

Milk, meat and fish – more than just food

Current research on food safety in sub-Saharan Africa

Wiener Lebensmittelgespräche

Vetmeduni Vienna, Austria, 23 May 2014



ILRI
INTERNATIONAL
LIVESTOCK RESEARCH
INSTITUTE



RESEARCH
PROGRAM ON
Agriculture for
Nutrition
and Health

Kristina Roesel,

International Livestock Research Institute (ILRI)

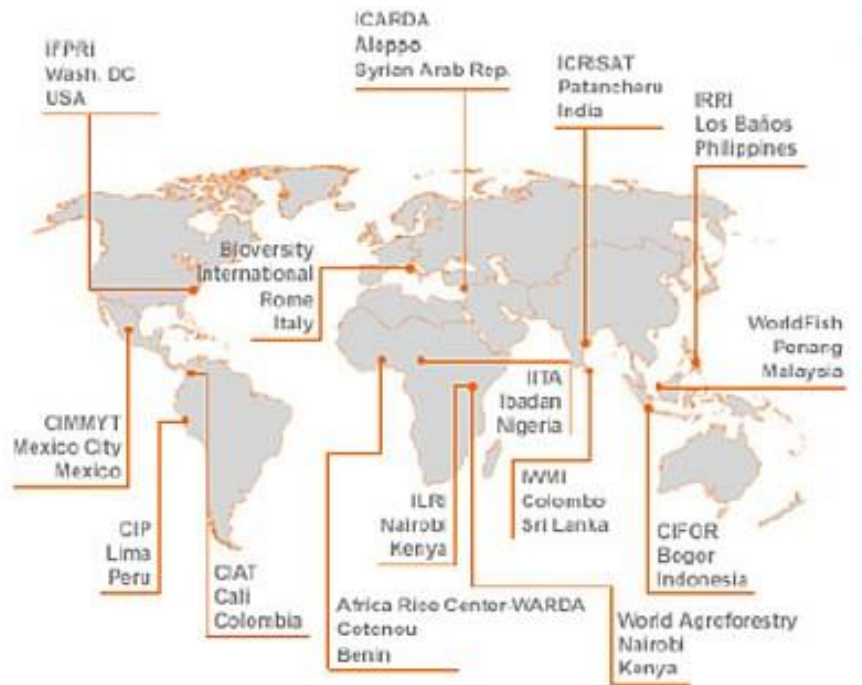


1. Who is ILRI?

2. Food safety in sub-Saharan Africa

3. ILRI research on food safety

Who is ILRI?



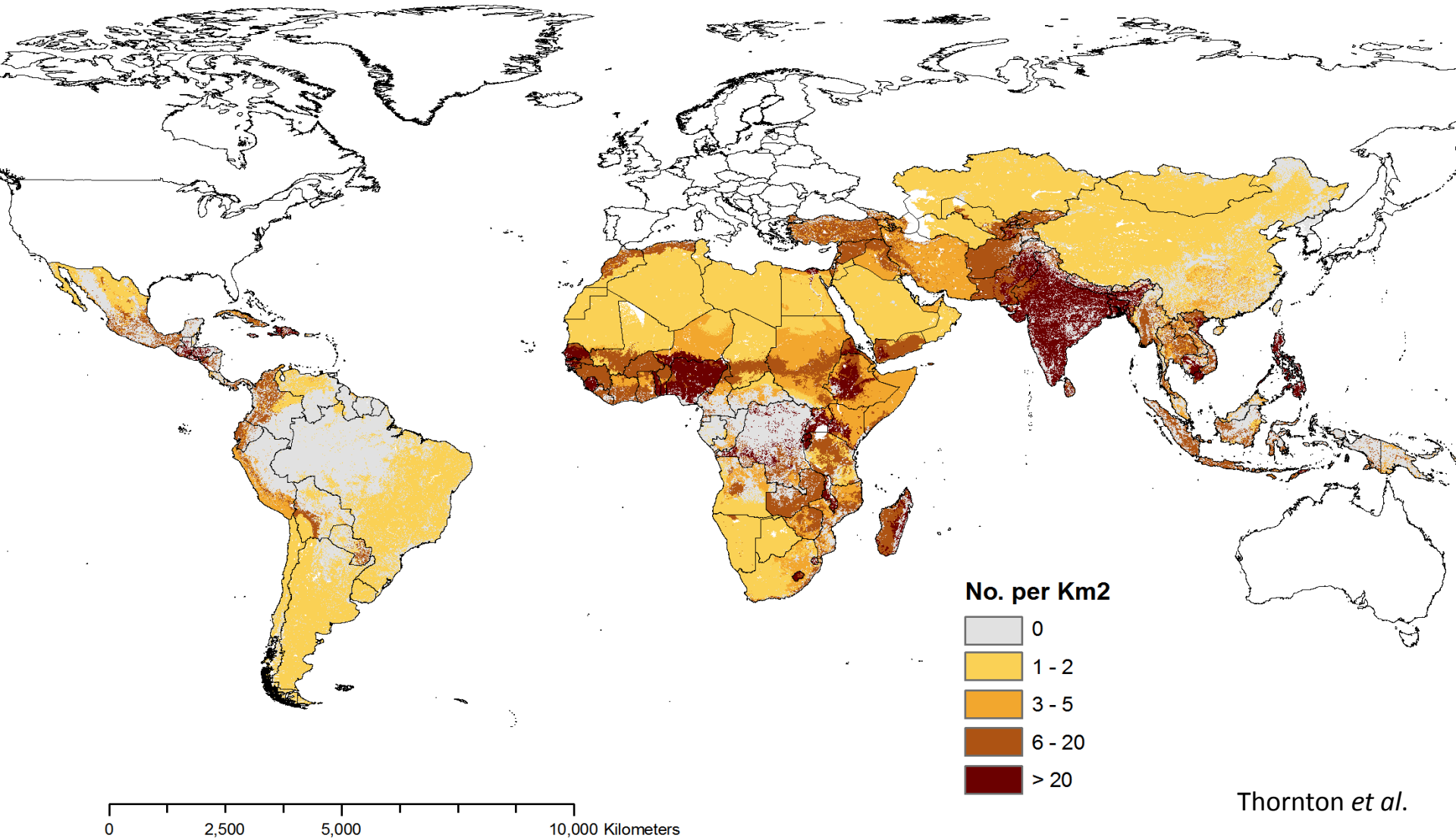
CGIAR global partnership for a food secure future

