



Gender, Agriculture, Nutrition

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Outline

- What we know – ownership, access and control of resources
- Production losses, income
- Nutrition positives and nutrition negatives!
- Big picture – neglect of gender makes agriculture nutrition insensitive
- What we have neglected
- What we need to know.



What we know

- Less access to land
- Less access to credit
- Less access to agricultural extension
- Less access to inputs
- Less access to markets

Responsibilities

- water
- fuel
- Child care
- Food storage and processing
- Community engagement



Productivity Burkina Faso

- Pareto efficiency => hh resources alloc. Efficiently
- Burkina Faso (ICRISAT), very detailed plot level data, 4 years
- At aggregate household level value of female output is higher on smaller landholdings but –
- Is yield higher per ha given the same crop and similar plots?



Women's yield compromised

- Women's yields -30% less than average, controlling for plot size, characteristics, year,
- Are women less skilled farmers?
- Production function – male labour, child labour, non hh labour, manure all > male plots
- Households could reallocate labour and manure between plots and increase total output by 10-20%
- Crop losses => income losses
- Ethnic differences – no gender differentials for Rimaibe, but strong differentials for Mossi, Fulse/Kurumba, and Bwa



Productivity in fallows

- Women — 860,000 cedis profit per ha < than husbands
- Not due to different soils physical characteristics — only due to length of fallow
- +400,000 cedis profit per additional year of fallow
- Due to status — within and between households, method of acquiring plot



Focus of Agricultural Research

- Staple Grains
 - Input or Output Characteristics?



Gender Preferences

- Zambia – men and women grow maize
- No need for gender analysis – assumed a new hybrid maize would be good for everyone!
- Evaluation of hybrid maize
 - Men still growing
 - Women reverted to traditional maize
- Why?
- Roles of maize for men and women
 - Men – cash crop
 - Women – food crop, labor input –yield, milling, storage,



Focus of Agricultural Research

- Staple Grains
 - Input or Output Characteristics?
 - Sale or storage?
- Large Livestock
- Cash crops – public/private

Commoditization

- Fruits?
- Vegetables?
- Small livestock?
- Storage?
- Processing?



Environmental Enteropathy EE

- Gut permeability
 - Allows nutrients to leak from the gut
- Gambian infants 3-15 mths – 75% of time
- Accountable for 43% of long term growth faltering?
 - Nutrition interventions led to 0.7 Z score increase in height for age
- Environment – s***!
- Reversible – immigrants, Peace Corps

Women's issue or responsibility?



Mycotoxins

- Evidence they cause EE type issues

- Aspergillus fungus/mold
 - Aflatoxins – mostly maize and groundnuts
- Fusarium fungus/mold – 100% of maize
 - FUM
 - DON

- Infected during growth
- Worsened during storage



Evidence to date

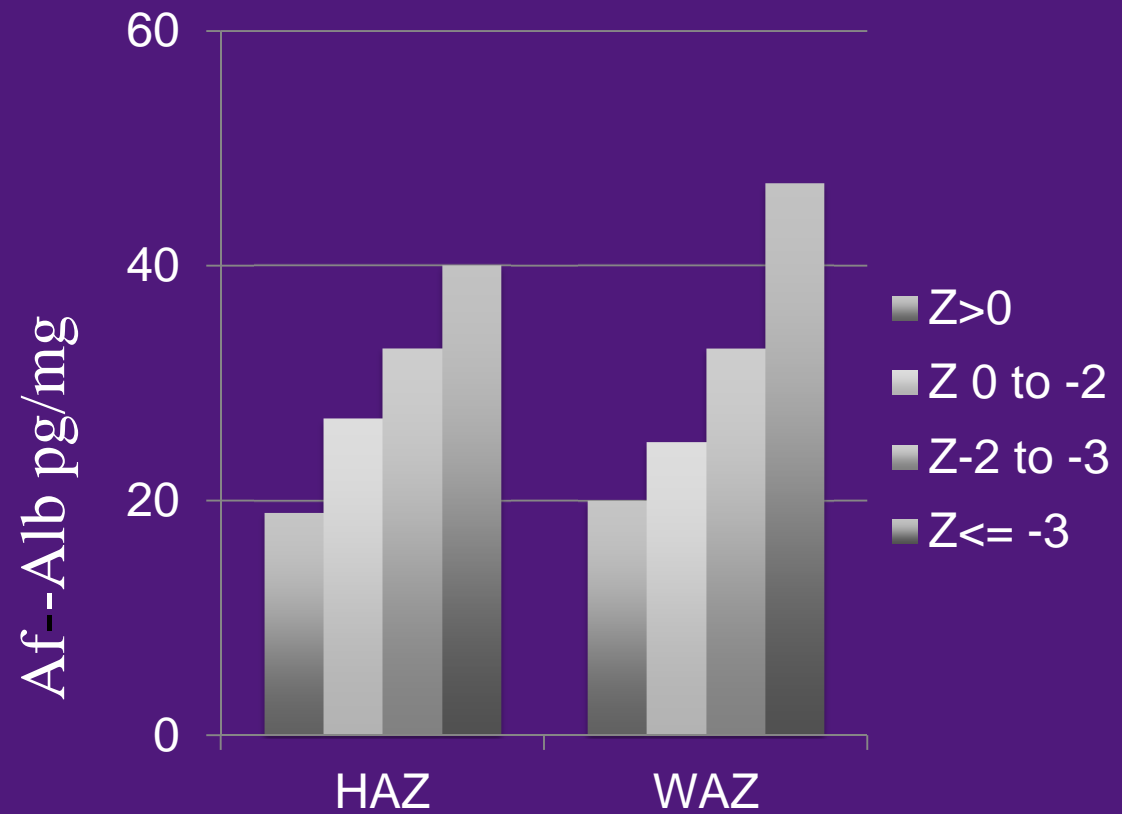
- SLIM!!!!

- But an absence of evidence does not mean lack of impact!

- Test for aflatoxins, and there is some evidence
- None for DOM – biomarker only recently discovered
- Scant for FUM – biomarker only recently discovered
 - Children with higher than provisional recommended intakes significantly lighter and shorter
 - Similar in animals, worse for FUM and afla.



**Aflatoxin-
Albumin and
stunting /
underweight
(Gong et al., 2002
BMJ)**





Questions

- We don't understand the pathways for any mycotoxin
- We have scant evidence of the impact of any of them on malnutrition, but what we have is alarming
- We do know aflatoxins is one reason deaths from liver cancer are highest in the developing world
- Elimination in the near future is unlikely
 - In field management and early harvesting
 - Storage, bagging
 - processing

IT'S A WOMEN'S ISSUE