



Malawi Program for Aflatoxin Control: MAPAC

Misheck M.M. Soko¹, Isaac Gokah² and Bridget Kauma²

Food Safety for Nutrition Security Conference
Global Donor Platform on Rural Development
Berlin, 1-2 October 2014

¹ Department of Agricultural Research Services, Box 30779, Lilongwe, Malawi

² Ministry of Industry and Trade, PO Box 30366. Capital City Lilongwe 3, Malawi



Background



- Agricultural based economy producing crops both for food and sale (domestic and export)
- Lies in tropics where climate is conducive for :
 - **Groundnuts, maize** (plus other cereals) and **cassava** production– staple and for economic livelihood
 - **All conducive to Mycotoxin production** including **aflatoxin**



Safety of food in Malawi...



- Farmer awareness of aflatoxins: slightly over 40%¹
- 2/3 of the farmers thought its only peanut problem¹



¹Matumba et al and Soko et.al Unpublished results

Extent of Aflatoxin contamination in Malawi

Product	Survey yr	# of samples	Tolerable level (µg/kg)	>Tolerable level (µg/kg)	Mean±STDev.(µg/kg)
Maize ¹	2011	90	3*	34%	164±248
Maize ²	2012	180	3*	43%	70±107
Maize based beer ³	2012	9	10**	89%	90±95
Peanut butter ⁴	2012	14	10**	100%	76±23
Groundnuts ⁵	2008	1053	4***	46%	-
Groundnuts ⁵	2009		4***	23%	-

1-Matumba et al. manu in prep;

2-Matumba et al., 2013; World Mycotoxin Journal 6(4): 367-373

3-Matumba et al., 2014. Food Control 39: 87-914

4-Matumba et al., 2014. Food control 36: 253-256

5-Monyo et al., 2012. Crop Protection 42: 149-155

*Standard for ready to eat food: CAC ,1995 (CODEX STAN 193-1995).

** Malawi Bureau of Standards

** ** EC regulation

Regulation of mycotoxins In Malawi

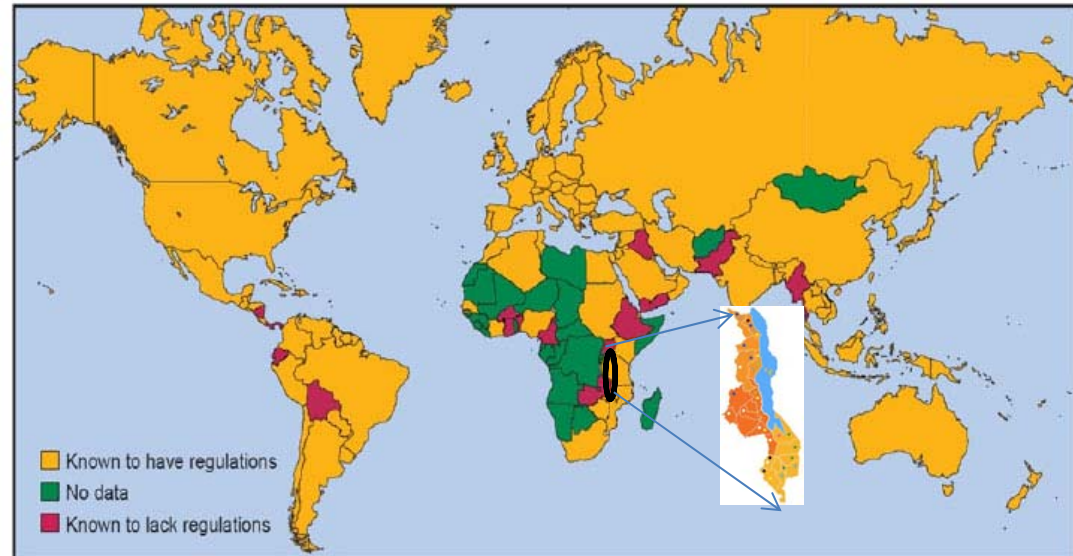


Figure 1 – Countries known to regulate mycotoxins in food and feed (yellow), those where it is unknown whether regulations exist (green), and nations known to have no specific regulations (red) (FAO, 2004). Modified from Cast, 2003.

- Mycotoxin regulations have little impact on agrarian setup in Malawi
 - Production is subsistence : **85%** of population producing their own
 - **65%** of population are poor and **36% ultra poor(<\$1/day)** making practically impossible for people to discard contaminated food

Origin of Malawi Program for Aflatoxin Control (MAPAC)

- Work to prioritize Sanitary and Phytosanitary needs using STDF tool for SPS Market Access Prioritization, based on multi criteria decision analysis (supported by USAID/Malawi)
- 16 capacity building options identified and prioritized
 - Aflatoxin being amongst the first 4 that were consistently ranked as high priority
- Scoping study (funded by STDF) to develop a coordinated response to control aflatoxins -- MAPAC



The Aflatoxin Mitigation Challenge in Malawi

- Piecemeal approach to Aflatoxin control with little impact
- Lack of “National” effort to mitigate aflatoxin contamination – the reason for MAPAC
- Regional involvement patchy and limited

Rational for MAPAC

It is a national program that:

- takes stock of existing initiatives to address aflatoxin contamination in groundnuts and maize
- Identifies outstanding gaps
- prioritizes and promote coordination and synergies among various stakeholders involved in addressing aflatoxin-related problems
- An initial effort to:
 - create a shared vision and prioritize entry points, and suggests mechanisms for effective coordination and collaboration
 - A conduit to effectively engage in regional/ continental/global efforts such as PACA

Objectives of MAPAC

- Develop Malawi's capacity to effectively control aflatoxin in key value chains (esp. for Groundnut & Maize)

Approach:

- Multi-sectoral (agriculture, trade, health), multi-stakeholder, bottom-up

MAPAC Components

1. Mainstreaming (Integrating) Good Practices and Technologies into key Value Chains
 - Research – resistance screening, Biocontrol (**initiatives in place – USAID interested in funding this aspect**)
 - awareness creation, training and technology dissemination
 - Strengthening supply-chain coordination for mainstreaming practices/ technologies;
2. Testing, Standards & Policies
 - Diagnostic testing and accreditation
 - Standards, regulations and policy frameworks
 - Increase access to rapid screening for mycotoxin to farmers
3. Public awareness, advocacy, and consumer education
 - Augment farmers' knowledge about Pre- and Post-harvest prevention and management strategies for mycotoxins (not only aflatoxin)

Priority MAPAC Actions and Status

	Activities	Likely Source of Funding	Status
Activity 1	Develop and deploy a Biocontrol product of aflatoxins to reduce maize and groundnut crop contamination	USAID, Malawi	Proposal submitted
Activity 2	Consultancy to quantify the aflatoxin (fumonosis) problem through assessing the occurrence/prevalence in the groundnut and maize value chains and analysing blood samples and relating it to dietary intakes	PACA	Will be happening under AfricaAIMS
Activity 3	Conduct a cost benefit analysis of post harvest interventions and validate best technology for drying, shelling, and storage for improved aflatoxin control and management for maize and groundnuts	USAID FtF-INVC	Conception stage
Activity 4	Develop and rollout a sector wide aflatoxin awareness and skills development strategy	ASWAp/WB	Conception stage
Activity 5	Strengthening aflatoxin testing/analytical capabilities in DARS at Chitedze Agricultural Research Station	ASWAp/WB	Conception stage
Activity 6	Market analysis of value addition products (groundnut oil, groundnut cake) that can be created from contaminated groundnuts: Determine optimum processing for contaminated groundnuts and conduct initial analysis of markets	USAID FtF-INVC	Conception stage

Priority MAPAC Actions and Status

	Activities	Likely Source of Funding	Status
Activity 7	Conduct research to better understand the effects of irrigation and fertilization as an aflatoxin risk-reduction measure in Malawi		
Activity 8	Support the MAPAC coordination unit	ASWAp/WB	Funding Confirmed
Activity 9	Estimate economic impact due to aflatoxin contamination	PACA	Conception Stage
Activity 10	Aflatoxin awareness/education is incorporated as core element of nutritional campaigns		
Activity 11	Consultancy to quantify the aflatoxin (fumonosis) problem through assessing the occurrence/prevalence in other food crops		
Activity 12	Develop capacity for Public Health Labs in Aflatoxin-related disease testing		
Activity 13	Assessing the cost effective screening and testing method (Integrated approach)		
Activity 14	Develop food safety policy (MoH situation analysis recommendation)		
Activity 15	Assessment of Nuts in Shell Trade	DFID/MOST	Study On-going

Important partners and their roles

Partner	Role
STDF	Funded the PPG proposal from Malawi for a scoping study on Aflatoxin and the development of the Project document currently referred to as MAPAC
PACA	<ul style="list-style-type: none"> •Establish Africa Aflatoxin Information Management System (AfricaAIMS); PACA will train 10 people per Pilot country in 3 sectors (health trade and agriculture) for data collection, analysis and submission on AfricaAIMS •Support country-led aflatoxin situation analysis and action plan; - Malawi has already done this but only needs to fill some of the identified gaps •Mainstream aflatoxin control through the PACA initiative in CAADP National Agriculture and Food Security Investment Plans (NAFSIPs)
COMESA	<ul style="list-style-type: none"> •actively engaged in the conception and implementation of PACA endorsement at the 7th CAADP Partners Platform •engaged in a number of initiatives, aimed <i>at improving and harmonizing the policy and regulatory environment for aflatoxin control</i>

Important partners and their roles

Partner	Role
USAID	<ul style="list-style-type: none">•funded the MCDA which identified Aflatoxin as one of the key priority SPS capacity building option and need for Malawi•Support for Bio-control
USAID FtF-INVC	<ul style="list-style-type: none">•Cost benefit analysis and validation of post harvest technologies•Market analysis of value addition for contaminated products
World Bank	<ul style="list-style-type: none">•Develop and rollout a sector wide aflatoxin awareness and skills development strategy•Strengthening aflatoxin testing/analytical capabilities in DARS•Support to the MAPAC Coordination Unit
DFID/Most	Assessment of Nuts in Shell Trade
GIZ	through this meeting – Donor Platform on Food Safety and Nutrition Security initiatives World Bank – Activities 4, 5, and 8

A shared vision:
Advancing Collaboration
for Effective Aflatoxin
Control in Malawi