- Poverty alleviation through agricultural research
- 15 research centres
- Mission: ***better lives through livestock!***

www.ilri.org

ILRI
— 40 —
YEARS

Density of Poor Livestock Keepers (PLK) Year 2010*



Thornton *et al.*

*Update: March 2012

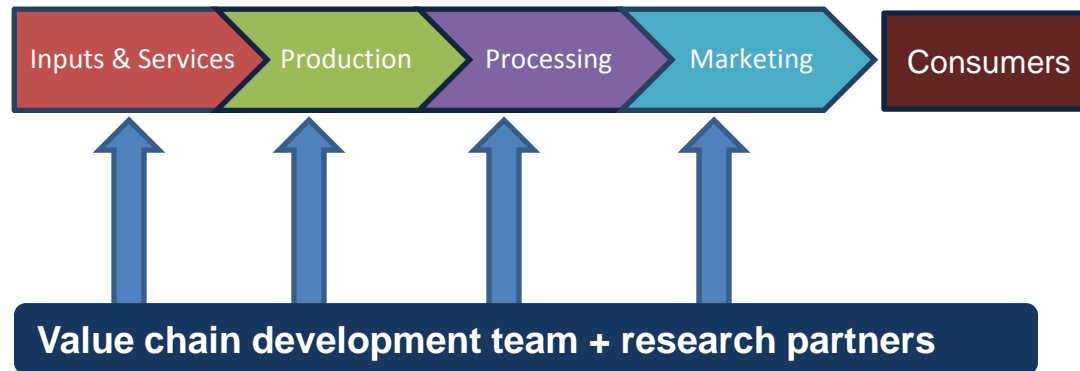
Opportunities and challenges in the livestock sector

	Human health	Economies	Environment
Opportunities	Population growth, food and nutrition security	Regional and global demand for livestock products	Manure, fertilizer, regenerative energies
Challenges	overconsumption, food safety , (emerging) zoonoses	Equity, urbanization, trans-boundary diseases	Land/water degradation, human-wildlife conflict, pollution, emissions



Research program on livestock & fish: more meat, milk and fish for and by the poor

