



## CRP 4.3 Prevention and control of Agriculture Associated Diseases



Delia Grace  
Safe Food, Fair Food 2 inception  
April 12<sup>th</sup> -13<sup>th</sup> 2012

ILRI  
International Livestock Research Institute

## Agriculture for enhanced nutrition and health



Improving nutrition & health of the poor  
Through agricultural research

CGIAR Research Program 4  
International Livestock Research Institute

IFPRI  
ILRI  
SOVEREIGNTY  
CUT  
CMMMT  
CIP  
CARDIA  
CRAM  
CRISAT  
ITA  
WFP  
WORLD POOL

Agriculture for Improved Nutrition & Health

2

## Main aims of CRP

- Lead centre: IFPRI
- With 4 components
  - Leveraging VC for nutrition outcomes
  - Biofortification of staple crops
  - Prevention and control of AAD (ILRI ¾)
  - Integrated programs & harmonised policies (ILRI 2/9)

3

## Outputs

### Outcomes

### Impacts

Cross-cutting: Capacity building & communication

**OUTPUTS**

- 1. PRIORITIZE & SYSTEMS UNDERSTANDING: system descriptions, stakeholder analyses, identification and prioritizing of risks and research
- 2. RISK BURDEN, EPIDEMIOLOGY, RESILIENT: integrated health risk & socio-economic assessments, prevalence, impact, risk factor studies, risk factors & control points
- 3. CONTROL, INNOVATION, TECHNOLOGY, POLICY: innovations (technological, organizational, and social), assessments of impact, contributions to policy

**OUTCOMES**

1. Improved understanding of the gender-disaggregated risks and livelihood impacts of AADs by farmers and key stakeholders.
2. Increased understanding of the poverty, social, gender, and behavioral determinants of adoption of risk-mitigating measures among key stakeholders.
3. New One Health multidisciplinary partnerships that multiply and scale up the results of CGIAR research, leading to better assessment and management of AAD.
4. Change in awareness, assessment, and management of the risks of AAD attributable partially or wholly to CGIAR research.
5. Wide use of new technologies for better assessing, diagnosing, preventing, and managing AAD, attributable to CGIAR research.

**IMPACTS**

Reduced burdens of diseases

## CRP 4.3: AAD

- Food-borne disease
- Zoonoses & emerging infectious disease
- Other health risks in agro-ecosystems

5

## Food-borne disease Safe Food, Fair food

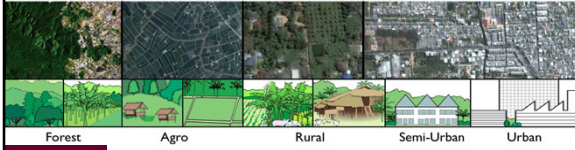




6

## Zoonoses & EID

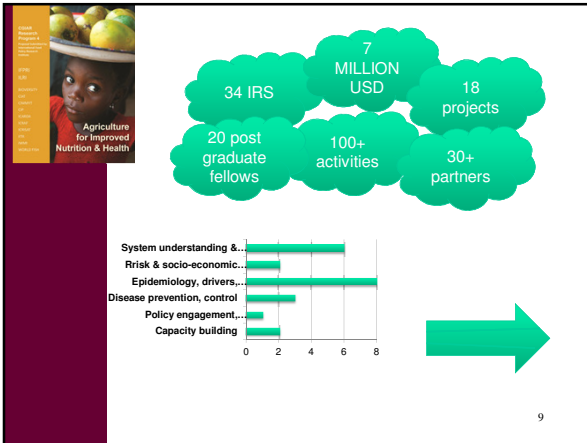
- Most diseases (>60%) are zoonotic
  - 7% of total burden, 17% of infectious disease burden in LDC are zoonotic or recently emerged
  - 4% of total burden 10% of IDB in LDC is zoonoses
- One new disease is emerging every 4 months
  - 75% of EIDs are zoonotic



## Other health risks of agro-ecosystems

- Water associated disease
  - Malaria, schistosomiasis, cryptosporidiosis
- Occupational hazards
  - Pesticides, trauma, allergies
- Drug resistance
  - Antibiotics, insecticides, trypanocides
- Health regulation by ecosystems

8



9

- ◆ Systems understanding, rapid assessment, mapping & prioritization
- ◆ Risk, burden, epidemiology, foresight
- ◆ Disease management, innovation, technology, policy engagement
- ◆ Communication, capacity building

