Integrated assessment of food safety in Zambia:
Stakeholder engagement and planning workshop

Wednesday 22–Thursday 23 January 2014

Protea Hotel, Arcades, Lusaka

Draft report 17 February. Prepared by D Grace
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Meeting summary

On 22 and 23 January 2014, participants from six CGIAR centres and stakeholders in Zambia met at Lusaka in Zambia to share about their current activities related to food safety in Zambia and to plan for integrated action research to assess food safety issues in Zambia.

Purpose of the workshop

- To link CGIAR research centres and CGIAR Research Programs with a food safety interest in Zambia
- To meet food safety stakeholders in Zambia and discuss food safety priorities
- To visit field sites relevant to food safety
- To discuss plans for a one-year integrated assessment of food safety in CGIAR Research Program value chains in Zambia.

Present were representatives from the International Food Policy Research Institute (IFPRI), Bioversity, WorldFish, the International Potato Center (CIP), the International Institute of Tropical Agriculture (IITA) and the International Livestock Research Institute (ILRI). Zambian stakeholders included participants from the Food and Agriculture Organisation, Department of Fisheries, Department of Agriculture, University of Zambia, Zambia Agriculture Research Institute (ZARI), National Institute for Scientific and Industrial Research (NISIR) and Concern.

The workshop focused on:

- Listing food safety stakeholders
- Conducting a strengths, weaknesses and opportunities analysis of the food safety sector in Zambia
- Identifying and ranking food safety issues according to importance
- Identifying criteria for CGIAR successful food safety engagement in Zambia

The next steps are that the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH) will develop a plan for a scoping study to conduct action research to assess and trial interventions to improve food safety in value chains in western Zambia along with stakeholders in Zambia. This will take place in the field sites where WorldFish is working as part of the CGIAR Research Program on Aquatic Agricultural Systems. Exploration will continue into addressing food safety issues in other parts of Zambia. To oversee CGIAR research on food safety, an advisory committee for food safety will be convened comprising the stakeholders attending the meeting and other important stakeholders attending. This will meet at regular intervals to discuss research for food safety in Zambia.
Food safety stakeholders in Zambia
Participants brainstormed on the different stakeholders with interests in food safety in Zambia

PUBLIC SECTOR
- Ministry of Health: Department of Environmental Health
- Ministry of Health: Department of Public Health
- Ministry of Health: Department of Food and Drug Control Laboratory
- Ministry of Health: Pharmaceutical Authority (regulates drugs)
- Ministry of Community, Development Mother and Child Health: Department of Public Health
- Ministry of Commerce: Zambia Bureau of Standards
- Ministry of Local Government and Housing: Department of Public Health, Water and Sanitation
- Ministry of Education, Science and Technology: National Biosafety Authority (NBA)
- Ministry of Agriculture and Livestock: Department of Agriculture
- Ministry of Agriculture and Livestock: Department of Fisheries
- Ministry of Agriculture and Livestock: Department of Vet and Livestock production
- District councils

RESEARCH AND TRAINING
- University of Zambia: School of Engineering (for testing)
- University of Zambia: School of Veterinary Medicine
- University of Zambia: Department of Food Science and Technology and Nutrition
- National Resources Development College: Department of Food and Nutrition
- NRDC: Department of Agricultural Engineering
- Zambian Agriculture Research Institute
- Ministry of Education NISIR: post-harvest food procession and nutrition program
- University Teaching Hospital Zambia: training courses on public health and environmental health
- University of Lusaka: Human nutrition
- CGIAR centres

DEVELOPMENT SECTOR
- International
  - Food and Agriculture Organization
  - World Food Programme
• Non-government organizations
  o World Vision
  o CARE: poverty, micro-credit, youth and market access
  o SNV: agriculture, energy, capacity building, water and sanitation
  o Profit+ (USAID project)
  o CASH (USAID project for horticulture development)

REGIONAL
• South African Development Community
• Common Market for Eastern and Southern Africa

FORMAL PRIVATE
• Food industry sector
• Export and trading Group (ETG), for example, COMACO

INFORMAL PRIVATE
• Processors
• Producers
• Marketers
  o Soweto market and other markets
• Consumers