**R4D integrated to transform selected value chains
In targeted commodities and countries.**

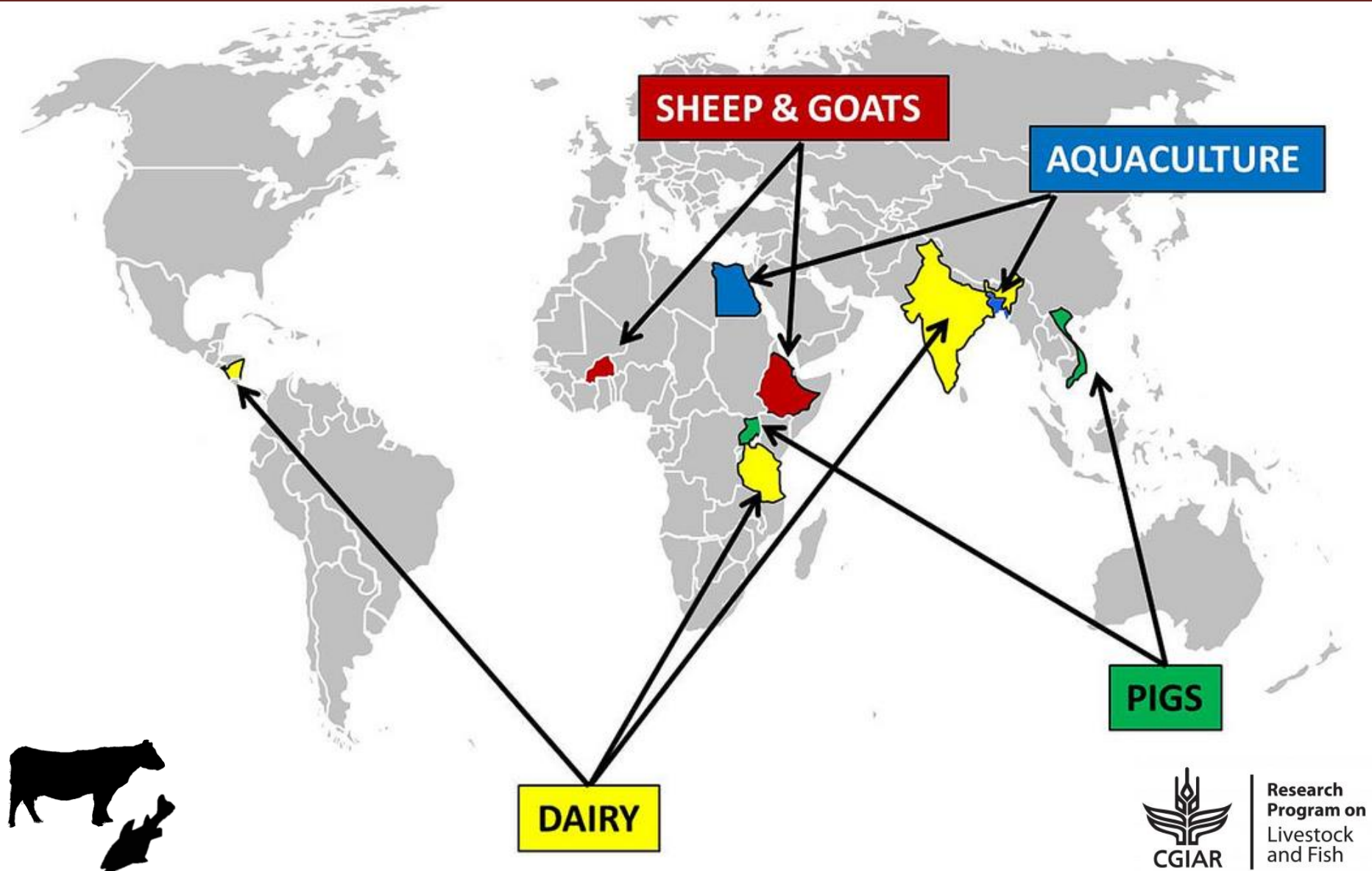


To sustainably increase the productivity of small-scale livestock and fish systems to increase the availability and affordability of animal-source foods for poor consumers.



Research
Program on
Livestock
and Fish

9 target livestock & fish value chains



Research program on Agriculture for nutrition & health

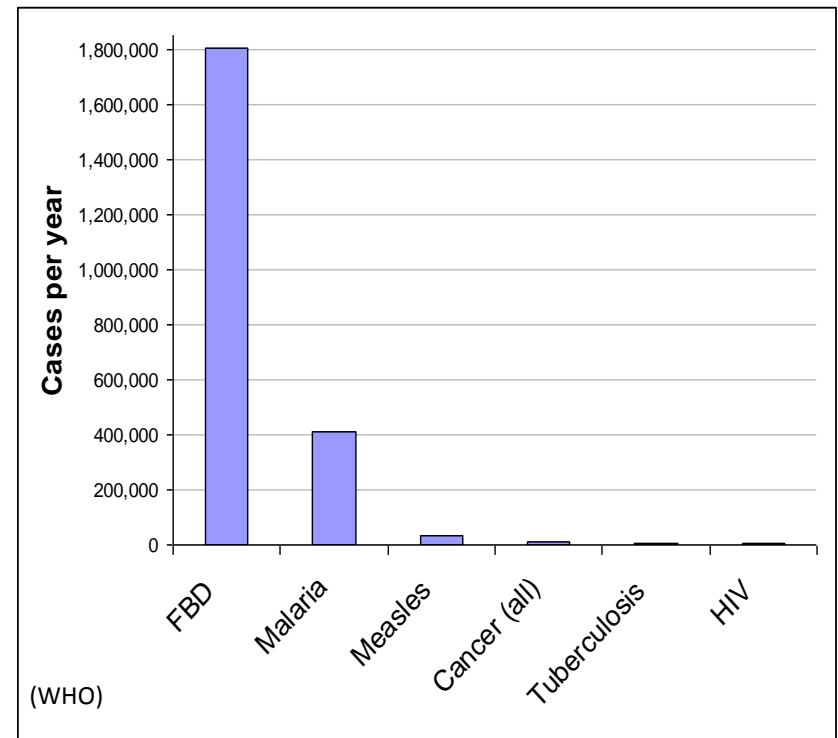


- Program led by IFPRI
- 4 components; ILRI is leading “prevention and control of agriculture-associated diseases”
 - Food borne diseases
 - Emerging infectious diseases
 - Neglected zoonoses
 - Ecohealth/ OneHealth

<http://aghealth.wordpress.com/>

Food safety in sub-Saharan Africa

- World wide per year
>2 billion cases of diarrhea
1.5 million deaths children <5
- 80% of child deaths due to diarrhea in South Asia and Africa
- Animal source foods are single most important source of food borne disease
- In sub-Saharan Africa >80% of animal source foods sold through informal markets



1. INFORMAL MARKETS

have a major role in food security and

- < 39% of the national GDP
- Accessible and affordable to everyone
- Involve many actors
- No taxation, no licensing, no inspection
- Prone to activities that may compromise safety
- Perceived to be unsafe



















PASKALE'S PORK ANNU
SAZA - MASAKA
Tel: 075152311
077515346



2. HAZARDS are common but don't always translate into RISK

- Hazards = any agent that can cause harm
- Risk = probability of that harm to occur + consequences
- Food safety management in developing countries is hazard-based and therefore inefficient

Mwondha case: Lawyers plan to meet on June 29

BY ANTHONY MURRAY
antonm@monitor.co.ug

KAMPALA Lawyers in a case in which former UGL Faith Mwondha sued Monitor Publications over alleged defamation, yesterday informed court that they have accepted the necessary documents they intend to rely on during the hearing.

Mr James Nsubuga, Mr George Ombirook and Ms Mwondha, made the revelation to the presiding High Court judge, Mr Edward Mwangaza, on the progress of the case.

"My Lord, we have as far as changed proposed rebuttal notes. We are yet to harmonise both positions. I need to show to client (Mwondha) documents got from Mr Nsubuga yesterday (Monday)," Mr Ombirook said.

