International Livestock Research Institute

Safe Food Fair Food – Annual Planning Meeting 2014

15-17 April 2014 at ILRI-Addis Ababa

Written by Kristina Roesel

Edited and formatted by Kristina Roesel

Acknowledgements: This meeting was organized with the financial support of the Federal Ministry for Economic Cooperation and Development, Germany.

Author's note: The report summarizes key messages and discussion notes from the meeting. All presentations can be downloaded from the project wiki:
http://safefoodfairfood.wikispaces.com/Annual+Planning+Meeting+April+2014

Contents

Summary

From 15-17 April 2014, the Safe Food, Fair Food (SFFF) project partners came together for their annual progress and planning meeting. The workshop was opened by Dr Azage Tegegne, Deputy to the ILRI Director General's Representative in Ethiopia, who considers SFFF a major project under the International Livestock Research Institute's (ILRI) activities in Ethiopia. He appreciated the integration into research for development on livestock and fish value chains and emphasized the importance to include food safety to more value chain activities in the future; for instance aflatoxin research should be an integral part of the program LIVES (Livestock and Irrigation Value Chains for Ethiopian Smallholders) which is trying to improve competitiveness, sustainability and equity in value chains for selected high-value livestock and irrigated crop commodities in target areas of four regions of Ethiopia.

Objectives of the meeting

Project coordinator Kristina Roesel briefly introduced the objectives and expected outputs of the meeting. The current project phase started in April 2012 and includes three major components:

1. risk assessment of food safety in four selected livestock and fish value chains
2. action research (interventions) on identified priority food safety issues in these value chains
3. enabling environments: policy engagement and curriculum development through 'champions' from previous project phase

While the first and second components have a local focus and are implemented with partners in the country, the third component is implemented regionally in the respective economic communities through 'champions' from the previous project phase. According to the grant proposal, the risk assessments were to be aligned with the CGIAR Research Program on Livestock & Fish (CRP L&F) and to be completed in 2013. The alignment with CRP L&F was very successful; however, it also caused some delay. The donor approved a 10-month no-cost-extension to 31 December 2015 which will be crucial to successfully pilot best bet interventions in the selected livestock value chains. This week's meeting will be used to present the results of the risk assessments from each of the four project countries (day 1) and based on those results, establish best bet interventions during day 2 and 3. These studies shall be finished by mid-2015 to allow synthesis in September 2015. Expected outputs of this week's meeting are at least

- one draft research brief on the risk assessments per country
- one draft policy brief on activities in the East African Community (EAC) to be presented to the EAC desk in Arusha during the second half of 2014 by Professor Erastus Kang'ethe
- one list of proposed best-bet interventions for each country and based on the assessment results
- one concept for a pilot intervention design including timeline of activities per country

Progress reports on food safety risk assessments

The first session was chaired by Delia Grace, SFFF principal investigator. Prior to the meeting, each country partner and ILRI country coordinator prepared a presentation following a harmonized outline:

1. Livestock value chain of focus in brief
2. Site selection
3. Value chain map
4. Situational policy review
5. Systematic literature review
6. What hazards are present?
7. Big questions
8. Advise for value chain managers

For each presentation the session chair nominated three discussants who asked critical questions from a value chain manager perspective after each presentation. The results are summarised in Annex 1.

Project partnership "health check"

Over the past five years, we have established good partnerships, trust and mutual respect between project partners. The group has a common vision but perceptions of how to implement it on the ground may be different from time to time. The project is now part of 2 CGIAR Research Programs (CRPs): CRP on Livestock & Fish (CRP L&F) and CRP on Agriculture for Nutrition & Health (CRP Ag4NH). A major challenge is that we have committed to be part of these programs as a project team in order to make an impact on food safety through a value chain application. This ultimately results in less flexibility for national partners who may have own fields of research and interests. The CRPs also require a lot of commitment because we need to move with the value chain teams and sometimes our deadlines and priorities are divergent.

Under the leadership of Peter Ballantyne, the team identified critical factors for success as well as the "killers" for a healthy partnership. The critical factors for success identified by the team were a common interest, strong motivation and commitment to succeed the aims and objectives of the collaboration by collectively building trust and transparency over time, work towards a fair distribution of responsibilities and have mutual respect for each other, i.e. avoiding over-dominance by one partner and delivering on commitments. Killer issues to avoid in a partnership were identified as lack of effective communication, partners working on their own (individual) agendas, unrealistic expectations of partners' roles and responsibilities because they were not clearly spelled out and agreed at the beginning of the project. For the "health check", the group was divided into an ILRI-group (Delia, Barbara, Kristina, Saskia, and Silvia) and a (inter-) national partner group (Aklilu, Erastus, Francis, George, Max, and Sylvain) and we made an interesting observation: the ILRI group was made up of 100% women while the partners group of 100% men!

The groups were asked to list the things that work well in the team and those that leave room for improvement. Good things were:

- common interest and motivation to shared success
- common understanding of project aims and objectives
- linking with other projects and the CRPs
- many outputs (very productive!)
- respectful and very supportive team members
- external communications (project website) very helpful

Things that need to be worked on are:

- distribution of roles and responsibilities a bit unbalanced (transparency of agendas; student supervision)
- mutual respect and equity (i.e. non-CG partners felt that they collect data but don't get to use/analyse it; non-CG partners feel that they cannot conceptualize but have to deliver data)
- commitments and expected (international) standards not always met
- sometimes challenging to create an atmosphere of respect (responsiveness to emails and calls, meet agreed deadlines)

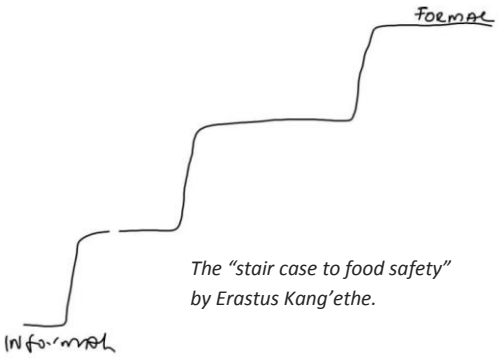
The team unanimously agreed that it passed the health check and decided to focus on the good things (students, outputs) and try to improve on the rest.