DONORS
• USAID, EU, DFID
Food safety systems: Strengths, weakness, opportunities

STRENGTHS

- Existence of public sector structures and training institutions
- Existence of some standards and guidelines
- National policies about food quality and safety in place
- For some issues regulation and response are very adequate e.g. Zambeef
- Information sharing processes exist

WEAKNESSES

- Inadequate training in food safety issues
- Weak implementation/enforcement of standards and compliance
- Poor coordination among stakeholders
- Over-reliance on government to provide and maintain public health infrastructure
- Poor understanding food safety at all levels: a silent problem
- For some issues laws are weak e.g. aflatoxins
- Lack of economic information

OPPORTUNITIES

- Potential to enhance training
- Awareness raising of food safety issues
- New standards are to be developed to fill gaps
- Possibility of establishing a Food Safety Authority
- Opportunity to enhance coordination among stakeholders and leadership from the top
## Food safety issues

### Priority foods

<table>
<thead>
<tr>
<th>Staples</th>
<th>Animal Source Food</th>
<th>Fruits and Vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Maize</td>
<td>- Meats</td>
<td>- Soft skinned</td>
</tr>
<tr>
<td>- Cassava</td>
<td>- Fish</td>
<td>- Unpeeled</td>
</tr>
<tr>
<td>- Sorghum</td>
<td>- Poultry</td>
<td>- Vegetables – dried and fresh</td>
</tr>
<tr>
<td>- Rice</td>
<td>- Eggs</td>
<td></td>
</tr>
<tr>
<td>- Others</td>
<td>- Dairy</td>
<td></td>
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</tbody>
</table>

| Others                        | Water and Beverages    |                                              |
|-------------------------------|------------------------|                                              |
| - Groundnuts and other        |                        |                                              |
| Legumes                       |                        |                                              |
| - Fortified foods             |                        |                                              |
| - Processed foods             |                        |                                              |
| - Imported foods              |                        |                                              |

### Important food safety problems

- Mycotoxins (aflatoxins)
- Pesticides
- Storage
- Handling hygiene and marketing hygiene
- Water source treatment
- Stock feed, slaughtering protocol

### Important food safety contexts

- Street foods
- Perishable foods
- Traditional processing
- Household practices
- Sanitation

### Important trade considerations

- Standards
- Labelling
• Enforcements
• Legislation
• Monitoring
• Public awareness

Other important considerations

• Poverty reduction
• Impact on nutrition/health long/short term
• Income compliance/incentives
• Gender roles- who is in charge of food safety, burden dealing with food safety
• Limited choices due to poverty
• Hunger season
Discussions

The emerging issues during the feedback session touched on two main items, that is, (i) what will happen following the workshop and, (ii) the issue of nutrition in Zambia?

- A4NH agreed to fund a scoping study of food safety issues and action research into food safety solutions in sites in western Kenya where the CGIAR Research Program on Aquatic Agricultural Systems is currently working.
- It was proposed that A4NH explore how it could work with existing projects/programs, including those of government. For example, there are already some community nutrition projects for children featuring groundnuts, which might incorporate a food safety component.
- It was noted that there is a strong association between aflatoxin and stunting in children, but the evidence is not yet enough to convince public health stakeholders. It was proposed that a priority for the program would be to implement research that would definitively address the question. This would require harnessing the resources of a number of other programs and organizations, including the USAID CRSP on aflatoxins and Concern Worldwide.
- It was observed that the issue of sustainability of interventions is important. For example, government run advisory services, which provided advice on child nutrition to pregnant mothers visiting clinics used to exist, but no longer do so.
- It was also observed that it might be useful to strive to have animal products, including fish, in community nutrition programs as opposed to the current practice where all such products are avoided, partly because of concern over safety. Related to this is the issue of school milk feeding programs which one participant felt could foster emergence of a milk consumption culture in Zambia.
- Lack of funding was observed to be an important constraint to researchers and research organizations in Zambia.
- The issue of involving all key line ministries, and at all levels – national, provincial, district – in addressing food safety was recommended as essential for success.
Suggestions for engagement