Mr Nsubuga in response said does not object to any documents given to him, before saying he only sees substance on them.

Comparing notes

The judge set June 29 to let the two parties sort out any contentious issues before they start a hearing date.

Close to this case is that Mwondha allegedly earned a very meagre for judges because was higher while at the same time taking no notice as JGG became was higher than that of judge Ms Mwondha desist at allegations.

Earlier, Mr Nsubuga said to Justice Mwangaza that is a case of defamation, the less he issues to sort out most meeting scheduled for 23.

Mr Nsubuga said the petition does not deny that the two parties in content added that the articles were ten out of qualified parties involves some parliament members and that the article made were a fair comment.

SINKING JUSTICE

Ms Mwondha, currently the High Court resident judge, says she is not only this year but among other orders stopping it from publishing any further articles against her.



Pork chopped ready for preparation. Kampala Capital City Authority team has found that most pork abattoirs around the city do not meet the required standards, putting the health of many people at risk.

Most pork in Kampala is unsafe - health experts

Health risk: The KCCA had to ban sale of most of the pork on the market because it is prepared in unsanitary places, right from the slaughter chamber.

BY ROBERT MWALILE
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KAMPALA Majority of pork supplied in Kampala for human consumption contaminated the Kampala Capital City Authority public health department has warned.

Dr Emilia Ahimbisibwe, the KCCA senior veterinary officer, said the pork sold in the city is increasingly becoming risky for human consumption, citing the reported anthrax-like nature in which meat is being slaughtered, transported and prepared.

"A big percentage of pigs slaughtered in Kampala are not cleared for human consumption," Dr Ahimbisibwe told journalists in Kampala yesterday.

He warned that loyal pork consumers face the danger of contracting epilepsy or running mad among other related ailments.

"The city is littered with illegal pork abattoirs in various suburbs including Nsambya-Kamwempe Zone, Kinawataka and Wambuzi in Lubaga Division," he said.

Dr Ahimbisibwe said pork contains tape worms which cause epilepsy when consumed without excellent preparation and warned consumers against feasting on meat which is not thoroughly cooked.

INSPECTED FIGURES

50 percent

The percentage of animals that KCCA says it gets to inspect, of the 200 slaughtered daily.

"We are drafting new laws to guide butchery attendants and animal transportation to end this food insecurity in the city," he said.

Pork is a delicacy enjoyed by a vast number of people who purchase the meat of different pork joints around the city.

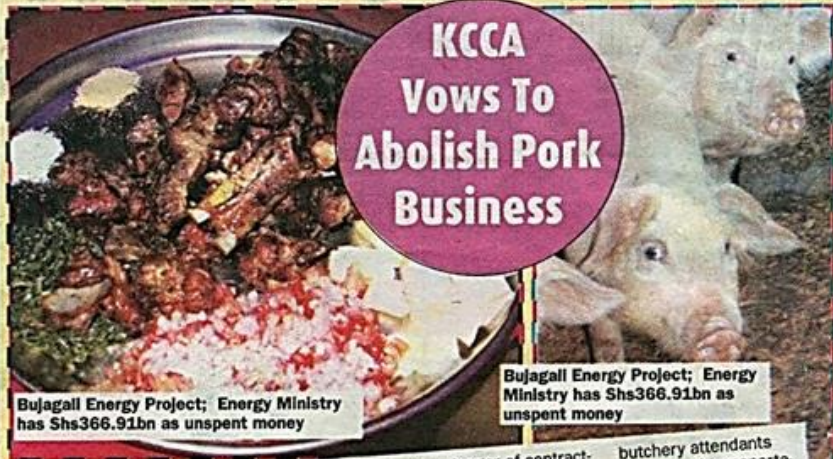
In 2008, a government health team raided and closed five popular pork joints in Kampala's suburbs, arresting 14 owners in the melee.

The team of 20 officials who included policemen, city authority law enforcement personnel and inspectors from the Ministry of Agriculture raided pork joints in Nsambya, Makindye and Luzira.

A dozen pigs were carried away and more than 200 kilograms of fresh pork impounded.

Meanwhile, as many as 800 cows are slaughtered every day in Kampala and similar pork, beef is usually contaminated at the different abattoirs due to poor hygiene.

WAR ON PIGS



KCCA Vows To Abolish Pork Business

Bujagali Energy Project; Energy Ministry has Shs366.91bn as unspent money

Bujagali Energy Project; Energy Ministry has Shs366.91bn as unspent money

By Hope Muhairwe

KAMPALA CAPITAL City Authority has opened a fresh war on pork joints claiming that most of them are dirty and operate illegally.

All pork supplied in Kampala for human consumption is contaminated, KCCA public health department said, threatening to close all pork joints around the city. Economy Watch spoke to some abattoir owners in different parts of the city and this is what they said:

"We are so frustrated over this warning because this has

put our business at risk since being the job that helps us earn income. Butchers said they make awesome profits from the business ranging from Shs3,000 a kilo. Emilia Ahimbisibwe, a KCCA Senior Veterinary Officer said that pork sold in the city is increasingly becoming risky for human consumption, citing the reported unhygienic nature in which meat is being slaughtered and prepared.

