), Non-Governmental Organizations (NGOs), Financial institutions and development partners, Faith-based organizations	applications.
Strategic objective 4: To promote food safety through aflatoxin surveillance.	Communicate the results of regular participatory surveillance of food safety and aflatoxin measures in market outlets, warehouses and food processing sites.	Farmers, livestock and fish farmers, Stockist, Transporters Consumers, Extension service providers, (public and private), Public health workers Nutritionists, Commodity traders, Food/feed processors, Policy and decision makers, Agricultural input and technology providers, Journalists, Researchers, Governmental agencies (MDAs), Regulatory authorities, Specialized group (influencers, early adapter and other beneficiaries), Non-	Mass media (tv, radio, news papers) Social media platforms (blog, twitter, whatsapp and face-book) Facts sheets (leaflets, brochures, posters, banners, fliers, popular version) mobile phone instant messaging tools and applications.

Strategic objective	Activity	Target audience	Communication channel
		Governmental Organizations (NGOs), Financial institutions and development partners, Faith-based organizations	
	Documentation of key achievements, success stories, case studies and testimonials on aflatoxin control from different stakeholders in the food value chain	Journalists, communication officers, public relation officers	

CHAPTER THREE: IMPLEMENTATION ARRANGEMENT

3.1 Operation Plan

This strategy will be implemented in a span of five years (2020 - 2025). The Ministry of Agriculture in collaboration with relevant actors will coordinate the implementation of the strategy including preparation of operation plan with detailed activities, timeframe and budget.

3.2 Roles and Responsibilities of Key Actors

This implementation arrangement identifies the roles and responsibilities of key actors. The success of communications strategy is largely dependent on effective leadership, coordination and collaboration among stakeholders. To achieve smooth and coherent implementation of the strategy, therefore, requires articulation of specific roles and responsibilities of all stakeholders. In addition, it is imperative that stakeholders should be empowered to play their roles competently and consistently. This section highlights roles and responsibilities of principal participants in communication efforts to enhance their understanding and generate their support and raise the profile mitigation measures of aflatoxin infestation in food value chain in Tanzania.

Table 3 Roles and responsibilities of key actors

Actors	Roles / responsibilities
TBS	i) To communicate the national standards for aflatoxin susceptible products to the relevant stakeholders ii) To sensitize food manufacturers on GMP, GHP, for control of aflatoxin iii) To develop protocals for food inspectors on aflatoxin communication
TFNC	i) To review and disseminate communication materials and Social and Behaviour Change Communication SBCC kit to

	incorporate aflatoxin communication messages ii) To review and disseminate SBCC kit to incorporate aflatoxin messages for agriculture extension officers iii) To educate the community on prevention of aflatoxin contamination during food preparation
Institutions of Higher Learning and Research Agencies	i) To communicate research outcomes related to aflatoxin prevention and control to food and feed value chain stakeholders ii) To incorporate aflatoxin issues in curricula
Ministry of Health, Community Development, Gender, Elderly and Children	i) To communicate on aflatoxin heath effects and mitigation measures in consultation with the ministry of agriculture and ministry of trade ii) To conduct advocacy meeting with Development partners, LGAs and MDAs on mycotoxin prevention and control; food safety and consumer protection
Ministry of Industry and Trade	i) To communicate GMPs to stakeholders ii) To conduct advocacy meeting with CSOs and political leaders on mycotoxin prevention and control; food safety and consumer protection.
Ministry of Agriculture	i) To develop and disseminate guidelines for preventing and control aflatoxin contamination along the food value chain ii) To disseminate technologies for prevention and control of aflatoxin iii) To demonstrate on GAPs measures iv) To train agricultural extension providers, produce inspectors,

	agricultural extension officers on aflatoxin control measures v) To communicate on the available agricultural inputs and technologies relevant to aflatoxin control to value chain stakeholders vi) To incorporate aflatoxin mitigation measures in agriculture training curricula.
SIDO	i) To communicate GMPs to food and feed processors ii)
LGAs (Regional, Councils and community levels)	i) To formulate and communicate bylaws relevant to aflatoxin control ii) To conduct regular participatory monitoring of food safety and mycotoxin measures in market outlets, warehouses and food processing sites. iii) To train and conduct demonstration to farmers groups in Farmer Field Schools on mycotoxin prevention and control; food safety and consumer protection
Development partners	i) To provide technical support to MDAs, CSOs, Food Processors and Institutions of Higher Learning and Research Agencies institutions on mycotoxin prevention and control; food safety and consumer protection. ii) To mobilize resources to facilitate implementation of the aflatoxin communication strategy.
Private sector	i) To disseminate aflatoxin control communication information ii) To communicate on the available aflatoxin mitigation technologies

