



Partnership
for Aflatoxin
Control in Africa

Partenariat pour
la lutte contre
l'aflatoxine en Afrique

Parceria para o
Controle da
Aflatoxina em África

الشراكة من أجل مكافحة
الافلاتوكسين في أفريقيا

Policy and Regulations for Aflatoxin Control in ECOWAS

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Background



Key 'building blocks' of effective food safety systems:

- **Food laws and regulations**
 - application of preventative control measures need to be present.
 - technical regulations or standards and are ideally based on international standards
- **Food control management**
 - A national system must exist to provide the overall management and coordination of the system.
 - A national policy led by one or more ministries or a separate body with responsibility to develop the system (e.g. a Bureau of Standards, Food Safety Agency).
- **Inspection services**
 - Enforcement is a key tool to ensuring compliance with legislation.
 - Need competent staff with sufficient resources to prevent and to inform stakeholders about remedial measures.
- **Laboratory services**
 - Main objectives are food monitoring and generation of epidemiological data.
 - Reliable and efficient laboratory analysis is an important part of the control system, providing a quick indication of whether a food fails to meet legal requirements
 - Laboratory services should also be capable of providing more general data on the food safety problems in the country within the scope of risk assessment.
 - The relevant laboratories may be spread amongst different organizations; but this would require effective cooperation and networking.

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Food safety ECOWAS?

- Previous studies on food safety regulation in the UEMOA and ECOWAS led by WATH (dated 2007 & 08) (16 reports)
- EU funded “Programme Qualité” implemented by UNIDO (starting in UEMOA; 15 Ecowas countries + Mauritania)
 - Phase I (2001-2005) €12,001,425
 - Phase II (2007-2012) €16,500,000
- Project enhanced competitiveness of enterprises and ensuring compliance with international trade rules and technical regulations.
- National and regional infrastructure for quality, standardization & conformity assessment were developed
- Many bi-lateral projects (CTB-Benin/fisheries)



Objectives

The objectives of this survey are to assess:

- Policies, regulations and standards on aflatoxins in the ECOWAS region
- Existing aflatoxin testing capacities (both laboratory facilities and technicians) in ECOWAS Member States.

Methodology

- A questionnaire was used to collect data from 43 of the 92 (46.74%) contacted persons in the 15 Ecowas countries from regulatory institutions, research and teaching and the private sector.
- The preliminary report will be updated with results from this workshop to validate the preliminary findings and guide the study to completion
- Results will be used for the formulation of a regional action plan.

Policies in place

- Nine (60%) of the 15 countries have a food safety legislation.
- Only, 20% of the countries (Benin, Nigeria and Ghana) have a national aflatoxin standard.
- Most of the other countries use codex limits or the limits required by major trading partners, such as China (for Senegalese groundnut exports) or the European Union (EU).

Regulation and enforcement

Country		AFB ₁	AF _{tot}
Benin	Groundnuts to be subjected to sorting or other physical treatment, before human consumption or use as an ingredient in foodstuffs	8µg/kg	15µg/kg
	Nuts to be subjected to a sorting treatment or other physical treatment, before human consumption or use as an ingredient in foodstuffs	5µg/kg	10µg/kg
	Peanuts, nuts and products derived from the processing , for human consumption or use as an ingredient in foodstuffs	2µg/kg	4µg/kg
Nigeria	Ready to eat		4µg/kg
	Further processing		10µg/kg

- Aflatoxin control is only on exports and seldom for imports – inexistence for local consumption

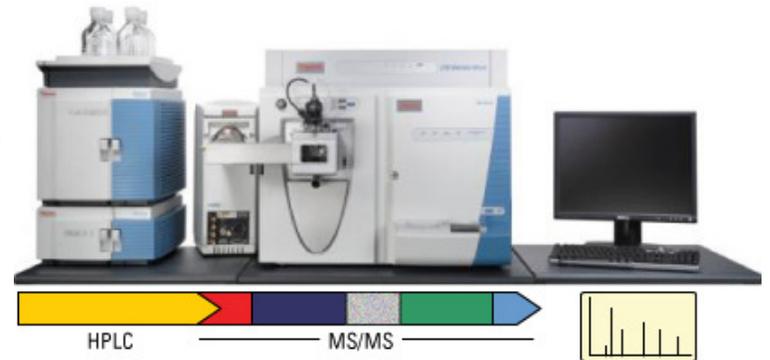
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Institutional authorities