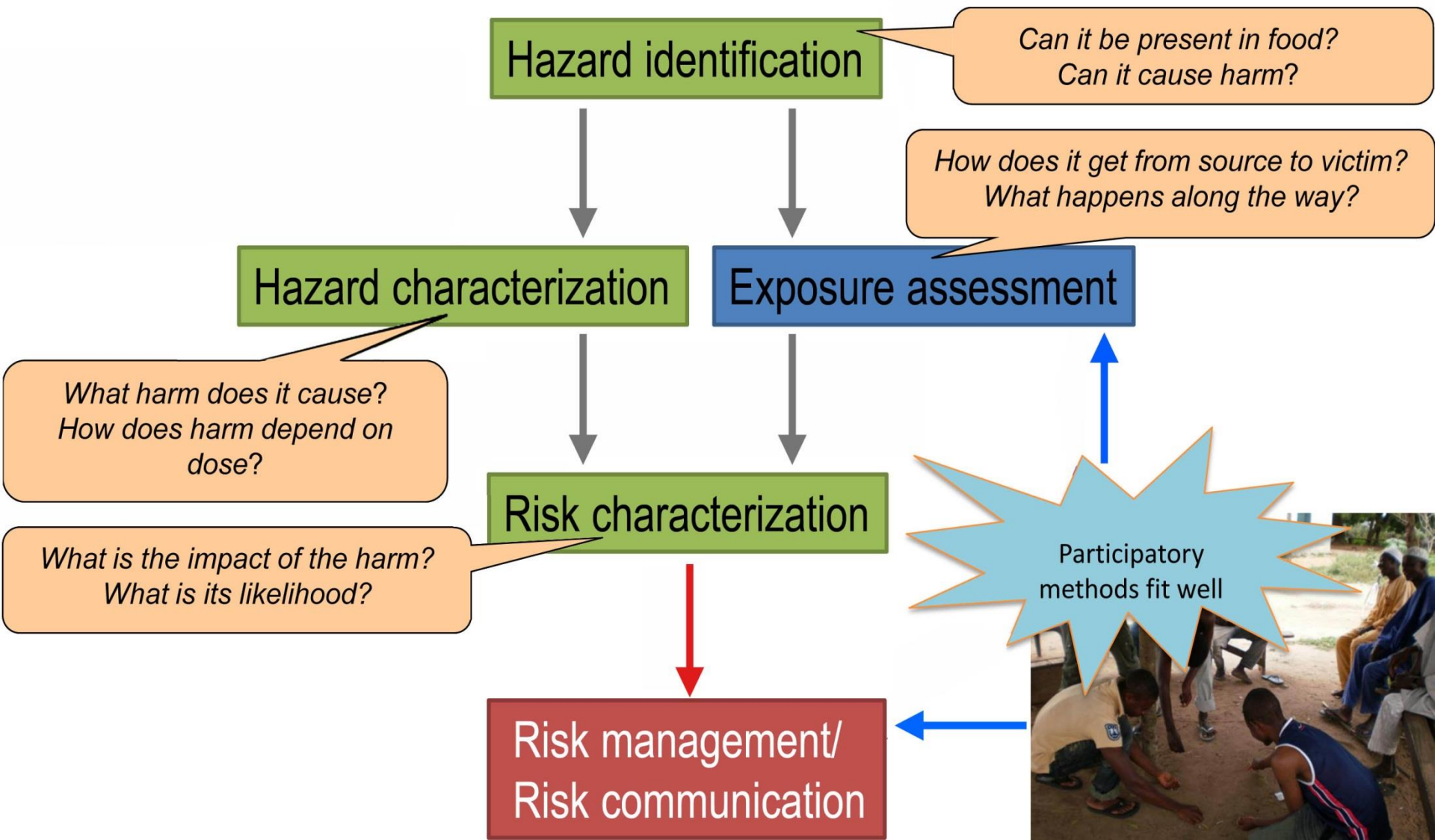
"A big percentage of pigs slaughtered in Kampala are not cleared for human consumption," Ahimbisibwe said. He threatened that loyal pork consumers face

the danger of contracting epilepsy or running mad among other related ailments. "The city is littered with illegal pork abattoirs in various suburbs such as Bweyogerere commonly known as Ekimezza, Nsambya-Kamwempe Zone, Kinawataka and Wambuzi in Lubaga Division and many more," he added.

He explained that pork contains tape worms which cause epilepsy when consumed without excellent preparation and warned consumers against feasting on meat which is not thoroughly cooked. Ahimbisibwe said they are drafting new laws to guide

butchery attendants and animal transportation to end this food insecurity in the city. A team of officials who included Policemen, KCCA law enforcement personnel and inspectors from the Ministry of Agriculture raided pork joints in Nsambya, Makindye and Luzira. A dozen of pigs were carried away and more than 200 kilograms of fresh pork impounded. Pork is a delicacy enjoyed by a vast number of people who purchase the meat at different pork joints around the city. In the recent years, it has become a profitable business to venture into.

Codex Alimentarius Commission framework for food safety risk assessment



3. Informal markets are not necessarily dangerous, nor formal safe

- Informally marketed food often safe
- Biggest challenges: improper harvest and post-harvest handling, often because of lack of prerequisites
- Business-oriented attitudes are a major risk to food safety
- Some risks in both markets are underestimated because they do not cause immediate harm



4. Farmers, traders and retailers are risk managers in informal markets

- Contamination of food may occur at any stage in the food chain
- Risk pathway analysis helps identifying CCPs
- Everybody handling and benefiting from the product, must take responsibility
- Interventions often simple but lack prerequisites

Cow

Farm

Path

Consumer

T=2	C=0
F=1.8	S=8.6
W=0	

Tara



Other cows (7)