10

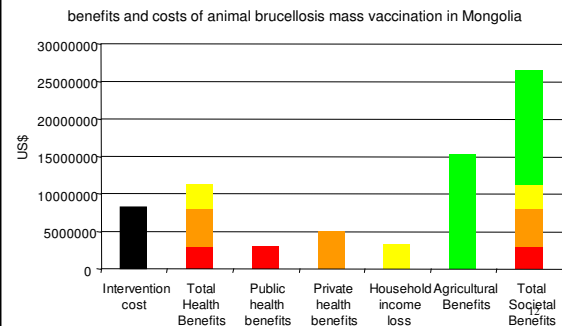
## Targeting Systems understanding & prioritisation

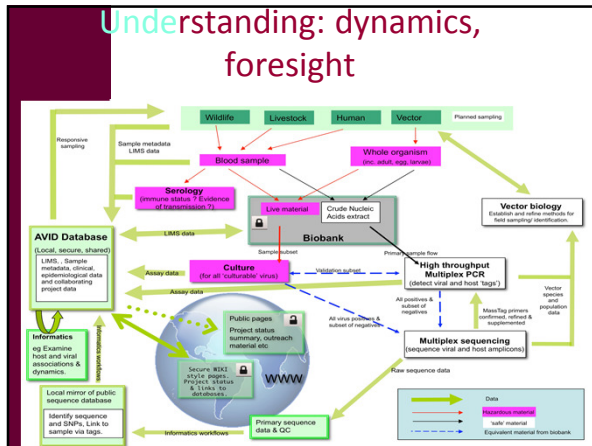
All deaths	57,000,000
Deaths from infectious disease	18,000,000
Child deaths in which malnutrition implicated	5,000,000
Diarrhoeal disease death (many zoonotic)	3,000,000
Tuberculosis death (a small percentage is zoonotic)	2,500,000
HIV (a disease emerged from animals)	2,000,000
Road traffic deaths	1,200,000
Fatal agricultural injuries	170,000
Rabies deaths	55,000
Cysticercosis (pig tapeworm) deaths	50,000
Trypanosomosis (sleeping sickness) deaths	40,000
Liver cancer deaths attributable to aflatoxins	35,000
Extreme weather related deaths	20,000

Numbers of global deaths each year from selected causes in the early 21<sup>st</sup> century

11

## Understanding: Risk, burden, epidemiology, impact





### Risk reduction: surveillance, prevention, control,

The image shows a person in an orange shirt working with a pig, likely for surveillance or control. Below is a FAMACHA ANAEMIA GUIDE showing different stages of anaemia: OPTIMAL - NO DOSE, ACCEPTABLE - NO DOSE, BORDERLINE - DOSE?, DANGEROUS - DOSE, and FATAL - DOSE. The guide includes visual indicators for each stage.

### Communication, capacity-building

The photograph shows three people, two men and one woman, looking at a document together, likely in a field setting. The image is labeled with '15' and '18'.

### Locations

The map shows various locations and programs. The map is divided into Programs (blue) and Value chains (red). Locations include Mycotoxins (Kenya, Tanzania), EID (Kenya, West Africa, SE Asia), Zoonoses (Neglected populations, Kenya, Uganda, S Asia, SE Asia), and FBD (India, Vietnam, Uganda, CRP 3.7 VC in SSA).

### Research Activities

- Safe food in informal markets
  - Mycotoxins
- Emerging infectious disease
  - Neglected zoonoses
- Ecohealth

17

### Generating evidence to support enhanced traditional dairying in India

The photograph shows a woman in a yellow headscarf and a man in a purple headscarf working with a cow in a field. The image is labeled with 'ILRI' and 'International Livestock Research Institute'.

WP 5. Measuring and mitigating the risk of mycotoxins for poor milk and maize producers and consumers in Kenya



ILRI

International Livestock Research Institute



Food Africa Program Inception Workshop, October 2011

Reducing disease risks and improving food safety in smallholder pig value chains in Vietnam



ILRI

International Livestock Research Institute

Managing risk in emerging pork markets:  
A South-South Symposium  
Organised by ILRI and ACIAR

*Safe food, fair food 2:  
from capacity building to  
implementation*



ILRI

International Livestock Research Institute

Kristina Rösel  
Date, Place, event