• Key champions in Zambia identify CGIAR support with research products
• Core group to guide research process, based on SH here
• Coordinate different ministries – map the different roles and responsibilities
• Need to bring in high level people in public sector: link with FAO on this; focus on NIPE
• Get FS better addressed in key strategies
• Agriculture Productivity for Southern Africa (APSA) – maize, rice, fruits & legumes – need to integrate food safety better into Mis
• Work through the WB partners – GFSP not covering FS well
• Multiple engagement strategies
• Identify implementation partner for work on the ground
• Awareness raising needed at all levels – food safety not perceived as a problem due to lack of well-presented evidence
• Start with grassroots which will trickle up to the ministry
• Bring in learning institutions and students and link research into use
• Link Harvest Plus with aflatoxin control
• System CGIAR Research Programs are transition mechanism for food safety work
• Baseline of hazards in fish can feed into policy standards
Way forward

Participants next discussed some of the key areas for development in the next phase of A4NH mycotoxin work.

**Diagnostics**
- Key for management as well as research
- Desired test characteristics depend on intended use
- Opportunity to adapt diagnostics developed by private sector and others outside CGIAR
- Useful for CGIAR to have common protocols and diagnostic tools
- Diagnostics need to address sampling protocols

**Microbial populations**
- Important to understand effectiveness and externalities of biocontrol
- Tools: proteomics; RNA; biochemical; abiotic measures, perhaps metagenomics
- May identify future biocontrol and control options
- CGIAR has an advantage is this research

**Risk assessment**
- Risk assessment requires consumption data as well as prevalence data
- Evidence around human health is key to buy-in from medical community
- Definitive link with human stunting probably requires randomized control trials
- Important to put economic values on impacts and look at multiple impacts

**Theory of change and impact pathways**
- Scaling up aflatoxin research in phase 2 of A4NH requires a strong impact pathway
- This should link CGIAR research to impacts for millions of people
- Ongoing work by A4NH(Nancy Johnson) is developing a theory of change
- Need a joined up and programmatic approach across the CGIAR centres

**Way forward**
- Commission some papers over targeted areas of key research
- Contribute to theory of change being currently developed
- Build communication around mycotoxins in A4NH
- Form working groups around key areas
## Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Agenda item</th>
<th>Person responsible</th>
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<tbody>
<tr>
<td><strong>DAY 1: Wednesday 22 January - Communication and stakeholder engagement</strong></td>
<td></td>
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<tr>
<td>09.30</td>
<td>Welcome</td>
<td>Tabeth Chiuta, WorldFish</td>
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<tr>
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<td>Workshop objectives</td>
<td>Delia Grace, ILRI</td>
</tr>
<tr>
<td>10.00</td>
<td>Self introductions <em>(Name, Organisation, Activities in Zambia)</em> – to include details of each organisation’s role in food safety issues</td>
<td>All participants</td>
</tr>
<tr>
<td>11.00</td>
<td><em>Coffee break</em></td>
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<tr>
<td>11.30</td>
<td>Stakeholder mapping of interests in food safety (card exercise)</td>
<td>All participants</td>
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<tr>
<td>12.30</td>
<td><em>Lunch break</em></td>
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<tr>
<td>14.00</td>
<td>Assessing food safety in informal markets: experiences from elsewhere</td>
<td>ILRI</td>
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<tr>
<td>14.30</td>
<td>Food safety issues in Zambia</td>
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<tr>
<td>15.00</td>
<td><em>Tea break</em></td>
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<td>15.15</td>
<td>Brainstorming on way forward</td>
<td>All participants</td>
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<td>16.45</td>
<td>Close of meeting</td>
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<tr>
<td><strong>DAY 2: Thursday 23 January – Detailed planning</strong></td>
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<tr>
<td>09.00</td>
<td>Introduction to Day 2</td>
<td>Delia Grace, ILRI</td>
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<tr>
<td>09.10</td>
<td>Overviews of the CGIAR Research Programs &amp; food safety aspects</td>
<td>S. Cole &amp; M. Beveridge, WorldFish</td>
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<tr>
<td></td>
<td>• Aquatic Agricultural Systems</td>
<td>Malcolm Beveridge, WorldFish</td>
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<td></td>
<td>• Livestock &amp; Fish</td>
<td>Delia Grace, ILRI</td>
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<td></td>
<td>• Safe Food, Fair Food</td>
<td>John McDermott, IFPRI</td>
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<td></td>
<td>• Agriculture for Nutrition &amp; Health</td>
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<tr>
<td>10.00</td>
<td>Rapid integrated assessment of food safety</td>
<td>Delia Grace, ILRI</td>
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<tr>
<td>10.30</td>
<td><em>Coffee break</em></td>
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<tr>
<td>11.00</td>
<td>Interests and activities in food safety in Zambia</td>
<td>All participants</td>
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<tr>
<td>12.30</td>
<td><em>Lunch break</em></td>
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<tr>
<td>14.00,</td>
<td>Detailed planning for rapid assessment activities</td>
<td>All participants</td>
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<tr>
<td>with tea at 15.00</td>
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<tr>
<td>15.00</td>
<td>• Systematic literature review</td>
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<td>• Policy analysis</td>
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<td>• Rapid participatory assessment</td>
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<td></td>
<td>• Biological sampling</td>
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<tr>
<td>16.30</td>
<td>Summary and close of meeting</td>
<td>Delia Grace, ILRI</td>
</tr>
</tbody>
</table>
# Meeting participants

