Market-led Aflatoxin Interventions: Smallholder Groundnut Value Chains in Malawi



IFPRI

5th November 2013

Andrew Emmott
Twin & Twin Trading

Market-led Aflatoxin Interventions:

Overview of Twin's Paper

Smallholder Groundnut Value Chains in Malawi

- Target critical control points with appropriate interventions;
- Deliberately pull aflatoxin from food chains;
- Creating incentives to improve aflatoxin management & control;
- Developing collaborative value chains; and,
- Recommendations.



Aflatoxin:

A global public health issue

- 4.5 billion people at risk of chronic aflatoxin exposure (CDC);
- It is a class 1 carcinogen and:
  - Contributes to 28% of all new liver cancers;
  - Liver cancer risk increases with hepatitis;
- Suppresses the immune system:
  - HIV & aflatoxin exposure increases TB;
- Stunted children have 30-40% more aflatoxin in their blood than children with normal body weight;
- Partnership for Aflatoxin Control in Africa





Market-led Aflatoxin Interventions:

Malawi context

- Rainfed agriculture with single season;
  - Crops stressed by drought and floods;
  - Frequency of droughts increasing 2001, 04/5, 08;
  - Families store staple foods for long periods;
- 1.6 million people needed food assistance during lean period (2012);
- 46% of children under 5 are stunted;
- Groundnuts are a valuable source of protein, unsaturated fat and energy;
- Smallholders grow ca. 320kg groundnuts a year, < 200kg is kept to feed the family.



Twin & Twin Trading

Introduction:

- Twin & Twin Trading established in 1985;
  - Twin (Charity);
  - Twin Trading (for profit);
- Development through trade;
- A different kind of trading relationship;
  - Built on trust & mutuality;
  - Smallholder value chains;
- Smallholder producer-owned businesses;
- Working through partnerships & networks



Twin's Brands

In 1991… café direct®



In 1998… Divine CHOCOLATE



In 2001… AgroFair

oké FAIR TRADE

In 2007… liberation



In 2012…

Afri-Nut
Peanuts from Malawi, the warm heart of Africa



Twin's groundnut experience

- 1990's
  - First experience of aflatoxin;
  - Projects in Eritrea & Gambia;
- 2000 – 2003
  - Consultation on whether or not to trade nuts;
  - Developed Fairtrade groundnut proposition;
- 2004 – 2006
  - First Fairtrade groundnut producers certified;
  - Started to trade Fairtrade groundnuts &
  - Developed new supply chains in the EU;
- 2007 – 2013
  - Established Liberation Foods CIC ;
  - Facilitated Afri-Nut formation; &,
  - Focus on food safety in peanut chains.



Aflatoxin:

A barrier to trade?

- Affects 25% of the world's crops, (FAO) but
- Not only a developing country issue;
- Has many entry points pre & post harvest

eg: hand shelling groundnuts:

  - 4 billion hours pa spent hand shelling;
  - Shells soaked to ease hand shelling creates ideal conditions for Aspergillus sp.infection;
  - Poor drying & storage compounds the problem
  - Fungal growth stops at 7% m.c.;

- Informal traders don't check for aflatoxin & compete with the formal trade.