Action points (see section on action points):

- more frequent (informal) meetings between the country coordinators (Aklilu and Barbara, George and Silvia, Kristina and Francis, Silvia and Sylvain), if possible with the CRP L&F managers (Barbara Rischkowsky in Ethiopia, Amos Omore in Tanzania, Danilo Pezo in Uganda)
- share attributions and outputs (don't be extractive, neither monetary nor intellectual)

Progress on policy engagement and curriculum development – East Africa

Erastus Kang'ethe, coordinator for the project's regional policy engagement in East Africa, gave an update on how the engagement with the regional economic economies (REC) and academia in the East African Community (EAC) is progressing. In 2012 he developed an outcome mapping strategy which enables him to document change in behaviour of his boundary partners. His vision is to have informal markets acknowledged to be an integral part of African economies and to improve food safety with practical, achievable and incentive-based standards without turning them into formal markets.



The "stair case to food safety" by Erastus Kang'ethe.

His goals (progress markers) are

- to get *policy makers* interested in informal markets;
- to get *academia* interested in including food safety to university curricula and to embrace new methods (risk-based food safety management) and tools (participatory research); and
- to make *value chain actors* seeking ways to be empowered

Over the past two years, he met with all Deans of schools teaching Veterinary Public Health and held food safety policy stakeholder meetings in Burundi, Kenya, Rwanda, Uganda and Tanzania to document food safety challenges and opportunities. Value chain actors have been engaged through the in-country activities in Uganda. A synthesis will be presented to the EAC Desk Health and Livestock in Arusha in June 2014. One big achievement is the inclusion of food safety risk analysis to the undergraduate veterinary curriculum at the University of Nairobi and a request to hold a training course in Participatory Risk Analysis by food safety stakeholders from Burundi, Rwanda and Uganda who were not partnering in the previous SFFF project phase.

Discussion:

Q: How will you introduce food safety to universities where you don't have a stake?
A: I will go to colleagues at the national universities with whom I have a long-standing relationship. It is good to have a professional relationship on another topic already, i.e. Participatory Epidemiology, aflatoxins.

Q: Are the skills there?
A: They are there in the formal sector but we don't want to make 2 standards but establish a "staircase to food safety" where the informal market can move up slowly to the next step provided it was given the right prerequisites.

Q: What is the response from those policy people on meetings?
A: The meetings attempt to "buy in" and see whether there is an interest and to create 'champions' within the group that move the informal markets to the next step. The biggest challenge is to find real 'champions'.

Q: At Makerere University, Department of Veterinary Public Health people can specialize in food safety. Could we have a regional food safety MSc program?
A: There is one already operating: Food Science at the University of Nairobi, Department of Agriculture

Q: The intention is to change the curriculum of practitioners trained at universities. What is the base line?

Progress on policy engagement and curriculum development - West and Southern Africa

In West Africa, project partner Centre Suisse de Recherches Scientifiques (CSRS) has a similar vision[1], and organized a workshop with policy stakeholders followed by a training workshop for more than 30 practitioners in February 2014. Building a central food safety authority proves to be difficult but two other meetings are scheduled with the Ministry of Education in 2014 to institutionalize risk assessment in higher education. The Ministry wants to create a pool of food safety experts and has requested CSRS and others to submit names of people with expertise in food safety risk assessment.

In Southern Africa, there is no operational budget for policy engagement or curriculum development. With additional funds from CRP Ag4NH, a workshop was organized to present the results of the study "Pre-requisites for Hazard Analysis and Critical Control Points in small-scale poultry production and processing in Maputo, Mozambique" by Anabela dos Muchangos (SFFF1); to discuss the recommendations of the study and identify the role of the various institutions involved in their implementation; and to develop a work plan outlining the activities needed to improve the production and processing of the locally produced poultry.

Development of research and policy briefs

In the morning of day 2 the group worked in country teams to develop draft research and policy briefs based on the key messages of their work since 2012. The policy brief developed by Erastus Kang'ethe and Saskia Hendrickx will be presented to the EAC Desk while the research briefs will be written in a non-scientific language, so they can help communicating research results to policy makers and other stakeholders (i.e. value chain actors) that are not members of academia.

The session was chaired by Delia Grace and the teams worked around the following key areas:

- What is the risk? high – moderate – low
- What are the issues? Identify 2-5 food safety issues that are of concern (e.g. point in the value chains/ products)
- What are the evidence gaps? 2-5 important questions that need follow up
- What are the food safety opportunities

The drafts were then presented and discussed in a panel; for details see Annex 2.

This exercise also served as a synthesis and made cross-country problems and opportunities visible. Lack of training of value chain actors was identified as main issue in all countries and at all nodes of the value chains: producers are not complying with good practices at production level; and when food is "harvested" (milking, slaughtering) and handled post-harvest, hygiene is neglected. It was discussed that incentives for trainings other than allowances must be created. One incentive could be certification/labelling but it should be implemented without relying on government surveillance and enforcement but rather the "community police" or consumer associations (i.e. by using certification criteria that are visible to consumers). An evidence gap that requires further research and which emerged from all assessment is the role of antibiotic residues (presence and impact) in milk and meat.