<table>
<thead>
<tr>
<th>Organization</th>
<th>Name</th>
<th>Title</th>
<th>e-mail</th>
<th>Field Trip 21 Jan</th>
<th>Safe Food Workshop 22-23 Jan</th>
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<tbody>
<tr>
<td>IFPRI</td>
<td>John McDermott</td>
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<td><a href="mailto:J.McDermott@cgiar.org">J.McDermott@cgiar.org</a></td>
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<td>Y</td>
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<tr>
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<td>Delia Grace</td>
<td></td>
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<td>Y</td>
<td>Y</td>
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<tr>
<td>ILRI</td>
<td>Siboniso (Bonji) Moyo</td>
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<td>Y</td>
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<tr>
<td>ILRI</td>
<td>Francis Wanyoike</td>
<td></td>
<td>f.wanyoike.cgiar.org</td>
<td>Y</td>
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<tr>
<td>Bioversity</td>
<td>Gudrun Keding</td>
<td></td>
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<td></td>
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<tr>
<td>IITA</td>
<td>Isabel Madzorera</td>
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<td>CIP</td>
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<td>CIFOR</td>
<td>Terry Sunderland</td>
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<tr>
<td>WorldFish</td>
<td>Shakuntala Thilsted</td>
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<td>Kate Longley</td>
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<td>WorldFish</td>
<td>Malcolm Beveridge</td>
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<tr>
<td>WorldFish</td>
<td>Steve Cole</td>
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<tr>
<td>FAO</td>
<td>Bertha Munthali</td>
<td></td>
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<tr>
<td>ZARI</td>
<td>Dr Mukanga Mweshi</td>
<td>ZARI</td>
<td><a href="mailto:mmweshi@gmail.com">mmweshi@gmail.com</a></td>
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<tr>
<td>Department of Fisheries</td>
<td>Mwansa Songe</td>
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<td>Harris Phiri</td>
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<td>Department of Fisheries</td>
<td>Robert Lubilo</td>
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<tr>
<td>Department of Fisheries</td>
<td>Loziwe Chilufya</td>
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<tr>
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<td>Mrs Nancy Sakala</td>
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<tr>
<td>UNZA</td>
<td>Pamela Marinda</td>
<td>As above</td>
<td><a href="mailto:aviera@yahoo.co.uk">aviera@yahoo.co.uk</a></td>
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<tr>
<td>Concern</td>
<td>Marjolein Mwanamwenge</td>
<td></td>
<td><a href="mailto:Marjolein.Mwanamwenge@concern.net">Marjolein.Mwanamwenge@concern.net</a></td>
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<tr>
<td>NISIR</td>
<td>Thelma Sikombe</td>
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<td><a href="mailto:Wakawesti_2000@yahoo.co.uk">Wakawesti_2000@yahoo.co.uk</a>, <a href="mailto:hnjapau@hotmail.com">hnjapau@hotmail.com</a></td>
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<tr>
<td>NFNC</td>
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<td>Acting Deputy Executive Director or representative</td>
<td><a href="mailto:MMusonda@nfnc.org.zm">MMusonda@nfnc.org.zm</a></td>
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<tr>
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