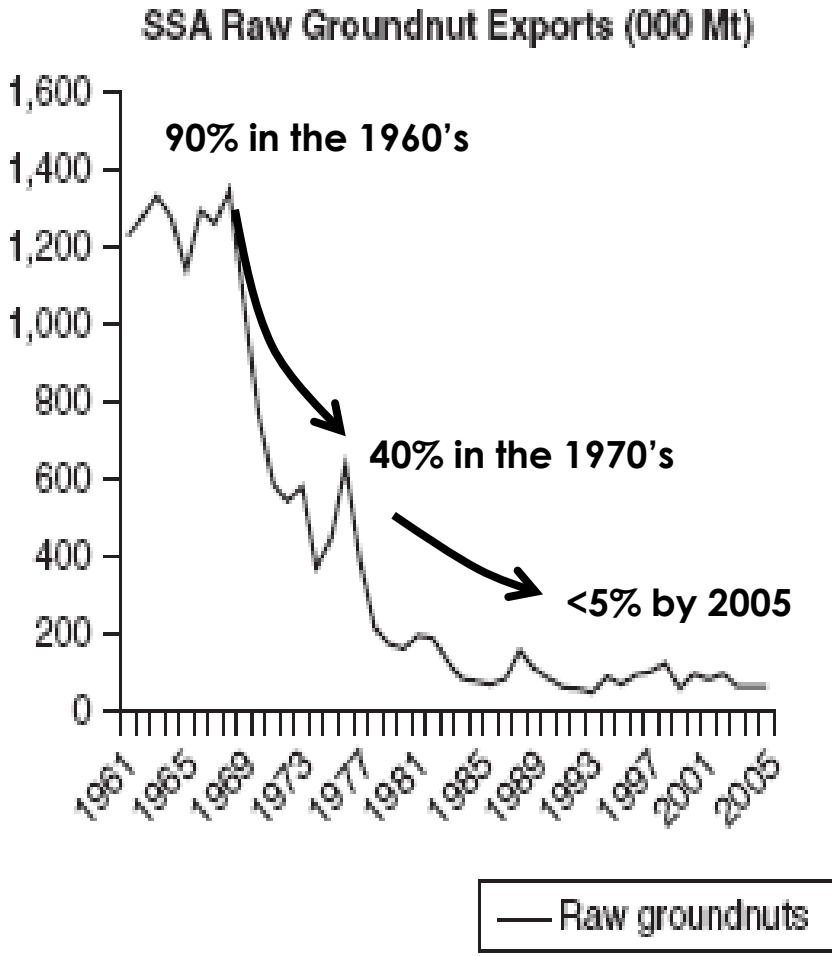






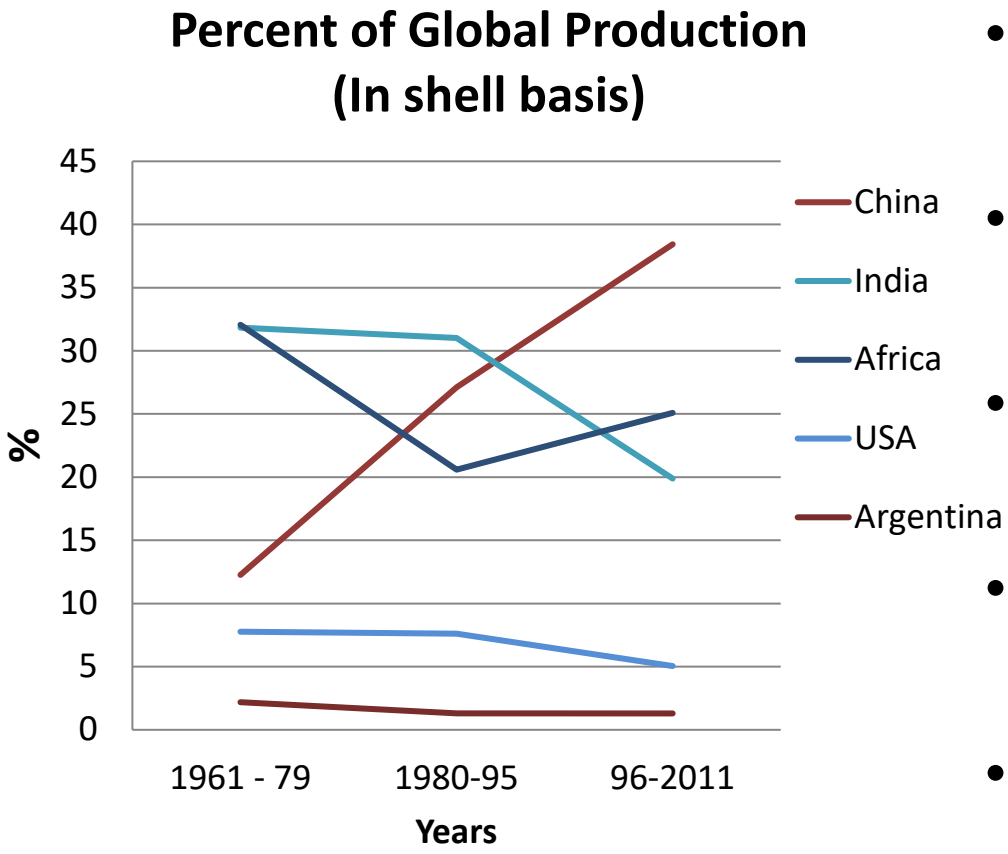
African groundnut exports

- African market share ($220m pa) of exports collapsed;
  - Macro economics; and,
  - Aflatoxin regulations tightening;
- China, Argentina & USA are the largest exporters (now $1.2b pa) ;
  - Value chain investments;
- Security of supply now in question;
  - What happened to groundnut production in Africa?
  - How to invest in Africa to re-engage with the global market?