Farm 1
84 litres



90	0
3.6	7.8
6	

105	0
3.6	8.0
6	

Vendor 1
20 litres



Co-operative
50 litres



Self
4 litres

410	0
3.0	5.9
30	



Near HH BC
1 litre

311	0
3.8	7.5
10	

Near HH NKD
0.5 litres

Far HH YA
1 litre

Far HH B
0.75 litres

450	21
2.4	4.3
35	

25 other households
16.75 litres

Households- 5/6
10 litres

324	25
3.3	5.4
24	

KEY

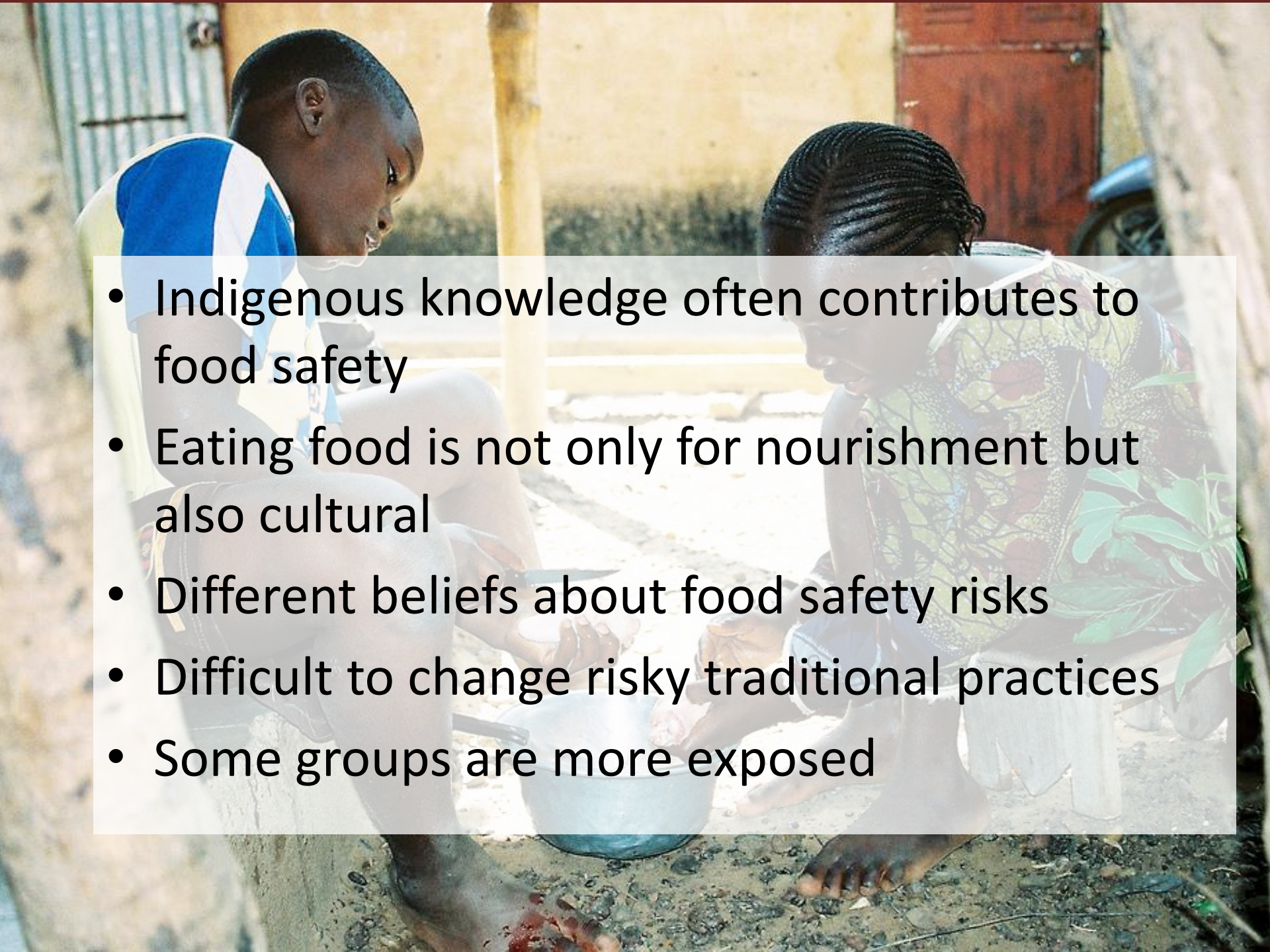
Total plate count Standard: < 5,000	Coliform count Standard: <0.1	HH	Household
Fat Standard: 3.5	Solids not fat: Standard: 8.5		Water added
Added water			Possible Critical Control Point



Possible Critical Control Point


5. Understanding values and culture is crucial for managing food safety in informal markets



- 
- A young boy in a blue and white striped shirt and a woman in a patterned dress are sitting on the ground, preparing food in a blue pot. The boy is on the left, looking towards the woman on the right. They are in an outdoor setting with a yellow wall and a red door in the background. A motorcycle is partially visible on the right. The scene is overlaid with a semi-transparent white box containing a list of bullet points.
- Indigenous knowledge often contributes to food safety
 - Eating food is not only for nourishment but also cultural
 - Different beliefs about food safety risks
 - Difficult to change risky traditional practices
 - Some groups are more exposed