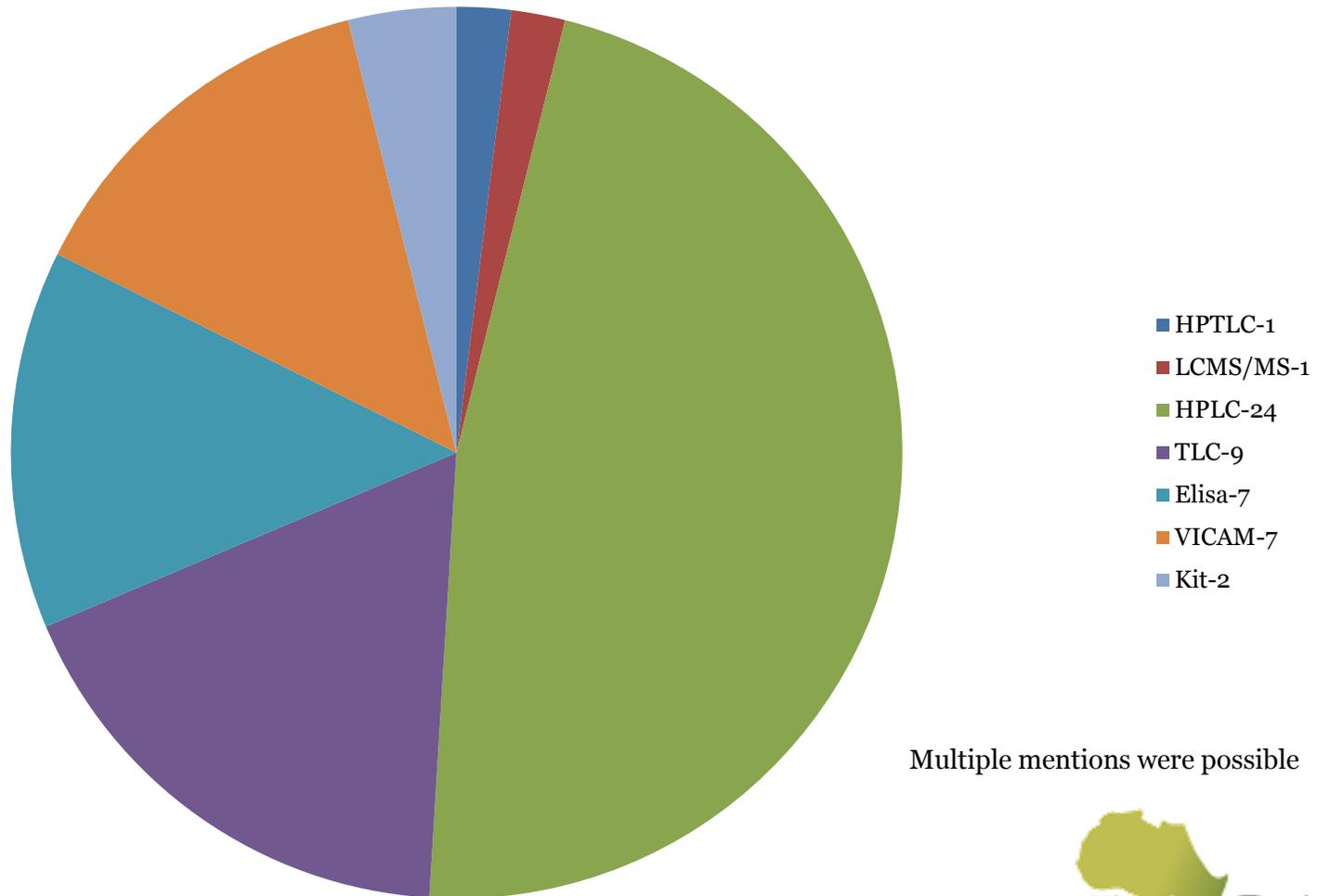
- In most countries multiple agencies are responsible for food safety, only Benin, The Gambia and Mali have one agency
- Most publicly available data on aflatoxin prevalence comes from research institutions (Nigeria, Benin)
- Groundnut prevalence (Benin, Burkina Faso, Côte d'Ivoire, The Gambia, Ghana, Guinea, Mali, Nigeria, Senegal, Togo)

Testing capabilities



- Countries have at least one laboratory with aflatoxin testing capacity (most often public; rarely private CI, CV, often 5-9 labs)
- Many countries have advanced equipment like HPLC, (GC MS/MS; BF, Benin)
- Many labs participate in ring-testing
- Only Ghana, Nigeria accredited (many in process)
- Easy access to consumables, **maintenance??**
- **Low number of well qualified staff in the labs**

Analytical methods



Multiple mentions were possible

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Cost of analysis & no. samples

Country	Cost aflatoxin analysis	Number samples analyzed annually
Benin	55.000cfa-local; 80,000 GSA ¹	<20 GSA
Burkina Faso	50 000 - 100 000 FCFA	100-500
Cape Verde	n/a	n/a
Cote d'Ivoire	10 000 to 40 000 F CFA	100-500
Gambia	About D1500.	50-100
Ghana	140 Ghana Cedis	100-500
Guinea	No response	
Guinea-Bissau	No response	
Liberia	Not yet determined	Not yet determined
Mali	6000-8000cfa	100-500
Niger	Not specified	Not specified
Nigeria	50,000 (HPLC); 2000 - 5000 Naira	>2000
Senegal	53100 FCFA	2013-188 samples; 2014-216 samples
Sierra Leone	Not yet estimated	<20
Togo	20 000 - 80 000 FCFA	<20