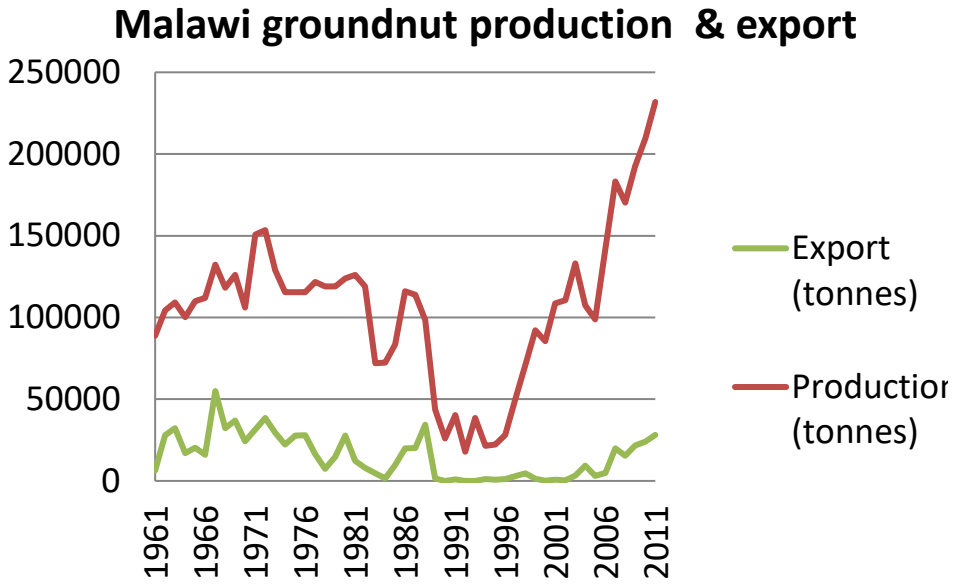
Source: COMTRADE data.

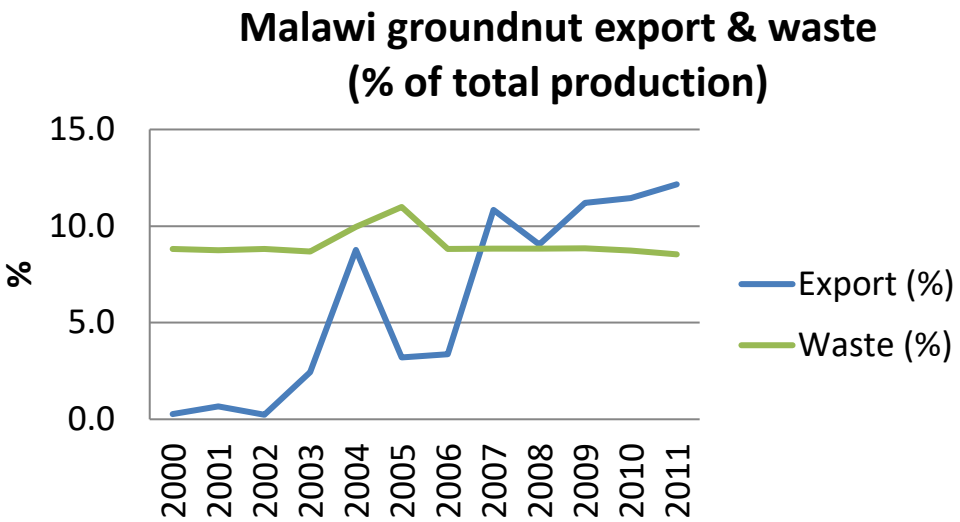
African groundnut production



- African production declined but didn't collapse;
- Groundnuts considered a women's crop – food security;
- Africa rebounded & is now 2nd largest producer @25%;
- Consumed mainly in domestic & regional markets;
- Consumers are largely unaware of the dangers of aflatoxin.

Malawi groundnut production & trade





- Exported > 40k mt pa to EU;
- 1990's exports & production collapsed;
- Production is climbing;
- Exports rebuilding to African markets supported by National Export Strategy;
- But limited exports to EU;
- 60% consumed through informal value chains;
- Very little is wasted.