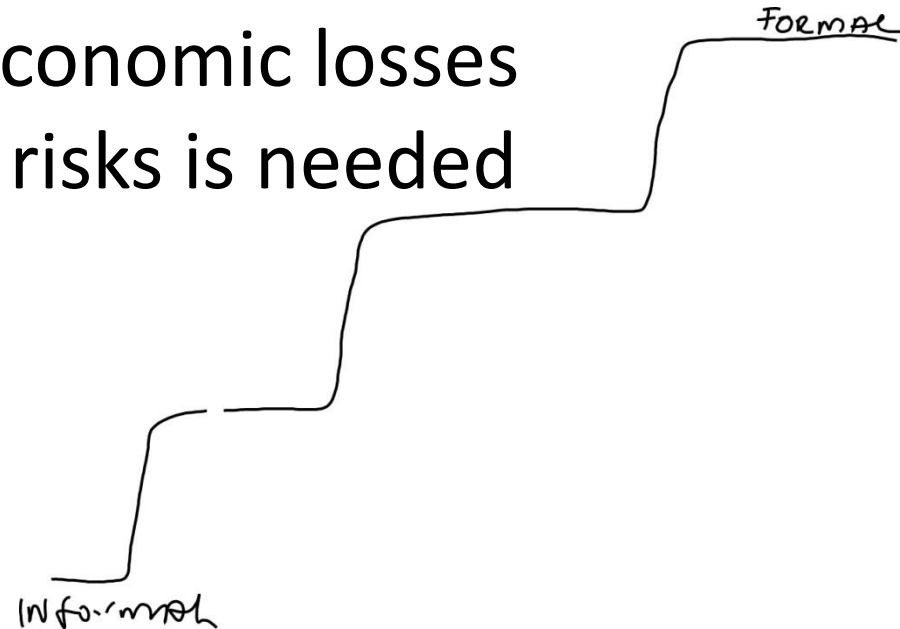
6. Food safety management also requires a gender perspective



- 
- A woman wearing a white headscarf with orange floral patterns and a green and yellow patterned wrap is kneeling on the ground, milking a white goat. The goat is standing on a dirt floor. The background is a wall made of yellowish-brown mud bricks. A wooden post is visible on the left side of the frame.
- Men and women dominate/are excluded from different segments of the food value chains
 - Different benefits, different risks
 - Different vulnerabilities (YOPIs)
 - Informal markets are very important to women's livelihoods

7. Efforts in managing food safety in informal markets must be pro-poor

- Poor more prone but cannot afford to fall ill
- Risk management needs training, skills development and prerequisites
- Linking formal and informal markets
- Impact assessment on economic losses and gains of food safety risks is needed



2 major ILRI activities on food safety in sub-Saharan Africa

1. **Safe Food, Fair Food:**

risk-based approaches for food safety management in informal markets

<http://safefoodfairfood.wordpress.com/>

2. **MyDairy:**

aflatoxins in dairy products

<http://aghealth.wordpress.com/>

Safe Food, Fair Food

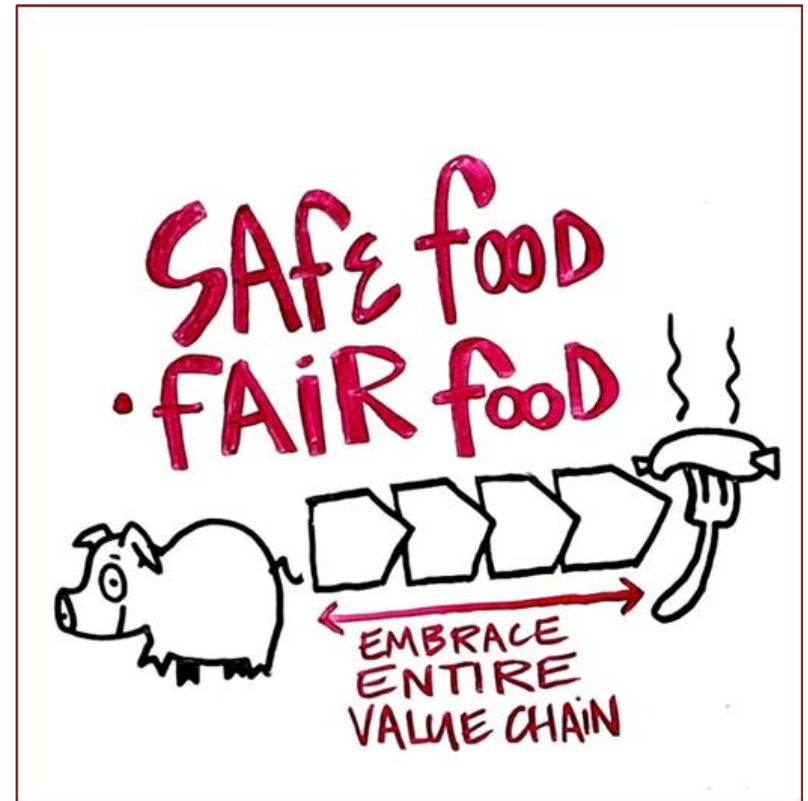
Improve livelihoods of poor producers and consumers

by reducing the health risks

and increasing the nutritional benefits associated with meat, milk and fish

Safe Food, Fair Food

- Risk assessment in selected 4 livestock value chains
- Testing of best-bet interventions
- Engage policy and upgrade university curricula