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GAPS analysis



Food safety policies

- Often overlap between multiple authorities
- Only Ghana has Code of Practice/SOP for Food Hygiene in Processing; but no Code of Practice for other stakeholders such as farmers
- Laboratory facilities and technicians
 - Have good facilities and human capacity (recent training)
 - Lack the necessary routine due to low number of samples (50-100)
- Prevalence data
 - Aflatoxin analysis only for export trade – rarely food surveillance
 - Research publishes most prevalence data
 - Regulatory agencies, extension system & industry users generate high number of data that is not available

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Recommendations

Aflatoxin control and management

- Gather, share, and scale lessons learned from successful efforts to reduce aflatoxin in West Africa including cost/benefit (Nestle maize (GH, NG), groundnut aflatoxin management (SN), maize postharvest management (GUI), biocontrol (NG, BF etc.)
- Develop a regional code of practice (standard operating procedure) for the prevention and reduction of mycotoxin contamination in maize, groundnut, rice and sorghum (similar to existing FAO COP CAC 51-2003)
- Pre-package aflatoxin awareness and control material and send to all projects on the continent working on value chain development of relevant products.
- Associate all chain actors in control efforts.

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Recommendations

Aflatoxin control and management

- Create awareness on the role of quality control in safeguarding people's health & well-being.
- Create awareness and training on low cost technologies: production, harvest, shelling, drying and storage and processing
- Involve policy and decision makers in decentralized campaigns for awareness creation and aflatoxin control
- Include aflatoxin control in the national nutrition action plans (SUN-Initiative; regional platform).
- Collect data on exposure to other mycotoxins and the risk of multi-mycotoxin exposure; and their health impact.
- Need to create value from 'waste products' sorted out products
- Develop research for development programs to address other food safety risks (multi-toxin exposure, pesticide residues, veterinary drug residues, food hygiene).

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Recommendations

Improved institutional arrangements for aflatoxin management

- Improve coordination between ECOWAS food safety desk and the UEMOA partner institution. Explore a potential regional aflatoxin standard and its potential economic and social benefit.
- Identify or create one entity responsible for food safety per country, which coordinates and implements all food safety activities in collaboration with other entities.
- Look into the development of standards that reflect national consumption patterns and specific consumer groups. Include researchers, and their national line ministry, in standard setting.
- Collect more data on exposure of the population to aflatoxin and its health effects in the ECOWAS countries especially from non-staple crops.

Recommendations

Improved institutional arrangements for aflatoxin management

- Deploy field-based kits (blue-box of WFP) and rapid test kit based equipment to farmer organizations; and rural and urban markets.
- Establish a well-equipped central regional lab as the service provider, training and reference lab for mycotoxin analysis.
- Develop national food safety plans: aflatoxin control plans could be a starting point to show the way ahead for national food safety plans.
- Develop an example budget for aflatoxin awareness and control activities for an 'example country.' So that countries have guidance about the minimal cost of minimum activities.
- Need to involve private sector in aflatoxin management

Recommendations: other food safety activities within ECOWAS

ANALYTICAL SERVICES

Ring-testing or proficiency testing is expensive, regional ring testing could be implemented.

COMMON ACTIVITIES

Coordinated through the ECOWAS and UEMOA food safety contact points

- 1) Development of a common food safety framework for SSA;
- 2) Develop a food security policy and mandatory food security monitoring plan within the context of a common framework for food safety in sub-Saharan Africa;
- 3) Develop a common pesticide and biopesticide registration protocol for the ECOWAS region;
- 4) Food safety desk of ECOWAS should be reorganized to attract sufficient capacity building programs, for Food Safety Regulators from the ECOWAS countries.

NEW ACTIVITIES with a harmonized approach

heavy metals, pesticide residues, other mycotoxins and multi-mycotoxin exposure; PAHs (Polycyclic Aromatic Hydrocarbons); POPs (Persistent Organic Pollutants); arsenic in rice; histamine; antibiotics and veterinary drugs residues; Hepatitis viruses, Salmonella and Cholera, food adulteration, food additives, hygiene of foods

Conclusions

- Implementation of aflatoxin regulation and control on its own is not sustainable.
- Quality control should be integrated into a value chain approach that eventually gives higher benefits to small scale producers
- With aflatoxin management farmers and processors produce higher quality and safer produce, getting paid higher prices effectively cutting shortening value chains

Aflatoxin reduction is possible



Type of sample	Type of aflatoxin level, ppb				Total, ppb
	AFG2	AFG1	AFB2	AFB1	
Sorted out nut "Bad"	20.6	53.9	3.5	97.3	175.3
Graded nut "Good"	<LOD	<LOD	<LOD	<LOD	
Peanut butter	0.8	1.35	1.1	8.1	11.35



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