Formal vs informal value chains

Controls in formal value chains:

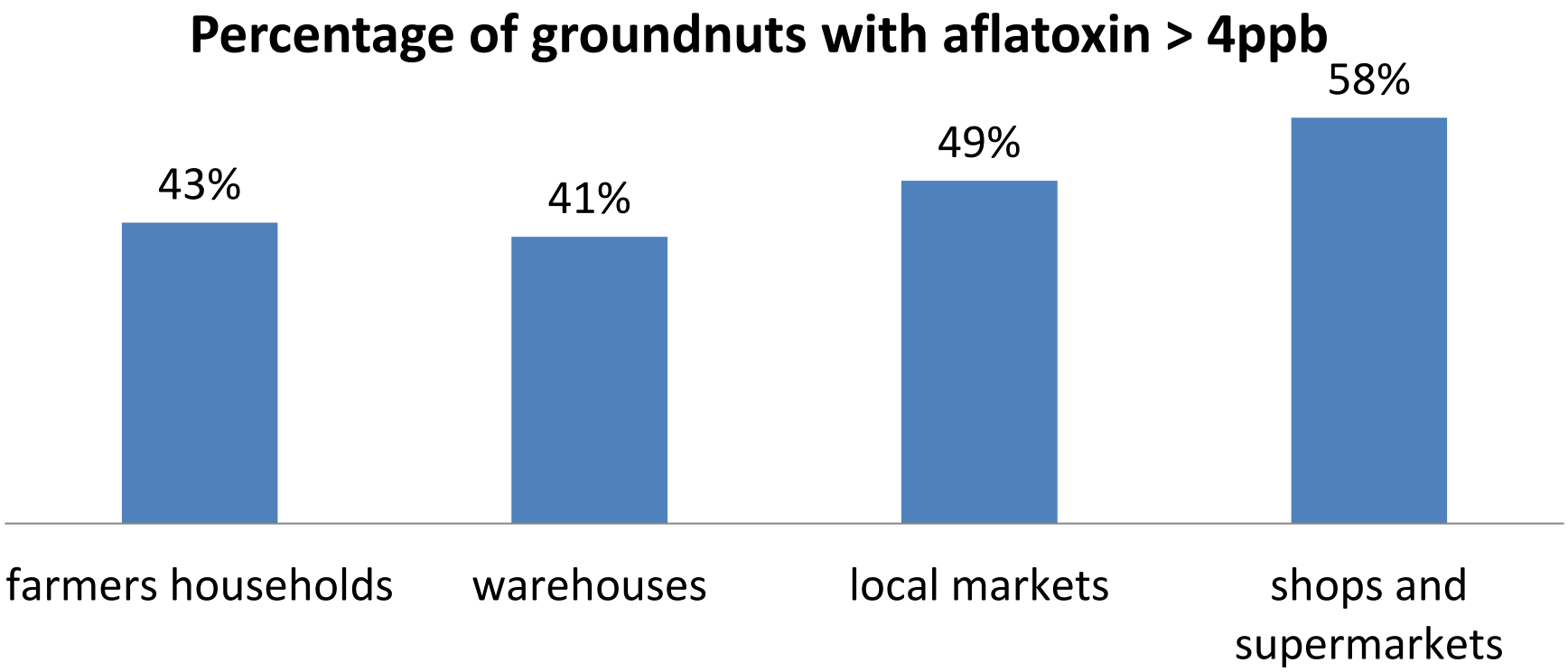
- Protect consumers in export, local retail & other markets;
- Eg: Locally produced safe RUTFs for severely malnourished children;



Informal value chains:

- Improving quality will impact all consumers;
- There is little awareness or food safety & control of aflatoxin;
- Few incentives to reduce aflatoxin levels;
- Crushing contaminated crop for oil & meal relevant to formal & informal chains.

Aflatoxin levels in the food chain



Source: ICRISAT (2011)

On farm sorting:
Not enough poor crop discarded!

Tests on 260mt of groundnuts

<2% sorted out

60% used in food or feed



Groundnut flour had most contaminated samples;

- 73% > EU 4ppb level.
- 25% above 100ppb &
- highest = 3871 ppb

•70% of families add groundnut flour to meals ca. twice/ week

Sources:
ICRISAT (2011) &
Twin GPAF (2013)

Improve food safety in all value chains

Introduce interventions at critical control points to increase the quantity of safe groundnuts for **all consumers.**





Paradigm shift targeted at food loss to pull unsafe groundnuts (& other grains) out of human food chains and develop profitable alternatives eg: oil & meal.

Improve infrastructure, awareness & standards

Partnerships:

- Malawi Partnership for Aflatoxin Control (MAPAC) established;
- Aligned to PACA;
- Formal value chain partnerships eg: Afri-Nut encouraged;
- Further investment up the value chain to address aflatoxin needed



Recommendations

Food safety is a pre-competitive issue

Paradigm shift needed. Agricultural, health, nutrition, & value chain experts need to work together to:

- Raise awareness of the public health impacts ;
- Improve drying, shelling, sorting, & storage in all value chains;
- Provide appropriate training & equipment;
- Deliberately pull aflatoxin out of human food chains.



Thank you