10 countries, 13 partners

CSRS
Centre Suisse de Recherches
Scientifiques en Côte d'Ivoire



Mali

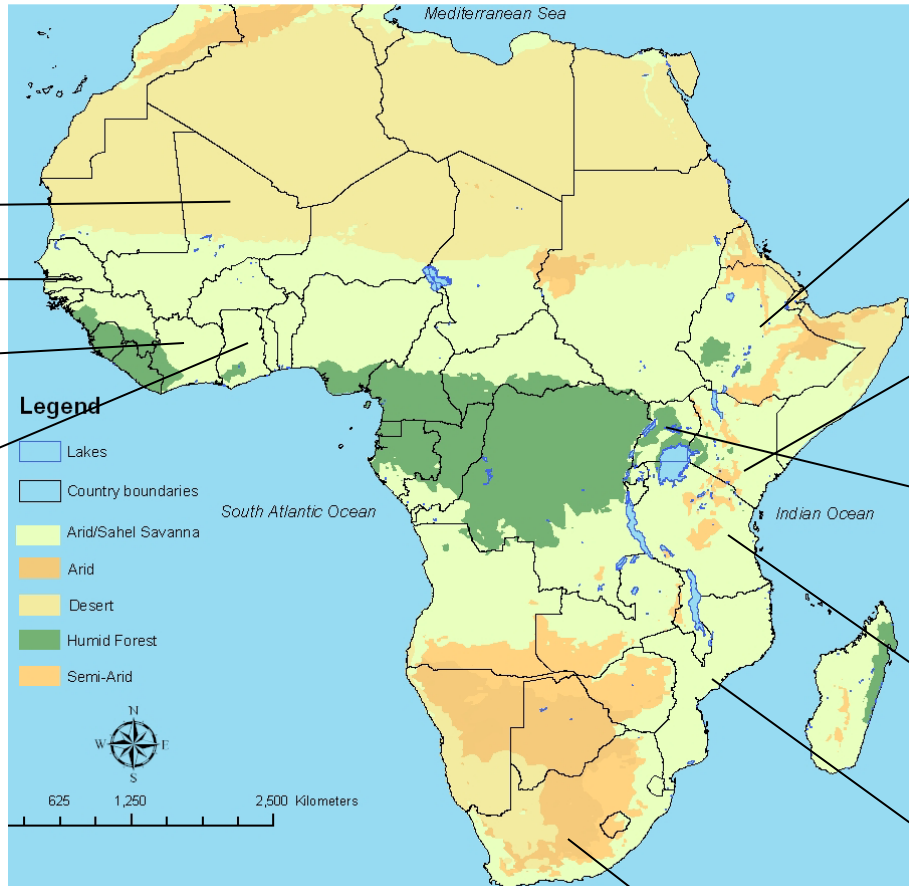
Senegal

Côte d'Ivoire



Ghana

Freie Universität Berlin



Ethiopia



Kenya



Uganda



Tanzania



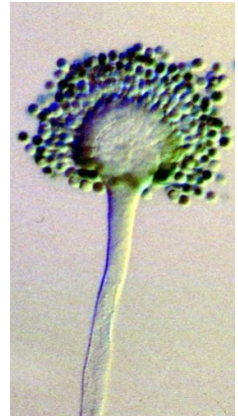
Mozambique

South Africa



MyDairy: measuring and mitigating risk of mycotoxins in maize and dairy

- Research focus on aflatoxins
- High levels in feeds and milk in Kenya
- Cause acute and chronic illness in people and animals (high rates of liver cancer)
- Economic losses from spoilage



1. Integrated risk and economic assessment of the Kenyan feed dairy chain
2. Technologies & practices for risk management of mycotoxins in the feed-dairy chain
3. Randomized control trial for low cost post-harvest technologies to reduce aflatoxins in maize among smallholder farmers

Partners

Funded by the Finnish Ministry of Foreign Affairs

- ACDI/VOCA
- International Food Policy Research Institute
- Jomo Kenyatta University of Agriculture and Technology
- AgriFood Research Finland (MTT)
- Rakuno Gakuen University, Japan
- University of Nairobi

Coming soon in November 2014

The screenshot shows the Routledge website interface. At the top left is the Routledge logo (Taylor & Francis Group). To the right are links for 'Cart', 'Sign In', and 'Register'. Below the logo is a navigation menu with 'Subjects', 'Books', 'Journals', 'eProducts', 'Resources', and 'Info & Help'. A search bar is located on the right side of the navigation bar. The main content area features the book title 'Food Safety and Informal Markets' in a large red font, followed by the subtitle 'Animal Products in Sub-Saharan Africa' in a smaller grey font. Below the title, it says 'Edited by Kristina Roesel, Della Grace'. Further down, it lists 'Routledge - 2015 - 256 pages' and a 'Recommend to Librarian' button. At the bottom of this section are four tabs: 'Description', 'Contents', 'Author Bio', and 'Subjects'. On the right side of the page, under the heading 'Purchasing Options:', the hardback price is listed as '\$145.00', along with the phone number '978-1-13-881873-6', the release date 'October 31st 2014', and the note 'Available for pre-order'. A green 'Pre-Order Now' button is positioned to the right of this information.

Animal products are vital components of the diets and livelihoods of people across sub-Saharan Africa. They are frequently traded in local, unregulated markets and this can pose significant health risks. This volume presents an accessible overview of these issues in the context of food safety, zoonoses and public health, while at the same time maintaining fair and equitable livelihoods for poorer people across the continent.

The book includes a review of the key issues and 25 case studies of the meat, milk, egg and fish food sectors drawn from a wide range of countries in East, West and Southern Africa, as part of the "Safe Food, Fair Food" project. It describes a realistic analysis of food safety risk by developing a methodology of 'participatory food safety risk assessment', involving small-scale producers and consumers in the process of data collection in a data-poor environment often found in developing countries. This approach aims to ensure market access for poor producers, while adopting a realistic and pragmatic strategy for reducing the risk of food-borne diseases for consumers.



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Acknowledgements

Our local and international partners

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THANK YOU!

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<https://safefoodfairfood.wordpress.com/>

Better lives through livestock
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