[1] for details on the regional Outcome Mapping strategies see http://safefoodfairfood.wikispaces.com/Outcome+mapping+strategy

Mapping, measuring and prioritizing food safety issues and interventions

One of the components of Safe Food, Fair Food 2 is to pilot interventions based on the results from food safety risk assessments in selected livestock and fish value chains. Often, intervention studies are based on expert opinion or research interests instead of evidence. Delia Grace presented different approaches to prioritizing food safety risks and current ideas on how to systematically select interventions. Below is a summary of the key points.

Why prioritize?

Different diseases have a different impact and burden on people's health and country's economies and our intervention focus should be zoonotic (foodborne) diseases that can positively impact the lives of many ("The vital few and the trivial many").

Science-based prioritization: experiences

Method	experience
Risk and economic assessment • *prevalence surveys* • *qualitative RA* • *quantitative RA* • *cost of illness*	• risk pathways and identification of most effective intervention points (critical control points) to manage food safety risks: around 50 conducted; around 7 published • cost of illness: only 2 documented
Systematic literature review and data bases	• not stand alone because of lack of data, especially in developing countries (grey literature not captured)
Benefit-based prioritization	• cost-benefit analysis good to inform policy makers ("the business case for One Health")
Multi-pathogen assessments	• scientifically sound but expensive and lengthy

Prioritizing and testing interventions in value chains

Ideally, the rapid assessments should inform the selection of interventions. They should be amenable to rigorous assessments, so they can first be tested under SFFF with a possibility to go back later for a science-based evaluation; i.e. a randomized-controlled-trials which are not accomplishable under the current project time frame and budget.

One current systematic framework to identify priority food safety issues is a FAO methodology based on evidence on 4 risk factors: public health, market level impacts, consumer awareness and social sensitivity (Annex 3). This evidence should be presented to key stakeholders and a prioritization will be made collectively. FAO are interested in further developing this framework by applying it to specific case studies (countries). It is suggested the SFFF countries could serve as a platform for this.

Discussion on FAO framework:

- it is extremely important who will be the invited stakeholders and the influence they have (influence is the ability of the person to convince others) so as to ensure the voices of all participants are equally considered, and they represent, in the most broadest sense, all the various actors in the value chain).
- invited stakeholders often cancel at the last minute – there is a need for a Plan B to achieve the point above.
- ILRI-CapDev is currently developing matrices to map influence of stakeholders in value chains
- could the invitation for a workshop like that be sent (and co-hosted) by IFPRI and/or FAO? From experience we know that they have better turn up rates…
- could questionnaires be given to the stakeholders in advance to compare the outcome to the results of the workshop? This could also be a way of ensuring participation of the most key stakeholders.
- what if we don't have evidence on all criteria or if some evidence is weaker than others?

General discussion:

- challenge: difficult to conclude important but non-obvious options; it would be good to back to assessment results and look at non-obvious options, to reflect on hazard selection and re-select (SFFF3)
- we must plan interventions with a One Health lens (animal/human/environmental health)
- Q: how is learning and adjustment in SFFF2 captured?
  A: when evaluating the project logframe for the annual donor report
- value chain assessments showed a lot of obvious interventions like building roads which are not researchable but will have a lot of impact (market access, cold chain…)
- why looking at the non-obvious? Maybe it is better to find out why the obvious interventions are not effective (i.e. latrine use has been promoted for more than 30 years to fight *T. solium* but it is still not implemented everywhere due to socio-cultural issues; also, personal hygiene like hand washing is a big issue because it's direct effect in reducing pathogen transmission and contamination is invisible)

For the rest of the afternoon on day 2 the group worked in country teams on the draft research brief and to brainstorm on possible assessment-based interventions. Ideas were presented and discussed in a panel chaired by Delia Grace and developed further during the morning session of Day 3 (Annex 4).

Designing and piloting interventions to improve food safety in value chains

Best-bet interventions under SFFF2

- are selected in a systematic and reproducible process using the idea of the FAO framework
- include parallel piloting of best bets – opportunistic or assessment-driven
- include capacity-formalization incentives

General selection criteria for assessment-based interventions were already discussed during the project APM 2013 in Kampala and included:

- feasibility
- acceptability
- affordability
- scalability: interventions can be exploratory but should include at least some scalable interventions (scalable require at least a control)
- sustainability (compliance) through active involvement of stakeholders during planning and implementation
- value chain based: should be embedded into country's livestock value chains and discussed with the wider value chain team
- fit with capacity-formality-incentives model
- evidence-based: based on rapid assessment or other justification ("important problem")
- include gender and economics where possible (i.e. choice-experiment/ willingness to pay)
- participatory and multidisciplinary: demand/ interest of stakeholders – which can also be generated by communicating assessed problems and proposed interventions;

… and negative results are as important as positive!

Alternatives to randomized-controlled trials could be:

- cross-over: those getting the placebo first, receive the drugs after 2 weeks or so
- stages: one set of people trained first (intervention) and the rest trained at the end (control)
- butchers as proxy for consumers (eat their own meat) – butcher study in Nigeria 20,000 US$
- need for evidence on costs and on pathogen reduction
- efficacy, access, targeting accuracy (how surfaces are cleaned), provider compliance (proper injection), user adherence, effectiveness

In addition to discussions on the scientific design of intervention pilots, the group received an update on the overall project budget and allocation to different budget lines, i.e. how much of the total budget is allocated to the country's field budget, how much is allocated to cover for the country coordinator's time etc. This became necessary because we have a number of new team members who have not been involved in the design of the project proposal and budget. Moreover, transparency was requested during the partnership session during day 1 and therefore, it was also explained how additional moneys from CRP Ag4NH were allocated in equal shares for on-the-ground activities in Ethiopia, Senegal, Tanzania and Uganda and what they were used for.