Civil Society Organizations	i) To mobilize resources in support of mycotoxin prevention and control; food safety and consumer protection. ii) To train and conduct demonstration to farmers groups in Farmer Field Schools on aflatoxin prevention and control; food safety and consumer protection
	i)
The media	ii) To develop and disseminate messages for raising the level of public awareness on mycotoxin prevention and control; food safety and consumer protection. iii) To coordinate and prepare special communication program
Ministry of Livestock and fisheries development	i) To sensitize animal feed manufacturers on GMP, GHP, for control of aflatoxin ii) To develop protocals for feed inspectors on aflatoxin communication

CHAPTER FOUR: MONITORING AND EVALUATION ARRANGEMENT FOR NATIONAL AFLATOXIN CONTROL COMMUNICATION STRATEGY (NACS)

4.1 Purpose of the Monitoring and Evaluation Arrangement

Monitoring and Evaluation (M&E) is an integral part of the communications strategy to ensure that activities are being implemented according to planned timelines and establish progress in realization of the objectives of this strategy. Monitoring involves routine collection of information and analysis to track progress against set plans and check compliance to established standards. This will help identify trends and patterns, adapt strategies and inform management decisions.

Apart from monitoring, evaluations will be carried out to assess, as systematic and objective as possible, ongoing or completed interventions, their designs, implementation and results, to determine the relevance and fulfilment of objectives, developmental efficiency, effectiveness, impact and sustainability. The main purpose of carrying out evaluation is to get credible and useful information that will enable the incorporation of lessons learned into the decision-making process for beneficiaries and management. Progress and Monitoring reports will be an input to evaluation.

This M&E is built on the existing structures of the government and will be coordinated within the existing TANIPAC M&E framework, with reports gathered on quarterly basis and outcome surveys be organized annually.

Formal surveys will be conducted to benchmark and measure the efficacy of the messages in bringing about behavior, practice and action changes among the targeted stakeholders. Awareness and assimilation of the message will be measured among targeted audiences so as to examine the realization of strategy objectives. The results will inform decisions about any need for adjustments that may be required and resultant risks that need to be managed. There will be annual evaluation events that will be carried out twice, one at the middle of the strategy life span and one at the end of the strategy.

Table 4 Logical framework for monitoring and evaluation of Aflatoxin prevention and control communication strategy

Programme Logic	Objectively verifiable indicators	Means of verification	Assumptions
Goal: To facilitate a better understanding and adoption of aflatoxins control measures among stakeholders and timely intervention.	• Gross value of exports (maize and groundnut) • Food self-sufficient ratio (FSSR) • Cases of aflatoxin related illnesses reported (aflatoxin outbreak and stunting)	Tanzania Health and Demographic Surveys; Ministry of Health (National Task Force reports) TRA, BOT, MoA	• Political will and support • Timely disbursement of funds
Purpose: To influence public policy development, inform subsequent programming and promote social and behavior change about the control of aflatoxin in food value chain in Tanzania.	• Proportion of traded maize and groundnuts that complied with aflatoxin safe levels • Awareness rate about aflatoxin • Awareness rate (%) by stakeholders of aflatoxin-relevant laws and regulations • Adoption rate of pre and post-harvest technologies and practices (disaggregated by gender and by technology)	• Proceedings of quarterly coordination and review meetings • Proceedings of advocacy meetings • Reports	• Availability of resources (human, financial, materials and time) • Prioritization of food safety among stakeholders

Programme Logic	Objectively verifiable indicators	Means of verification	Assumptions
Outputs: 1) Coordinated stakeholders as they implement communication on the control of aflatoxin in food value chain in Tanzania. 2) Reduced misinformation and misleading messages 3) More coherent public policy, informed program and adoption of positive behavior change about the control of aflatoxin in food value chain in Tanzania. 4) Enhanced information sharing across sectors about the control of aflatoxin in food value chain in Tanzania. 5) Increased awareness among stakeholders at various levels about the control of aflatoxin in food value chain in Tanzania.	• Number of platforms formed • Number of platform members (by Gender) • Number of reports submitted • Number of events held • Number of radio, TV programmes aired • Number of print materials developed and disseminated	• Proceedings of quarterly coordination and review meetings • Monitoring reports • Proceedings of advocacy meetings	• Availability of resources (human, financial, materials and time) • Prioritization of food safety among stakeholders