It was criticized that transfers of funds from ILRI sometimes take a long time delaying planned activities. However, it was necessary to reply that often partners delay submitting their financial reports which have to follow a format provided in the Collaborative Research Agreement (CRA). This format requires, for instance, a six-month expenditure forecast by the partner which will be the basis of the bank transfer from ILRI-Nairobi. The submission deadlines have been communicated frequently and are every six month from the effective date of the CRA. If financial reports are submitted late and/or incomplete, money transfers are delayed as a result.

Any other business

Before closing the meeting on day 3, Delia and Kristina lead a session on any other business and summarized the action points that emerged during the meeting.

ILRI@40:
This year marks 40 years international pro-poor livestock research carried out by ILRAD (since 1973), ILCA (since 1974) and now ILRI (since 1994). ILRI will be exactly 20 years old in September 2014 and we will hold a series of events and activities later this year to raise awareness on livestock for sustainable development and to showcase major accomplishments of ILRI, its forerunners and partners. Main events will be the Tropentag conference held from 15-17th September 2014 in Prague, Czech Republic, where ILRI will host a special session; World Food Day/ Borlaug Dialogue in October 2014 in the USA; the 6th All African Conference on Animal Agriculture, held in October 2014 in Nairobi and a big event at ILRI-Addis in November 2014 followed by smaller events in the countries where ILRI has offices.

SFFF1 book:
A book with key messages on the first phase of the project had been finalized in early 2012. Negotiations and peer-reviews have been ongoing in 2013, and the book will be published in 2014:

- Title: Food Safety and Informal Markets: Animal Products in Sub-Saharan Africa
- Published by Routledge by November 2014 (preferably on time for the ILRI@40 celebrations to officially launch the book)
- ILRI will buy back 500 copies and CTA will buy back 500 copies (paperback) at 12£ each (= 10,000 USD ILRI and 10,000 USD CTA)
- All authors (project partners and students) will receive free copies
- After 9 months after publishing the book will be available online at free access
- CTA will finance a French translation
- ILRI will produce 3 policy briefs (in English and French)

SFFF2 final synthesis meeting 2015:
Tropentag 2015 will be held in Berlin, Germany, and we would like to link it to the SFFF2 final synthesis meeting. Since we are rotating the annual meetings between partner countries, we would like to host the final meeting in Germany together with our partners at FUB and BfR. It will be good to encourage project students to submit abstracts to Tropentag conference 2015 (which will be hosted by FUB). Kristina is currently assessing funding opportunities and will remind the partners in early 2015.

Resource mobilization:
Since the kick-off of SFFF2 in 2012, partners were encouraged to apply for scholarship because the project budget does not cover for stipends. In the past 2 years, we were successful in acquiring the following additional resources:

- DAAD full PhD scholarship in Uganda (2011-14) – already approved before SFFF2
- one DAAD in region post doc fellowship in Uganda (completed May 2013)
- one ABCF fellowship at ILRI-BecA Nairobi (completed August 2013)
- AITVM travel grant for Tanzanian MSc student (August 2013)
- TWAS-DFG fellowship of Ugandan postdoc at FLI Germany (June-August 2014)
- DAAD fellowship (German PhD student in Uganda May-October 2014)
- student support from CRP Ag4NH

The partners are encouraged to continue to apply for stipends, travel grants or research grants.

Safe Food, Fair Food 3:
The second phase of SFFF is coming to an end in December 2015 and we may start considering follow on activities and development of proposals. The ILRI-Asia colleagues have long been keen on implementing SFFF in Asia; therefore, ILRI will support a grant proposal (3-years, 1.2m Euros) for SFFF-Asia. To continue promoting food safety in informal markets in sub-Saharan Africa through risk-based management, the country teams should explore funding possibilities with the local GIZ country offices (http://www.giz.de/en/worldwide/africa.html), foreign embassies in the project countries and the ILRI value chain teams.

Action points

1. **Risk assessment**

- finish writing up rapid assessments
    - Senegal: Sylvain
    - Uganda: Kristina
    - Ethiopia and Tanzania: finished and submitted
- Each country team to submit a research brief to the group by 31 May 2014 for comments, proof-reading (free of scientific language) and formatting
- Erastus to submit a policy brief to the group by 31 May 2014 for comments, proof-reading (free of scientific language) and formatting

2. **Publications/ authorship**

- Each country team to submit a publication plan (facilitated by ILRI-coordinators):
    a. Delia for Tanzania
    b. Kristina for Uganda
    c. Silvia for Senegal
    d. Barbara/Delia for Ethiopia
- Kristina to circulate the ILRI authorship guidelines again and follow up with those who have not yet signed and suggestions for capturing contributions

3. **Best bet interventions**

- Delia to circulate format for concept note and the FAO prioritization tool.
- country teams to submit concept notes to Kristina by 31 May 2014 for compilation and SFFF application to ILRI-ethics committee

4. **Resource mobilization:**

- partners and ILRI continue sharing calls for stipends and other funding opportunities

- develop concept notes to apply for funding for randomized-controlled-trials following successful pilot studies
- donor scoping in partner countries for follow on grants

5. Partnerships

- more frequent (informal) meetings between the country coordinators (Aklilu and Barbara, George and Silvia, Kristina and Francis, Silvia and Sylvain), if possible with the CRP L&F managers (Barbara Rischkowsky in Ethiopia, Amos Omore in Tanzania, Danilo Pezo in Uganda)
- share attributions and outputs (don't be extractive, neither monetary nor intellectual)

Agenda

Tuesday, 15 April 2014		
9:00	Opening	Dr Azage Tegegne, Deputy to the ILRI Director General's Representative in Ethiopia
9:10	Objectives of the meeting	Kristina Roesel
9:30	Progress reports by country teams	Chair: Delia Grace • Sylvain Traoré – Senegal • George Msalya – Tanzania • Aklilu Feleke – Ethiopia • Kristina Roesel – Uganda
13:00	Lunch break	
14:00	Session on team building and health check project partnerships	Facilitator: Peter Ballantyne
16:00	Progress on policy engagement and curriculum development in the East African Community	Erastus Kang'ethe
17:00	End of Day 1	
18:00	Ethiopian dinner and dance	
Wednesday, 16 April 2014		
8:30	work on policy brief EAC for presentation to EAC desk	Saskia Hendrickx/ Erastus Kang'ethe
9:00	Recap day 1	George Msalya/ Kristina Roesel
9:10	Group work on draft research briefs	Ethiopia: Aklilu Feleke, Barbara Szonyi, Senegal: Sylvain Traoré, Saskia Hendrickx Tanzania: George Msalya, Silvia Alonso, Erastus Kang'ethe Uganda: Francis Ejobi, Kristina Roesel
10:00	Plenary discussion on drafts	
11:00	Mapping, measuring, prioritizing food safety issues and interventions	Delia Grace
13:00	Lunch break	
14:00	work in country teams on research briefs (cont'd) and propose a set of interventions	
16:00	plenary discussion of proposed best bet interventions	
17:30	End of Day 2	
Thursday, 17 April 2014		
9:00	Recap day 2	Sylvain Traoré/ Saskia Hendrickx
9:10	Designing and piloting interventions to improve food safety in livestock value chains	Delia Grace
10:00	Review country budgets	Kristina Roesel
10:30	work in country teams to brainstorm on intervention study, timeline and budget	
12:30	Other planning	
13:15	Closing of meeting	Delia Grace
13:30	Lunch break	
	Side meetings, home travel	

List of participants

No.	Name	Email contact	Sex (M/F)	Country of origin	Affiliation	Role in project
1	Alonso, Silvia	s.alonso@cgiar.org	F	Spain	ILRI	ILRI country coordinator Tanzania/Senegal
2	Ballantyne, Peter	p.ballantyne@cgiar.org	F	UK	ILRI Head Knowledge Management & Information Services	support & review; facilitator session on partnership health check
3	Baumann, Max	maximilian.baumann@fu-berlin.de	M	Germany	Freie Universität Berlin	International partner; support Ethiopia/Uganda
4	Ejobi, Francis	ejobifrancis@gmail.com	M	Uganda	Makerere University	Country coordinator Uganda
5	Feleke, Aklilu	ataklilu@yahoo.com	M	Ethiopia	Addis Ababa University	Country coordinator Ethiopia
6	Grace, Delia	d.grace@cgiar.org	F	UK	ILRI	Principal investigator
7	Hendrickx, Saskia	s.hendrickx@cgiar.org	F	The Netherlands	ILRI	Regional coordinator South Africa
8	Kang'ethe, Erastus	mburiajudith@gmail.com	M	Kenya	University of Nairobi	Regional coordinator East Africa
9	Msalya, George	msalya@suanet.ac.tz; msalya@yahoo.com	M	Tanzania	Sokoine University of Agriculture	Proxy country coordinator Tanzania
10	Rischkowsky, Barbara	b.rischkowsky@cgiar.org	F	Germany	ICARDA	Ethiopia small ruminant value chain coordinator (CRP L&F)
11	Roesel, Kristina	k.roesel@cgiar.org	F	Germany	ILRI/FUB	Overall project coordinator; ILRI country coordinator Uganda; PhD student
12	Szonyi, Barbara	b.szonyi@cgiar.org	F	Hungary	ILRI	ILRI country coordinator Ethiopia
13	Traoré, Sylvain G.	jeansylvain50@yahoo.fr	M	Côte d'Ivoire	Centre Suisse de Recherches Scientifiques	Proxy country coordinator Senegal

Annex 1: Report back on Risk Assessments

Q=question A=answer

Small ruminants in Senegal

Presented by Sylvain Traoré

Key Findings:

- several government bodies have mandates on food safety
- many consumer protection groups; but lack of awareness on food safety among consumers
- at least 3 private and 3 public laboratories with capacity to test for zoonotic pathogens
- hazards investigated: PPR and brucellosis; RVF and Q-fever not done
- results: 72% PPR (likely due to antibodies from previous vaccination); no brucellosis
- faecal contamination at dibitéries (meat pubs) acceptable
- sheep consumed occasionally (festivities); goat meat rarely
- feeds don't compete with human food
- traditional preservation methods are cooking, salting, drying; if household can afford they have a refrigerator
- overall risk to human health is low

Discussion:

C: problem of mandate overlap in Senegal as in many other countries in sub-Sahara Africa

Q: surprise to hear there is a consumer association – Senegal seems to be a pioneer
A: they are there but not operative

Q: There do not seem to be many reasons for concerns – how representative is the current assessment for the country?
A: for the investigated hazards, it is representative but there are many other hazards that need to be researched

Q: why did you chose PPR and brucellosis only?
A: convenience – lack of data on other hazards and lab capacity limited (i.e. tried to include Q-fever but nobody had ever worked on it in the local lab)

Q: Is Dakar really urban or with village-like areas
A: more or less peri-urban

Q: What are the production systems in those sites?
A: Tambacounda: extensive; pastoralists with large herds cattle/ small ruminants - Dakar: semi-intensive