Programme Logic	Objectively verifiable indicators	Means of verification	Assumptions
Activities:			
Train and conduct demonstration on aflatoxin prevention and control; food safety and consumer protection	• Number of training sessions conducted • Number of stakeholders trained	Reports	• Resources will be available • Stakeholders will attend training sessions
Train warehouse operators on aflatoxin prevention and control; food safety and consumer protection measures	• Number of training sessions conducted • Number of warehouse operators trained	Reports	• Resources will be available • Warehouse operators will attend training sessions
Disseminate training content on aflatoxin prevention and control; food safety and consumer protection	Number of print materials developed and disseminated	Reports	• Resources will be available
Repackage and dissemination of key research findings on aflatoxin to different stakeholders.	Number of print materials developed and disseminated	Reports	• Resources will be available
To develop, print and disseminate	• Number of materials	IEC materials produced	• Resources will be

Programme Logic	Objectively verifiable indicators	Means of verification	Assumptions
content for the information, education and Communication (IEC) materials and website	developed and disseminated	Report	available
Coordinate the development and production of media programs and dissemination of key messages on aflatoxin control to specific audience	Number of platforms formulated	Aired media programs Report	• Resources will be available
Coordinate advocacy campaign to create awareness on aflatoxin control	Number of platforms formulated	Report	• Resources will be available
Organise regular coordination meeting for TANIPAC Project Steering Committee members and National Steering Committee for Mycotoxin Control	Number of meetings conducted	Report	• Resources will be available • Availability of the Committe members
Train media/communication practitioners on effective reporting regarding aflatoxin management	• Number of training sessions conducted • Number of communication practitioners trained	Report	• Resources will be available • Availability of communication practitioners

Annex

Audience	Key messages
Farmers/livestock keepers/fish farmers	Protect yourself, your family and other consumers from aflatoxin contaminated foods through timely planting, use of certified seeds, fertilizers, pesticides and biocontrol as recommended and all other GAPs. Protect your produce from aflatoxin contamination by ensuring timely harvesting, use of recommended technologies and practices for proper handling including threshing, drying, packaging, storage and processing technologies and practices. Adoption of the above will lead to healthy plants and better yields and aflatoxin safe food. Do not feed aflatoxin contaminated produce to farm animals and fish
Agricultural Extension Service Providers	Educate farmers on timely planting, use of certified seeds, fertilizers, pesticides and biocontrol as recommended, Observe all other GAPs. Educate farmers on the importance of timely harvesting, use of recommended technologies and practices for proper handling including threshing, drying, packaging, storage and processing technologies and practices Results in healthy plant less susceptible to aflatoxin protecting you, your family and other consumers
Agricultural input and technology providers	Produce/supply appropriate inputs and technologies focused on reduction of aflatoxin contamination e.g. seeds; fertilizers; pesticides; bio-pesticides; cleaning, testing and drying equipment and hermetic storage technologies
Commodity traders	Get educated on aflatoxin to avoid aflatoxin related losses by including

Audience	Key messages
and Processors.	aflatoxin control measures Increase income by educating farmers on aflatoxin mitigation measures. Increase income by observing best practices as well as ensuring compliance with aflatoxin standards as part of standard operating procedures
Public health officers and nutritionists	Prevent health hazards by educating on quality control measures, good manufacturing and hygienic practices and compliance with aflatoxin standards for food safety Use balanced and diversified diet Prevent health hazards through regular inspections and surveillance to ensure compliance with aflatoxin standards for food safety
Consumers	Protect your produce from aflatoxin contamination by using recommended technologies and best practices for proper handling including drying, sorting, winnowing, flotation, processing, and storage. Dangers of aflatoxin are either short term or long term and can occur anywhere along the food value chain including in homes and farms.
Policy and decision makers	Relevant data and evidence on occurrences, effects and frequency of aflatoxin incidences
Media	Accurate information on aflatoxin its occurrence, effects and prevention