Q: what is the rationale for holding FGD with mothers of children under five?
A: under five years is the reference group for nutrition studies

Q: where does contamination happen?
A: at dibitéries

General comments:

- hazard selection a bit biased
- Data should be organized along the value chain (farm-trade-retail-consumer)
- Note that in Senegal there is no CRP L&F due to the conflict in Mali, the initial study site

Dairy cows in Tanzania

Presented by George Msalya

Key findings:

- 86% of milk consumed on farm and within neighbourhood; depending on season and income
- boiling common but not universal; pasteurization uncommon
- lack of functioning cold chain
- fermentation practiced
- few processing plants operate below capacity (31%)
- poor policy performance; no formal food safety surveillance and enforcement
- out of 21 hazards, previous research focused 3 only
- selected hazards: brucellosis, E. coli
- results: brucellosis prevailing; E. coli not found
- food safety control under TFDA but poor enforcement through local governments
- limited laboratory capacity
- overall risk is low; small proportion of population is at risk

Discussion:

Q: How to go about stimulating people to consume more milk?
A: consumption low because of low productivity in traditional systems (animal produces 1-2L per day); "milk week" every year in June where all stakeholders come together and promote milk (2014 in Mara)

Q: what happens to the milk after it left the udder – marketing channels/ payment? What is the motivation for farmers to sell to formal or informal markets?
A: about 20 processing plants in Tanzania but far away; traders take milk to collection centres and test density, visual tests; prices at collection centres not attractive, farmers only take it there if they do not have any other market

Q: Increasing public health concern about food safety? Any of these for dairy products? Are there any real risks for consumers?
A: Many Tanzanians know about risks associated with milk (boiled-fermented-packaged) and people choose themselves.

Q: To what extent are antibiotics used to treat cattle?
A: they are used and farmers do not adhere to withdrawal periods

Q: TNBS sets standards, TFDA is supposed to implement them. Are they active/effective?
A: difficult to enforce; easy for cosmetics because they are manufactured and sold in town

Q: How much of the 1.8billion liters annually comes from the national herd?
A: 70% from indigenous animals and 30% from 700,000 heads national dairy cattle herd

Q: Are there other problems in the milk other than the selected hazards?
A: currently on-going laboratory work to look for other pathogens in milk samples.

General comments:

- There are traditional methods (fermenting, smoking gourds with branches/leafs) that mitigate risks
- some of these (i.e. smoking gourds) are not well-accepted by people outside the Masai community because they don't like the smoky taste
- very few processing plants buying at low prices; in Kenya many plants but milk price at farm still not increasing; in Kenya now going back to 2 monopolies; interesting to see that the beer price is changing (up) all the time but milk has stayed the same over many years (without any regulation)

Small ruminants in Ethiopia

Presented by Aklilu Feleke

Key Findings:

- 40% of Ethiopia's sheep and goat belong to pastoralists in the Lowland areas (12-15% of population); kept as assets and sold for meat, hides, skins
- overlap of government mandates and little coordination to control animal disease and public health
- hazards investigated: Salmonella spp., toxigenic E. coli and Campylobacter
- others include but are not yet investigated: faecal - Giardia duodenalis, Cryptosporidium; meat - Toxoplasma gondii, Bacillus anthracis; milk - Brucella melitensis and Mycobacterium bovis; chemical hazards - heavy metals, agrochemicals/drug residues (internal organs), aflatoxins
- risk is relatively high due to:
    a. consumption of raw meat including sheep and goat
    b. poor herd health due to inadequate vet services
    c. poor harvesting and processing techniques
- most of the meat is consumed in urban centres, not rurally (meat consumption only occasionally)

Discussion:

Q: there are multiple agencies/ regulators with overlapping mandates: addressed within L&F value chains program?
A: yes but which policy group should be prioritized? ILRI livestock master plan with opportunities to engage with policy makers; CRP L&F situational analysis/ LIVES project engages policy too

Q: low consumption of ASF in general or only during fasting seasons?
A: Low consumption in general (80% in rural areas and use animals as assets; meat only during festivals)

Q: why is it bad not to eat meat all the time?
A: Ethiopia high levels of stunting/ micronutrient and protein deficiency/ low ASF per capita consumption; CRP L&F objective: increase ASF consumption; assessments show that milk, fish, eggs are more important than meat

Q: necessary to promote intake of more ASF or is the traditional approach better (eating meat sporadically)? Is goat meat crucial in solving the stunting crisis (CRP L&F) hypothesis?
A: No, people in rural animals will not eat the very meat but they can sell more and buy other foods from it (i.e. beef); many sources of legumes for protein supply during fasting

Q: how will increased income from livestock farming contribute to increased ASF consumption?

Q: Are goats and sheep safe for consumption?
A: No, food preparation practices very poor; backyard slaughter; 3.5% toxigenic E. coli, Campylobacter, Salmonella

General comments:

- farm-borne risks end up at the end of the value chain
- municipal meat inspectors good link to policy
- should not overregulate the market – excluding the poor (overregulation and paradoxical effects)
- tell the policy makers but don't engage them actively ("they don't want to be relevant")

Pigs in Uganda

Presented by Kristina Roesel

Key findings:

- policy: overlapping mandates, obsolete laws, laws not based on scientific evidence, laws not enforced, no systematic monitoring of foodborne diseases
- literature: very limited data on pig/pork zoonoses Uganda, even East Africa
- no critical mass of consumers demanding pork safety
- potential to link formal pork processors with rural producers
- majority of pig farmers eat pork but not their own (buy kg if they have money, for special occasions); keep pigs as assets
- nutrition: losses due to "overcooking" in rural areas; overconsumption (with alcohol) in urban areas
- 9 food safety hazards investigated and many positive results at farm
- no raw meat consumption; preference for hot meat
- public health risks: "undercooking" when roasting meat (pork-borne parasites); antibiotic resistance in *Salmonella* spp., poor post-harvest handling; occupational diseases for raw meat handlers; cross-contamination with vegetables, cooking equipment

Discussion:

Q: Referring to the "fair" component in the project title, where is it in the pig value chains in Uganda?
A: The "fair" in project title Safe Food, Fair Food refers to the vision "safe food for poor consumers, market access for poor producers". Responsibility for good quality pork cannot only be given to farmers (i.e. produce disease free-pork) but has to be distributed to all value chain actors, i.e. harvest and post-harvest handlers (i.e. transport stress reduces shelf-live, poor slaughter hygiene and poor meat handling practices at retail increases cross-contamination, lack of critical demand for good quality pork among consumers is not incentive to invest in safe pork)

Q: Will you be implementing the idea about formal and informal markets or is it just an idea?
A: When meeting a formal pork processor in Uganda, he expressed great interest in buying from a reliable and transparent source; currently he does not know where his pigs come from, he has no control over slaughter or the lag time between slaughter house until the meat is delivered to his plant; he is interested in buying from organized farmers' groups – a concept which will be tested within the pig value chain project, preferably in collaboration with the pork processor

Q: Since more pork is eaten away from home, what is the role in children's nutrition?
A: pork does not play a significant role in children's nutrition; they try a piece of it but mainly rely on milk, fish for animal source protein

Q: Are the districts selected the only ones producing a lot of pigs/ eating much pork?
A: No, there are other districts with a high production and consumption (i.e. Gulu, Soroti, Hoima) but ILRI is currently working in 3 sites which were selected in a structured process (hard and soft criteria)

General comments:

- A number of poultry/pig/beef slaughter house studies in Kenya showed resistances to even most recent chinolones and nobody knows the source

Annex 2: Draft research briefs

	Pigs Uganda	Small ruminants Ethiopia	Small ruminants Senegal	Dairy Tanzania
What is the risk to human health?	Low: burden of disease at farm high but common practice of proper heating (except for issues) to moderate: occupational disease	High risk (toxigenic E. coli in goat meat, increasing raw goat meat consumption)	Low	Low: hazards are present in milk but only a small proportion of population at risk (not boiling/fermenting) moderate: cross-contamination of boiled milk during conservation (no cold chain)
What are the issues?	- undercooking (roasting) - poor meat inspection - poor harvest/ post-harvest handling (transport, slaughter, retail; i.e. wooden chopping board; cutting equipment) - cross-contamination from raw vegetables - consumption of pork with lots of salt and alcohol - poor quality pigs not bought by middlemen but left behind for rural consumption	Abattoir: - poor harvesting techniques/ hygiene - lack of trained personnel - lack of proper facilities, equipment Consumer: - lack of knowledge on safe food preparation (boiling, raw meat) - lack of facilities for safe food storage (refrigeration)	Production: - PPR (not a zoonosis); Brucellosis (null prevalence in small ruminants) Slaughterhouse: - hygiene standards suboptimal but within acceptable ranges Retail: - especially at markets, cold storage of carcasses and meat is deficient resulting in meat being kept at room temperature up to 2 days Dibitéries: - grilled meat positive for E. coli indicating faecal contamination. As these are frequented by all population strata, all consumers are at risk	- milk preservation methods where there is no cold chain: health risk versus nutritional value - what incentives for improved (more responsible) use of drugs - methods of improved animal feeding (feed conservation) - economic impact of mastitis for farmers
Evidence gaps	- origin of resistances to antibiotics - cause of FBD in humans (hospital records, differential diagnosis – lack of data) - consumer surveys (demand for quality) - role of water-borne disease in cross contamination of food at retail - *Taenia solium* common cause for epilepsy?	- goat milk preservation methods (fermentation and how it reduces level of contamination) - pathogen load in meat (previous studies focused on prevalence not quantitative load) - drug residues in milk/meat	- more research into prevalence of Q-fever, toxoplasmosis and possibly RVF - use of antibiotics and anthelminthic and possible residues in the meat	- animal health (animal condition) - management systems - extension and veterinary services - drug residues - awareness
Opportunities	- link smallholders with formal markets (contract/ group marketing; meat vs by-products) - biogas for slaughter waste management - create designated slaughter areas and train personnel (PPP)	- government interest in improving sheep and goat production for export - quality control for drug residues primary government interest	- training on best practices for slaughter house staff, retailers and staff of dibitéries - improving production practices including improved access to water for livestock especially in Tambacounda	- producer/ farmer groups being formed under MoreMilkIT - government policy infrastructure be harnessed (TBD, TBS, TFDA)

Annex 3: FAO framework for food safety risk and intervention prioritization

Approach	A framework to provide key evidence about 4 major risk factors (public health, market-level impacts, consumer awareness and social sensitivity) for food-pathogen pairs. Case studies, based on Canadian data, were developed to demonstrate the components of the framework and tools that can help risk managers compare and prioritize food safety risks as well as interventions.
Additional reference materials	Ruzante, J.M. *et al*. 2010. Risk Analaysis, 30(5) :724-742.
Potential Risks	Methods/metrics
Human health	Disability-adjusted life years (DALY) ; Cost-of-illness (COI)
Market-level	Estimate of market value for food product = total value at retail + value of exports minus value of imports
Consumer perception & acceptance of risk	Delphi-based ratings (0 or 1) for sensitivity based on: • vulnerable consumers (e.g. pregnant women and listeriosis, elderly, immune-compromised); • vulnerable firms (e.g. small firms, firms in marginal economic areas)
Status/implementation	Currently working with provincial ministry (Agriculture and Food) and the Canadian Food Inspection Agency to integrate a new measure for public health risk into the framework and to refine the metrics for other factors as required. The modified framework will be tested with potential end users to ensure that the methods are practical and effective in developing management strategies. Chemical hazards will also be included in the analysis.

Annex 4: Proposed best bet interventions

Ethiopia

Results brainstorming

consumers:

- The effect of traditional goat milk fermentation practices on the microbial quality of the product
- The use of starter culture in goat milk fermentation to hasten fermentation and improve microbial quality
- The effect of the use of medicinal plants in goat milk or dairy product on microbial quality

abattoir:

- training of abattoir workers and managers – issue with the incentives, sustainability, and facilities
- provision of hot water to abattoir to sanitize knives or knives in easy-to-clean aluminium belt-box to avoid it being put on the floor

other ideas:

- follow up on drug residues: set up meeting with Ministry to see whether there is an interest

Concept note 1: abattoir-based intervention

- to be lead and developed by Aklilu after consultation with Erastus
- assess KAP at slaughter and retail => evidence for low knowledge
- prepare manual and provide basic equipment => training
- monitor reduction of coliform units before and after training
- economic assessment of intervention at retail
- finish concept note end of May

Comments:

- link with FUB and Fred Unger; think about incentives; link with butchers

Concept note 2: traditional fermentation of goat milk

- to be lead and developed by Barbara
- review of what has been done => evidence
- samples in the field and in-house fermentation to compare 2 different fermentation practices and microbiological assessment
- work with CRP L&F and identify most relevant study sites

Comments:

- Is it scalable? Yes because it is a common practice in East Africa (even most often with cow's milk)
- Population is growing fast and in the future, goat keeping may become more appealing than keeping cows (less feed, more milk). The question is about the acceptance of goat milk. From an economic point, people think the output from a cow is more but they don't consider the input costs. Also, people can change behaviour as the example of the fish-eating Masai shows.

Tanzania

Results brainstorming

farmers:

- Technology at farm level to store milk at cool temperature (charcoal cooler).
  Consider possible nutrition trade-off: evening milk at the moment given to children because it cannot be stored and sold – risk that this will change if the milk can be stored
- joint intervention at farm:
  - improved feeding
  - deal with mastitis (better hygiene, less drugs)
  - monitor increasing production and milk quality; incentives
  - less drugs + more milk + better milk

consumers:

- technologies to preserve milk at HH level (type of container, appropriate boiling) - clay pot is "outdated"
- raise awareness on milk public health of women through their children (school feeding; school visits; campaigns "snake in children")

Concept note 1: group-based intervention at farm on mastitis

- train farmers on how to identify animals with mastitis, treatment, monitoring levels
- plan for consultation meeting with MoreMilk team in May 2014
- concept note ready by June for provisional ILRI-IREC approval (approval by August)
- details on study design, approach, consent etc. as soon as ready
- California Mastitis Test, mastitis manual
- 8-10 months for final results by June 2015

Concept note 2: group-based intervention at household level on environmental contamination

- training on proper storage and handling

Senegal

Results brainstorming

- intervention based on the quality of grilled meat in dibiteries (E. coli) – recommendations from MSc study => hygiene training
- consumer association "price for best dibitérie" in Dakar
  - stakeholder workshop (consumer associations, vet school, owners of dibiteries, vet at Ministry of Livestock): take brief and feedback
  - agree on who does what in the competition

Concept note: needs to be developed with colleagues at CSRS

ideas:

- based on grilled meat assessments at dibitéries
- meeting vet school and consumer association and Ministry of Livestock to identify best bet interventions at dibitéries

Comments:

- link with Burkina Faso? slaughter was not problematic but retail; consumer association could have a lobby and increase pressure
- Silvia would like to be invited to stakeholder meetings

Uganda

Results brainstorming

- butchers node by introducing chlorinated water (environment) – link with fly-free study
- biogas intervention at slaughter for slaughter waste management
- awareness campaign, lobby with ministry and other stakeholders, top management meeting slots, university, newspapers
- pork tapeworm poster and KAP increase

high priority:

1. chlorinated water at butcheries for surface cleaning (not on meat)
    - parallel to fly-free study (FUB); suitable for control-trial; scalable
2. Biogas for slaughter waste management => IrishAid project (CRP L&F); pathogen burden on meat and environment; pathogen burden in manure (safe to be used as fertilizer) before and after => SFFF
3. campaign on pork safety issues along the value chain (radio, posters, music & play)
    - poster pork tapeworm in Luganda at butcheries (Mpigi district) and Ateso
    - Learning by ear (office Kampala)/ Radio FM/ sms???
    - develop 10-15 messages
    - newspaper article
    - MAAIF top management meeting monthly – presentation
    - weekly seminars with stakeholders on selected topics – every Thursday at 2pm

other ideas (lower priority):

2. Development of a “traceability system” because there is demand from formal market
3. Link formal and informal
    - group farming intervention => jointly with value chain team
    - identified animals (tattoos) in a group – ante mortem when they leave the farm
    - at formal slaughter meat goes to formal processor, normally by-products are eaten and sold by poorer actors (but meat inspection still faulty)
4. Validation of selected local herbal remedies for control of internal parasites
5. promote alternatives for condemnation?
6. trainings along the chain; consider incentives other than allowances; impact assessment; training of butcheries; training of households (diamond skin disease)

Comments:

- call it identification system or else (traceability is too expressive)
- for biogas study: contact IFAC contact on biogas/ environment (through Saskia); Private Sector Development Association (PSDA) known in Kenya also based in Uganda